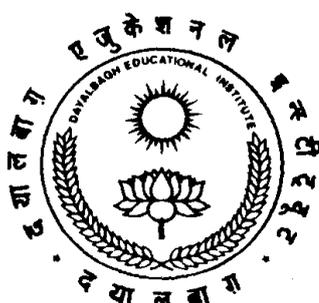


SELF-STUDY REPORT

(For Re-Accreditation)

Part-I

Institute Profile and Evaluative Report



Dayalbagh Educational Institute
(Deemed University)
Dayalbagh, Agra

December, 2012

Self Study Report

Part I: Institute Profile and Evaluative Report

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EXECUTIVE SUMMARY

1. EDUCATION AT DAYALBAGH

The genesis of education in Dayalbagh can be traced back to 1st January, 1917 when a co-educational middle school was established in the form of the Radhasoami Educational Institute. Subsequently, the following colleges were opened at Dayalbagh :

- 1927: Technical College (with Engineering Diploma Courses)
- 1930: Prem Vidyalaya Girls Intermediate College
- 1947: REI Degree College (with degree courses in Science and Commerce)
- 1947: Women's Training College (with B.A. & B.Ed. for girls; (M.Ed. in 1958))
- 1950: Engineering College (with B.Sc. Engg., in Electrical and Mechanical Engg.)

In the year 1973, the Dayalbagh Educational Institute was established as a registered body bringing three colleges, namely, the Engineering College, Women's Training College and REI Degree College under one umbrella. In order to upgrade the stagnating and deteriorating undergraduate education in the country, an innovative, comprehensive and multi-faceted Education Policy was formulated in the year 1975, by Most Revered Dr. M.B. Lal Sahab, D.Sc.(Lucknow), D.Sc.(Edinburgh), the Founder Director of DEI and former Vice-Chancellor of Lucknow University.

The mission objective of this innovative Educational Policy is to evolve a "Complete Man" with three major goals,

1. *Academic Excellence*
2. *Moral and Spiritual Values*
3. *Social Sensibilities*

1.1 Deemed University Status:

DEI was accorded the status of an Institution deemed to be a University by the Government of India on **16th May, 1981**. The University is fully aided by UGC for both Plan and Non-plan maintenance grants. With the formation of Deemed University the innovative educational system was fully implemented with great success.

DEI is a multi-Faculty University comprising of the Faculties of Arts, Commerce, Education, Engineering, Science and Social Sciences. The Technical College (Engg. Diploma level), Prem Vidyalaya (Girl's Inter College) and REI Intermediate College were later brought under the Academic and Administrative control of DEI. DEI has also started Distance Education program in the year 2004 with due approvals.

1.2 Student strength:

The Institute has been introducing several state-of-the-art courses, increasing the student strength gradually as shown in the following table:

Years	1981	1991	2001	2011
U.G.	1214	1298	1789	2712
P.G.	149	232	414	914
M. Phil.	-	-	-	159
Ph.D.	-	36	119	269
Total	1363	1566	2322	4054

In addition to the above, nearly 5,000 students are registered in Diploma, Certificate and Distance education programs of the Institute.

- 1.3 Women Enrolment:** Out of 4054 students enrolled in DEI, 2,784 (68%) students are women. There are 120 women out of 246 teaching staff, that is, 49% female staff.
- 1.4 Staff Strength:** The staff strength has also increased from a mere 101 teaching positions in 1981, it has reached 267 sanctioned posts giving a teacher to taught ratio of **1:15**.
- 1.5 First NAAC Assessment:** The first NAAC peer team Assessment of the Institute took place in October, 2005 and the Institute was awarded ‘B++’ grade with 83.9% marks. The Faculty of Education was awarded ‘A’ grade with 85.6% marks.
- 1.6 VISION Plans:** The Institute launched the ‘**VISION – 2011**’ program in the year 2006 with the objective to bring the University amongst the top 20 Universities in the country. Encouraged by the success achieved, the Institute has now launched a bold and ambitious strategic plan, ‘**VISION-2031**’, with clearly defined objectives so as to bring the University to an international status.

The achievements and accomplishments of DEI in the last few years are summarized below.

2. CURRICULAR ASPECTS

2.1 Distinctive features of the innovative and comprehensive curriculum

1. **Educational Policy of DEI:** The Education Policy of DEI is the bedrock on which the foundation of this unique University rests. The Educational System of DEI and all its innovative features evolved from it.
2. **Credit based Semester System:** The Institute has implemented the Credit based Semester system right from its inception. DEI has also introduced Letter Grading.
3. **Comprehensive Continuous Evaluation System:** The evaluation has 75% internal component which is awarded on the basis of Class tests, Quizzes, Assignments, Seminars, Group discussions, Tutorials and Attendance, which are dispersed throughout the semester. Rest 25% assessment is through End-Semester examinations.
4. **Main Academic Studies:** As a general policy, each candidate for undergraduate study learns two major subjects of the faculty for four semesters (for two years) and one of these for the next two semesters for graduation with honours.
5. **Inter-disciplinary and Ancillary Electives:** Two Half (minor) courses have to be credited of which one should be from a different Faculty, as an interdisciplinary course, for one semester each.
6. **Work-based Training:** A compulsory 4 credit work based vocational course has to be undertaken, related to one of the major subjects for two semesters, to create willingness and capacity to work with one’s own hands, develop skill and generate a spirit of self-reliance. An advanced work experience course is available for the next four semesters also, as an option.
7. **Strict Academic Calendar:** The Institute follows a six day per week schedule with odd and even semesters starting on July 1st and Jan. 1st and ending on Dec. 24th and May 21st respectively with about 207 teaching days in a semester.

2.2 Courses of study

The University has six faculties with 22 departments, which offer 22 undergraduate, 21 post graduate, 8 PG Diploma, 21 M.Phil. and 21 Ph.D. programmes. The details are given below. The courses which were introduced in the last six years are in **BOLD LETTERS**.

Department	U.G.Courses	Post Graduate Courses	Research level courses
Drawing& Painting	B.A.(Hons)	M.A.(Drg.&Ptg.)	M.Phil., Ph.D.
Hindi	B.A.(Hons)	M.A.(Hindi)	M.Phil., Ph.D.
English	B.A.(Hons)	M.A.(Eng), PGDJMC	M.Phil., Ph.D.
Music	B.A.(Hons)	M.A.(Music), PGDDFM	M.Phil., Ph.D.
Sanskrit	B.A.(Hons)	M.A.(Sanskrit), PGDT, M.A.(Theology)	M.Phil.Sanskrit/Theology, Ph.D.
Home Science	B.A.(Hons), B.Sc.(Hons)H.Sc.	M.Sc.(H.Sc.)	M.Phil., Ph.D.
Psychology	B.A.(Hons)	M.A.(Psycho)	M.Phil., Ph.D.
Sociology	B.A.(Hons)	M.A.(Sociology)	M.Phil., Ph.D.
Pol.Sc.	B.A.(Hons)	M.A.(Pol. Sc.)	M.Phil., Ph.D.
Economics	B.A.(Hons)	M.A., PGDBE	M.Phil., Ph.D.
Management	B.B.M.(Hons)	M.B.A.	M.Phil., Ph.D.
Commerce	B.Com.(Hons)	M.Com.	M.Phil., Ph.D.
Education	B.Ed., PSTE	M.Ed.	M.Phil., Ph.D.
Engineering	B.Tech. in Elect. & Mech. Engg.	M.Tech.(Engg.Systems)	Ph.D. in Elect. Engg. Ph.D. in Mech. Engg.
Botany	B.Sc.(Hons)	M.Sc., PGDEBT & M.Sc. in Microbial Bio-tech.	M.Phil., Ph.D.
Chemistry	B.Sc.(Hons)	M.Sc.(Che), PGDPC	M.Phil., Ph.D.
Mathematics	B.Sc.(Hons)	M.Sc.(Math), PGDIM	M.Phil., Ph.D.
Physics & Comp.. Sc.	B.Sc.(Hons) Phy & B.Sc.(Hons) in Computer Science	M.Sc.(Phy) M.Sc.(Comp.Sc.) PGDCSA M.Tech.(Comp.Sc.)	M.Phil.(Phy/Electronics/ Comp.Sc.) Ph.D.in Phy Ph.D. in Comp.Sc.
Zoology	B.Sc.(Hons)	M.Sc.(Zoology)	M.Phil., Ph.D.
Life Long Learning & Extension	-	PGDSHE(Safety,Health & Environment)	-
TOTAL	22 UG level	21 P.G. & 9 PG Diploma	21 M.Phil. and 21 Ph.D. level courses

In addition to the above courses, 12 Diploma Courses (Mech., Elect., Automobile, **Electronics, Civil, Architecture, Leather, Textile Design, Interior Design, Garment Tech., Office Management, Home Science**) and **15 vocational courses** are offered mainly through the Technical College and the Women's Polytechnic. The vocational courses fulfill the need of weaker section of students of job oriented training and also fulfill the need of industry for trained technical man power.

2.3 Core Courses:

The following courses form a compulsory core of all undergraduate programs. The values cherished in the Education Policy are imbibed by students partly due to these courses which is a unique feature of DEI. These courses are:

- a. **Cultural Education:** *To take pride in the national ethos so that one may not lose one's moorings.*
- b. **Scientific Methodology, General Knowledge and Current affairs:** *To nurture a scientific temper and be aware of contemporary developments.*
- c. **Rural Development:** *Study of rural society and economy to foster a fuller understanding of rural life with a view to appreciate properly the polity and economy of our country and the social forces at work.*
- d. **Agricultural Operations:** *To inculcate a spirit of working with one's own hands and develop an understanding of the contribution of rural folk.*
- e. **Social Service:** *To engender the spirit of Brotherhood of Man and to facilitate the establishment of casteless and classless society.*
- f. **Comparative Study of Religion:** *To create a spirit of tolerance of all religions and awaken to the spirit of Brotherhood of man and Fatherhood of God.*
- g. **Co-curricular Activities :** *Cultural and Literary Activities, Games and Sports (for all-round development of personality).*

2.4 TOATAL QUALITY MANAGEMENT

The University has put in place a Total Quality Management system based on four cardinal objectives of, 1. INNOVATION, 2. CREATIVITY, 3. INITIATIVE and 4. EXCELLENCE. The factors like, Quality of Teachers, Quality of Laboratories, Organisational economy and efficiency form the core of this system. Monitoring at various levels and Introduction of Standards, Accountability at all levels are ensured in this setup. A Conceptual model of the Total Quality System in Higher Education adopted in DEI is depicted in a circular chart in **Annexure – V** on page 200.

There are 3 committees which oversee and guide the administration in all aspects. The first is the **Internal Quality Assurance Cell** that monitors the academic standards in the Institute.

The second and the most important advisory body is the **Advisory Committee on Education (ACE)** comprising of top intellectuals from academic and industrial fields and selected faculty members of DEI. This committee meets once in two months, reviews the progress of the Institute and makes valuable recommendations on all aspects of work of DEI. Most of the innovative programmes introduced in DEI originated from this committee. ACE plays only an advisory role and can be considered as an **External Quality Assurance Cell**.

The third one is the **Academic and Administrative Audit Committee (AAAC)**. It is chaired by former Director of DEI and has two external experts apart from Deans of all faculties. It interacts with the students, teaching and non-teaching staff, visits labs, reviews research achievements and submits its report on all aspects of teaching and learning. These reports are presented in the ACE meetings also.

2.5 NEW INITIATIVES

2.5.1 New Courses:

The Institute has introduced 64 new courses during the last six years. The Table on page 3 shows the new courses in BOLD letters. These courses range from Ph.D., M.Tech.(Comp.Sc.), M.Phil.(21 streams), M.A., and PG Dilomas at higher end to Vocational and Diploma programs at the lower end. Modular vocational courses of 1 to 2 month duration have also been floated with provision for credit accumulation.

2.5.2 Integrated Programs

Several Innovative Integrated Programs have been launched in the Institute which provide bright students an opportunity to credit higher level courses, optimally plan their study program, utilize summers and earn the required credits in less time. Some of the popular integrated programs available in the Institute are,

1. *Integrated B.Sc. (Engg.) – MBA*
2. *Integrated BBM (Hons.) – MBA*
3. *Integrated B.Com (Hons.) – MBA*
4. *Integrated M.A. English – B.Ed.*
5. *Integrated M.Com. – B.Ed.*

2.5.3 Distance Education

DEI launched its Distance Education Program (DEP) on June 2, 2004 as a major social service program designed to make available employment oriented quality education to the weakest of the weak, tribals and women, at a low cost, at their door-steps.

DEI has adopted a **blended mode** of teaching for its Distance Education program. In this mode, regular classes are held and all the elements of continuous evaluation are implemented. Printed study material on IGNOU pattern is provided. Practical work is performed in fully equipped Workshops. At present nine vocational and five degree level programs are offered at 81 Distance Education study centres all over India and about 2,500 students are enrolled in these courses. All the courses were duly approved by the UGC-DEC-AICTE Committee. Mr. Upamanyu Basu, former Director (Deemed Universities) of MHRD praised the program as, *“The Distance Education program of DEI is a role model for the Universities of India offering Courses in this mode”*.

2.5.4 Co-operative MBA and Engineering Programs

A bold initiative for active collaboration with industry in the MBA and B.Tech. programs has been initiated by DEI. The final Engineering and Management students spend nearly five to seven months in an industry and work on a major project of the industry. Provision has been made for them to pursue on-line courses while they work in the industry. On joining back in the Institute, they continue to work on their projects under the able guidance of the DEI faculty causing immense benefit to the industry as well as to the student.

2.5.5 Joint courses and Ph.D. Supervision with IITs under MoUs

Courses are offered to DEI students jointly with students of other Institutes, like IIT Delhi and University of Maryland, taught through Video conferencing under the MoUs signed with these Institutes. Research scholars can register under Professors of these Institutes as Co-supervisors.

3. TEACHING - LEARNING AND EVALUATION

3.1 ADMISSION PROCESS

The admission to the university is strictly on merit. There is no management quota. The criteria for admission are based on entrance test, interview and academic record. For B.Tech. admissions, the merit is based on marks scored in JEE conducted by CBSE, class XII, Class X and Interview which includes proficiency in sports and co-curricular activities. In all courses seats are reserved for SC, ST and OBC at 15%, 7.5% and 27% respectively.

3.2 TEACHING AIDS

The conventional lecture method is amply augmented with multimedia teaching aids. All Departments have e-class rooms, Projection and multimedia facilities. The central Multimedia Laboratory facilitates recording and transmission of lectures. Seminars and Group Discussions are an integral part of the curriculum.

3.3 PROJECTS

Students in all the PG programmes and UG programmes have to undertake major projects in their final semester. Under the Cooperative Education scheme, students spend 5 to 7 months in an Industry and work on real life projects. In Engineering Courses, students have to work on 4 types of projects, such as, **Theme Development Project, Design Engineering Project, Rural Engineering Project** apart from the **Major project** which is linked with Industry under Coop. Education program.

3.4 REMEDIAL & NET COACHING

The University provides bridge and remedial courses to the educationally disadvantaged students at the undergraduate level. Peer Coaching is also encouraged as weak students find it convenient to express their doubts to their classmates or immediate seniors. Special coaching classes are held for NET, GATE and Civil Services.

3.5 FACULTY

The faculty comprises of 240 teachers, out of which 201 have the Ph.D. Degree (82.23%). There are no part-time teachers and the work is done by full-time faculty. The teachers are encouraged to participate in Orientation and Refresher Courses, National and International Seminars, Conferences etc. The faculty members also maintain course diaries where they record the topics covered in the class.

3.6 EVALUATION

The university follows a continuous internal evaluation system coupled with external End-semester examination which accounts for 25% of the weightage. Marks are converted to letter grades by the course teacher and moderated by the Departmental Moderation Committee. The results are always declared within 30 days of the last semester examination.

3.7 NEW INITIATIVES

- (i) Introduction of Optional Courses in Science, Engineering and Management.
- (ii) Letter Grades: The Institute has introduced letter grades in all its examinations.
- (iii) Establishment of a Multimedia laboratory and e-classrooms with recording facilities.
- (v) Offering joint courses from University of Maryland, College Park, USA, and IIT Delhi.
- (vi) Joint Research guidance with faculty of IIT Delhi.
- (vii) Short training programs on Soft Skills, Computer Skills and Spoken English etc.

4. RESEARCH, CONSULTANCY AND EXTENSION

The Institute is fully sensitized to promote research activity on its campus. Almost 80% of the faculty is actively involved in research.

4.1 RESEARCH ENROLMENT

The Institute selects meritorious students through written tests and interviews. The enrolment of M.Phil. and Ph.D. is increasing at the rate of 15 to 20% every year. At present 159 students are pursuing M.Phil. and about 300 research scholars are enrolled for Ph.D. in the Institute.

4.2 UGC-SAP

Five departments were selected by UGC for SAP Grant as follows.

- (i) Physics & Computer Science (Phase-II),
- (ii) Chemistry (Phase-II),
- (iii) Music,
- (iv) Electrical Engineering, and
- (v) Mechanical Engineering

4.3 DST-FIST

Six departments got support under FIST program of DST as given below.

- (i) Physics & Computer Science (Phase-II),
- (ii) Chemistry (Phase-II),
- (iii) Zoology,
- (iv) Mathematics,
- (v) Electrical Engineering, and
- (vi) Mechanical Engineering (Phase-II).

4.4 RESEARCH PROJECTS

The following table gives a list of ongoing Research Projects in the Institute.

S. No.	Sanctioning Agency	Projects	Amount Sanctioned (Rs. in lakhs)
1.	MHRD	15	2784.00
2.	DST	11	266.00
3.	DST-NSF	1	16.70
4.	AICTE	6	47.70
5.	UGC	24	165.00
6.	CSIR	1	4.10
7.	BRNS	2	38.83
8.	ISRO-GBP	1	53.57
9.	DBT	2	88.03
10.	PCRA	1	8.40
11.	DST-FIST	5	478.00
12.	ICSSR	1	5.32
13.	UGC-SAP	4	255.80
14.	DST-DFG	1	10.50
TOTAL		75	4221.95

Faculty members won 54 awards for teaching and research. 55 research papers got ‘**Best paper awards**’ in International & National Conferences. Prestigious awards include, (i) Japan Society for Promotion of Science Invitation Fellowship, (ii) Associateship of Abdus Salam International Centre for Theoretical Physics and (iii) DST Ramanna fellowship.

4.5 CONSULTANCY

The Institute has provided Consultancy to leading Government and Industrial organizations such as **ADRDE** on Aerostat design, **BHEL** on Solar Energy, **Cadence Design Systems** on Algorithm minimization, and **MHRD** on ERP etc. The total revenue generated in the last five years is Rs. 83.7 lakhs.

4.6 MoUs WITH INSTITUTIONS OF HIGHER LEARNING

Linkages for academic interaction and knowledge sharing have been established and MoUs have been signed with prestigious universities and research Institutes in India and abroad as follows.

Type of Linkage	University/Institution	Area of Collaboration & Department
MoU	University of Maryland, College Park USA	Hydrogen Generation with Solar Energy – Chemistry And in Computer Science.
MoU	Michigan state University, USA	Bio-inspired Systems - Physics & Comp.Sc.
MoU	University of Missouri, USA	Bio-Technology – Zoology
MoU	University of Waterloo, Canada	Quantum Computing – Mechanical Engg.
MoU	International Center for Biotechnology & Genetic Engineering, New Delhi	Parasitology & Bio-Tech – Zoology, Botany, Chemistry
MoU	TIFR, Mumbai	Astro particle study – Physics & Comp. Sc.
MoU	IIM, Bangalore	Supply Chain Management – Management
MoU	IIT, Delhi	Joint Courses, Joint supervision – Management, Phy & Comp.Sc.&Elect. Engg.
MoUs	Maruti Udyog Ltd. & Yamaha Motor Co.	4 Wheeler & 2 Wheeler courses – Automobile (TC)

In addition to above, research links have been established for collaboration with the following institutions.

International : Bell Labs., USA,
University of Arizona, USA;
Wharton Business School,
Sauder School of Business, Canada,
University of North Carolina, USA
Max Planck Institute, Germany,
Christian Albrecht Universitat, Germany
Rotterdam School of Management,
Groningen University, Netherlands and

Harvard University, USA;
Imperial College, London;
University of Pennsylvania, USA;
University of Illinois, Chicago, USA;
University of British Columbia, Canada;
Technical University, Munich, Germany;
CEMEF, France
Erasmus University
Hokkaido University, Japan.

National : JNCASR, Bangalore,
BHEL, Calcutta
NIIST, Trivandrum
NPL, New Delhi,
IIM Udaipur,
IIT Bhubaneswar,

Nuclear Science Centre, New Delhi,
ADRDE, Agra
JALMA, Agra
CDRI, Lucknow,
IIM Kolkata,
ICFAI, Hyderabad,

4.7 INTERNATIONAL CONFERENCES

International Conferences are held in front line research areas. Some of the recent conferences are as follows:

1. *International School on Quantum and Nano Computing Systems and Applications is held annually in the month of December as QANSAS-2008, QANSAS-2009, QANSAS-2010, QANSAS-2011 and QANSAS-2012.*
2. *Indo-US Shared Vision Workshop on Soft, Quantum and Nano Computing, Feb. 2007.*
3. *Environmental Parasitology and Community Health Initiatives, October 2007.*
4. *Indo-Canadian-American Quantum and Nano Computing Conclave, December 2007.*
5. *International Seminar on Spiritual Awakening: A Systems Approach to Address the Civilizational Crisis (SPAWSYS-2008), January 2008.*
6. *International Conference on Nano Science and Technology in Chemistry, Health, Environment and Energy, (NATCHEE-2010), January 2010.*
7. *International conference on Environmental Education (ICEED 2010), July 2010.*
8. *International Conference on Practice and Research in Management, Feb. 2011.*
9. *International Conference on Chemistry of Phytopotentials: Health, Energy and Environmental Perspectives (CPHEE-2011), November 2011.*
10. *International Conference on Economics and Business (EBAA-2011), Nov. 2011.*
11. *International Conference on Agile Manufacturing (ICAM-2011), December 2011.*

4.8 REI DIAMOND JUBILEE MEMORIAL LECTURES

DEI has a tradition to organize the REI Diamond Jubilee Memorial Lectures every year with eminent speakers delivering this prestigious Lecture. Some of the Speakers were,

1. Dr. R.Chidambaram, Principal Scientific Advisor, GOI.
2. Prof. P.S.Satsangi, Chairman, ACE, Dayalbagh
3. Prof. Yash Pal, former Chairman, UGC
4. Prof. Ved Prakash, Secretary, UGC
5. Prof. Amarti Desai, Chairperson, UGC
6. Dr. A.P.J. Abdul Kalam, former President of India

4.9 RESEARCH & TECHNOLOGY PARK

The Institute has established a **Research and Technology Park** to provide a hub for multidisciplinary activities and to provide facilities for advanced research with the following centres:

- *Centre for Quantum and Nano Computing Systems*
- *Centre for Consciousness Studies*
- *Centre for Core Courses*
- *Centre for Bio-inspired Systems (in process)*

State-of-the-art research laboratories have been setup for Biochemical Genetics Laboratory, Biomedical Laboratory, Chemical Instrumentation Laboratory, CAD Laboratory, Neural Networks, Entomology and Limnology Laboratory, Cytogenetical Screening, Parasitology, Toxicology, Photonics, Microwaves, VLSI Design, Microbiology, Plant Tissue Culture, and Radio Chemical Laboratories.

4.10 RESEARCH REGULATIONS

DEI has fully implemented UGC2009 regulations for M.Phil. & Ph.D. courses. The admission is through Written Test and Interview. The Research Degree Committee (RDC) with two external experts in each subject approves research proposals. Research scholars are required to submit six monthly progress reports for evaluation by the Director every semester. Other rules of publication of Research work, Open defence of Dissertation and Uploading it on Shodhganga etc. are strictly implemented.

4.11 PATENTS

Twelve patents have been filed in different areas of science and technology that include optical character recognition tools, decontamination of toxic metals from water, biotechnology, magnetically tunable band gap structures, hydrogen fuel production, Rust prevention, Computer Science, VLSI Technology, insecticides and larvacides of mosquito and rust removal.

4.12 OUTREACH & EXTENSION

4.12.1 Business Advisory Clinic:

The Department of Management is offering free guidance to small scale ailing business establishments of the region through its '**Business Advisory Clinic**'. The faculty and students take up these case studies and offer guidance.

4.12.2 Counseling Cell and School for Spastic Children:

The Psychology Department has established a counseling cell that offers free counseling in family and social issues to students and others. A school for Spastic children has also been established with excellent results. Institute has been organizing sports and games for disabled and has been training sports coaches in the games of disabled.

4.12.3 National Service Scheme:

NSS is an integral part of U.G. Curriculum in DEI. Some of the recent NSS initiatives for the benefit of villagers are the following:

- A. *Free Medical Camps.*
- B. *Hole in the Wall: Under this program, the village children are given access to a computer and are allowed to learn its use on their own.*
- C. *Social Awareness Activities and Special literacy drives*

4.12.4 Upliftment Work in Tribal belt of M.P.:

Another bold step taken by DEI is to adopt the Rajaborari-Timarni Tribal belt in the Harda District of Madhya Pradesh. DEI has started some schools and is implementing an integrated roadmap for all-round development of the region with financial help from Charitable Societies of Dayalbagh.

5. INFRASTRUCTURE AND LEARNING RESOURCES

5.1 DEI CAMPUS

The University has a well laid out campus with sprawling buildings spread over 44 acres with a built up area of 36,768 m². An area of 600 acres has been earmarked for future expansion.

5.2 LIBRARY RESOURCES

The Central Library has 1,67,345 books and subscribes to 148 national and 32 foreign journals in print form and nearly 4000 e-journals through INFLIBNET and direct subscription. In addition, there are three Faculty Libraries in Engineering, Education and Commerce. All the four libraries have been computerized and internet and reprographic facilities are made available.

5.3 COMPUTER & MULTIMEDIA RESOURCES

The Computer Centre of the University provides computing services to the campus. It has 70 PCs and 5 servers. The Institute is connected with Fibre-Optic backbone. Well equipped Computing facilities exist in the Faculties of Engineering Science, TC and at Multimedia Lab. Short training courses are arranged for students and staff by the Computer Center. The Multi-Media laboratory provides state-of-the-art facilities with video-recording, cameras, editing workstations, high speed network storage, recording, sound editing, etc.

5.4 USIC

The Institute has a University Science Instrumentation Centre (USIC) with **Glass Blowing, Electronics, Computer, Mechanical and Refrigeration** Sections. It also has **Virtual Instrumentation, Photolithography and Printed Circuit Board Laboratories**. USIC manages the repair, maintenance, fabrication and upgradation jobs on the campus. It also conducts work experience courses and projects for Faculty of Education, Engineering and DEI Technical College. It also organizes short courses for students and staff.

5.5 GAMES & SPORTS

The university provides coaching in Athletics, Football, Volleyball, Hockey, Cricket, Basket Ball, Table Tennis, Softball and Kho-Kho. It organizes various sports events every year at the Intra-Faculty and Inter-Faculty level. The University encourages participation in Sports and Games as part of its Core course on Co-curricular Activities, where weightage is given for participation and achievements. Special Sports meets are organized for **Differentially-abled** students.

5.6 MEDICAL FACILITIES

Saran Ashram Hospital run by a registered Charitable Society in Dayalbagh provides medical facilities to the university employees and students. It has 13 beds with 11 regular doctors. The general medical checkup for the students and teachers and other staff members is compulsory. Institute doctor visits all the hostels every alternate day. Free medicines are given on prescription by the doctor.

5.7 HOSTEL FACILITIES

There are 5 Hostels, two for boys and three for girls with 230 and 520 seats respectively. Each of them have solar power, solar cooking, solar hot water, medical room,

indoor and outdoor games, gymnasium, reading room, internet, computer and reprographic facilities. Hostel rent is only Rs.20/- per month. Hostels are administered by Charitable Societies of Dayalbagh from where the salaries of staff is met, thus reducing the burden on students.

5.8 NEW INITIATIVES

5.8.1 Eco-Friendly Campus

To meet the increasing power requirements, the Institute has installed Seven Solar Power Plants of total capacity of 520 kW peak power which provide totally pollution free Green Energy for the campus. A Solar Van has been designed and built for staff and students use. Hostels use Solar Cooking. Large number of plants, trees and gardens enhance the beauty of the campus. Water is also harvested to recharge the ground aquifers in the campus.

5.8.2 Video Conferencing & Polycom Core Infrastructure Solutions:

In the Multimedia Laboratory of the Faculty of Science, a Polycom Core System has been installed with facility to simultaneously record upto fifteen lectures in faculty classrooms and provide Video Conferencing facilities which enables regular lectures and special events to be conferenced across DEI campuses and also to study centers outside.

5.8.3 Advanced Video Editing & Archiving and Web Portal facilities:

The Multimedia Lab provides advanced facilities for Video capturing live lectures, editing and publishing them on DEI's Course Portal, "vidyaprasar.dei.ac.in". This portal has uploaded a series of lectures on Computer Science, Management and Engineering and permitted open access to one and all. This Lab provides extensive video archiving facility.

5.8.4 Super Computing Cluster:

A fully integrated high performance computing cluster system with 200 cores has been installed in the Multimedia Lab. This cluster is used for solving computationally intensive problems in soft computing and software engineering at near supercomputing speeds.

5.8.5 Establishment of Research & Technology Park:

A Centre for promotion of inter-disciplinary collaborative research has been established in a 2000 sq,m, plot in the M.I.Complex transferred to DEI and 3 centers have been established there. (See 4.8 on p.9.)

5.8.6 EDUSAT AND ICT FACILITIES

The Indian Space Research Organization (ISRO) has provided DEI with a 57 station country wide two-way interactive broadcast facility via EDUSAT. DEI has equipped 4 study Centers at Delhi, Rajaborari, Bangalore and MTV Puram with advanced ICT facilities. Lectures are transmitted from the Multimedia Lab at DEI to all the Centers via EDUSAT and also through Internet broadband connectivity. Faculty of IIT Delhi also deliver some lectures from the ICT Center at Delhi as provided in the MoU with this Institute.

6. STUDENT SUPPORT AND PROGRESSION

6.1 STUDENT FRIENDLY AMBIENCE

The Institute has a policy to provide a friendly ambience to attract bright young minds and to create an atmosphere for ideal intellectual growth coupled with a love for our culture and a spirit of service and sacrifice.

6.2 FINANCIAL SUPPORT

All students whose parental income is less than Rs. 2.0 lacs per annum get UP state Govt. Scholarships, while the SC and ST category students get refund of fees also. Merit scholarships are available to bright students from various sources. Nearly 70% Research scholars get support either through scholarships or through part time jobs in projects. The tuition fees, hostel rent and all other expenses are kept low enough so that no one is deprived of good education due to financial constraints. As a first step in this direction Institute has made the prospectus and application forms available on the Web free of cost.

6.3 ACADEMIC SUPPORT

To satisfy the needs of the students of widely different academic level, Institute has arranged for remedial coaching and peer coaching for the weak students. For the bright ones, integrated programs have been introduced which permits them to take up additional papers and earn credits of a higher course. The AADEIs runs short courses throughout the year in areas like Soft Skills and Computer Skills for the students. These courses are made available to any unemployed graduate so as to make them fit for gainful employment. DEI-APAC also helps in getting placement for such youth.

6.4 PLACEMENT SUPPORT

The Alumni Placement Assistance Cell (DEI-APAC) works closely with the Training and placement Officer of the Institute and arranges for Campus placement. In the past three years they were able to get placement for 90% Engg and 70% MBA students. AADEIs arranges for short courses/lecture sessions to prepare students to face interviews, to improve their communication skills and in resume writing, etc. A Cell for guiding and mentoring students at national tests like GATE/NET/SLET/IAS, etc. is also functional.

6.5 PROCTORIAL SYSTEM

The institution has an elaborate Proctorial System. Each class has its own Proctor who is in contact with them. Regular teachers are also appointed as wardens in the hostels. There is an active participation in the management and the organization of the hostel by the students. Till date, there have been no strikes on the campus due to cordial and healthy relations between the administration, the students and the faculty. The university has a Grievance Redressal Committee for staff and students.

6.6 ALUMNI SUPPORT

The 'Alumni Association of Dayalbagh Educational Institutions (AADEIs)' closely works with DEI and provides committed support in all activities of DEI as given below.

- 1) AADEIs has funded the installation of EDUSAT facilities at 57 study Centers; It has funded the development of ICT Centres at Delhi, Timarni and Bangalore and also in the Development of Multimedia lab and e-class rooms at DEI.
- 2) AADEIs has provided seed funds for initiating Research in the area of Astro particle Physics, which eventually matured into an MoU with TIFR. It has created a chair of excellence in the Music Department.
- 3) AADEIs provides funds for Under Graduate Research Awards (**UGRA**) to encourage undergraduate students to take up Research Projects.
- 4) AADEIs has helped in the development of Instruction books for the vocational courses under Distance Education program of DEI.
- 5) AADEIs offers Short Courses on Soft Skills, Spoken English, Personality Development and skills to face Interviews, Resume Writing, Elementary Computer Courses, TALLY ERP 9, Advanced Computer Courses on Networking regularly on campus not only to DEI students but also for unemployed graduates.
- 6) AADEIs organizes special guidance classes for preparing students for NET, GATE and administrative service examinations.
- 7) Supports International Conferences conducted by DEI.
- 8) DEI Alumni Placement Assistance Cell (DEI-APAC), a wing of AADEIs helps in placement of DEI graduates. They are actively involved in contacting corporate heads to send their placement teams to select candidates from DEI.
- 9) DEI APAC arranges for summer training of students. It arranges to oversee the training by assigning this duty to an alumnus working in that Organization.
- 10) A unique mentorship program run by APAC assigns expert alumni to guide the final year Engineering Students in their projects in distance mode.
- 11) AADEIs provides help in Campus development. A furnished guest house is made available by AADEIs for use of DEI.
- 12) The Alumni living in USA have registered a separate Association 'AAFDEI', to help DEI in its overseas activities. They finance visits of Eminent Scientists from USA to DEI. AAFDEI helps faculty and students of DEI going to USA for Research. AAFDEI has also supported establishment of Distance Education Study Center of DEI at Colombo.

There is no other example where the Alumni provides such dedicated and committed support both in terms of funds and manpower to help their almmater.

7. GOVERNANCE, LEADERSHIP & MANAGEMENT

7.1 ORGANIZATIONAL SETUP

The Organizational setup of the University consists of the following bodies.

1. General Body

The General Body nominates six members for the Primary Body. It is the sole authority to accept any Donations to the Institute. It meets at least once a year.

2. Primary Body

The primary body reviews the acts of the Governing body. It meets once a year. The annual accounts and annual report are submitted to it.

3. Governing Body

The Governing Body of the Institute comprises of 15 members with Director as its Chairman. It exercises general superintendence and control over the Institute. It meets about 6 times a year.

4. Academic Council

Academic Council is the top academic body which advises GB on all academic matters. The proposals of Syllabus modification passed by Boards of Studies and Faculty Boards are put up to the Academic council for approval.

The **Finance Committee** has nominees of UGC and UP Government. It recommends the Annual Accounts and Budget to the Governing body for approval. The Internal Audit is carried out by a Chartered Accountant. External Audit is carried out by the local fund committee of U.P. Govt. and also by the A.G. Audit.

7.2 RESOURCE MOBILISATION

The Institute has a policy to accept funds only from reliable and service oriented organizations. Charitable organizations of Dayalbagh and Alumni Association have contributed funds to the tune of Rs. 11.71 crores over the past five years that have been utilized for the following activities.

1. Promoting Distance Education,
2. Development of ICT facilities, and
3. Building up the Corpus of the Institute.

7.3 NEW INITIATIVES

Several initiatives taken up in the last five years are as follows.

- (i) **Accrual System** introduced in Accounts,
- (ii) **Computerization** of Library, Accounts and Administration
- (iii) Strengthening **feedback** mechanism from all stake holders,
- (iv) **Officer on Special Duty** appointed for Amenities, Beautification, and Core Courses.
- (v) Appointment of **Deans UG and PG Studies**,
- (vi) Appointment of **Deans for IT Centres** at Delhi, Rajaborari (M.P.) and MTV Puram.
- (vii) Formulation of **Vision-2031**.

8. INNOVATIONS & BEST PRACTICES

The STRENGTH of the Educational System of DEI lies in its Innovative practices. A number of innovative and constructive steps have been put in place by DEI, as given below.

8.1 INNOVATIONS

1. **Eco-friendly Campus:**

The Institute has installed extensive Solar systems for Electrical Power for entire Institute and Solar Cooking and water heating in all its hostels. A Solar van has been developed by students. Extensive use of cycles and restricted use of powered vehicles and other steps which make the campus an example of low Carbon foot print.

2. **Research in Environmental and Ecological fields:**

International recognition obtained to DEI for research in Solar Hydrogen generation, Smart Grid development for optimal Solar power utilization, Bio-diesels, Atmospheric Pollution resulting in Collaboration with BHEL and grants under Indo-US, Indo-Swiss collaborations, and PCRA etc.

Research on Atmospheric pollution led to Distinguished Scientist Award of the year to Prof. K.M.Kumari and Environmentalist of the Year award to Dr. Anita Lakhani by National Environmental Science Academy (NESA) in year 2010.

3. **Cooperative Education program** introduced in Engg and Management Courses brings Industry close to Academia benefitting both.

4. **e-DEI-de** program is another innovative scheme which permits persons in job to join online modular courses improve their knowledge and earn credits and eventually a certificate or a degree.

5. The **OUTREACH** programs of DEI given in sec 4.11, Page 10 are unique and help in uplifting the living conditions of the deprived sections of our society. These are,

Free Medical Camps,

Hole in the Wall: (Computer access to village children)

Special literacy drive, Job oriented training for unemployed youth,

Upliftment Work in Tribal belts.

School for spastic children, Games for Disabled.

Business Advisory Clinic for ailing Businesses, Counseling Cell (Psychology)

6. **Innovative Integrated Programs.** (Sec. 2.5.2, page 5)

7. **Blended mode Distance Education** Program with ICT distance education study Centers at remote, backward and Tribal belts and large number of qualified mentors offering their services on nominal payment so that poorest of the poor can get the benefit of education.

8. Joint Courses and **Joint Research** with IITs.

9. Compulsory **Core Courses** (sec. 2.3, page 4) which help in the development of Values in the students and make them 'Complete Persons'.

10. **Work Experience Courses**, NSS, and Inter-disciplinary half Course.

11. The **disciplined atmosphere** and higher percentage of girl students.

12. Schemes of **Professor Emeritus**, Adjunct Professor and Chairs of Excellence.

8.2 BEST PRACTICES

DEI has developed some traditions and practices which help in all round development of students, such as, Strict Academic Calender, Student Dress Code, Morning Prayers, Social Service and a number of Outreach activities.

9. S W O C ANALYSIS

9.1 STRENGTHS OF DEI EDUCATIONAL SYSTEM

The main STRENGTH of the Educational System of DEI lies in its Innovative practices, which have contributed to the overall growth of the Institute and made it unique in various aspects as given below.

- 1) **Educational System :**
The main strength of the Institute lies in its scheme of innovative and comprehensive education system comprising of **Core Courses** (sec. 2.3, page 4) which help in the development of Values, **Work Experience Courses** for Vocational Training.(sec.2.1 item 6, p.2), **Inter-disciplinary half Course** and **Social Service**, which are all compulsory components.
- 2) **Faculty**
Highly qualified and stable teaching faculty (85% teaching staff is qualified with Ph.D.). Schemes like Adjunct Professor, Visiting Professor and Professor Emeritus help the Institute to get services of eminent persons in teaching and Research.
- 3) **Joint Courses:** Under MoUs, the students can credit courses offered by IIT and Maryland jointly with DEI. Research scholars can have a coguide from IIT.
- 4) **Integrated Programs** help the students to optimally plan their studies.(Sec.2.5.2, p.4)
- 5) **Blended mode Distance Education Program**
The Institute has introduced 17 certificate level vocational courses and opened 81 study centers all over India with due approvals, and offers job oriented training to a large number of youth of weaker sections who have no other option. The blended mode of teaching used in Distance Education program is also unique.(Sec.2.5.3, p. 5)
- 6) **Women Enrolment :** DEI has women enrolment of 68% students and 30% staff.
- 7) **Alumni Support :** The Alumni Association of Dayalbagh Educational Institutions (AADEIs) provides extensive support to DEI. (See Sec.6.6, page 13 of this chapter).
There is no other example where the Alumni contribute their own time, intellect, influence and funds with a spirit of service for the upliftment of the Institute.
- 8) **Support of Charitable Societies :**
The Charitable societies of Dayalbagh give a strong financial backing to various activities of DEI like, Hostel administration, Distance Education etc.
- 9) **Ambience & Discipline:**
Spiritual ambience and serene atmosphere of Dayalbagh, strict adherence to the academic calendar, spirit of service and sincerity permeates the Institute and a self imposed discipline is observed at all levels.

- 10) Eco-Friendly Campus:**
DEI works hand in hand with **SPHEEHA**, a Society working for the protection of Health, Ecology, Environment and Heritage of Agra. Campus is fully supported by Solar Power. Solar Cooking and Hot water facilities in Hostels, Solar Van, Extensive use of Cycles, Water Harvesting and measures to restrict emissions make the Campus eco-friendly and one with low Carbon foot print.
- 11) Research :**
DEI has developed top class Research labs to facilitate practical research and has established close links through MoUs with several top academic and Industrial establishments. International recognition obtained for Solar Hydrogen generation, Green Chemistry, VLSI, Bio-diesels, Atmospheric pollution etc. The publications upto impact factors of 10 and higher and books of international standard have been written by the faculty. More than 12 patents have been filed.
- 12) Advisory Committee On Education :**
The Advisory Committee on Education of Dayalbagh Educational Institutions is a think tank comprising eminent educationists and top ranking academicians, which gives valuable guidance to DEI in an advisory capacity to help it achieve its goals.
- 13) Cooperative Education program**
DEI has introduced an scheme, “Cooperative Education” in Engineering and Management Courses which bring the academic community close to Industrial sector.
- 14) e-DEI-de program;**
e-DEI-de is another innovative scheme which permits persons in job to join online modular courses to improve their knowledge and also to earn credits.
- 15) OUTREACH :**
The OUTREACH programs of DEI are humanitarian and designed to help the downtrodden and weaker sections. (See sec. 4.11, p. 10). These are, **Free Medical Camp, Hole in the Wall, Social Awareness, literacy drives, Upliftment Work in Tribal belts, Business Advisory Clinic and Counseling Cell.**
- 16) TRADITIONS:**
Morning Prayers, Student Dress Code and Annual features of the Institute like, Shiksha Diwas, Open Day Celebrations on Founder’s Day, Diamond Jubilee Memorial Lectures, QANSAS, Convocation, Basant Sports, Bhakti Sangeet, English and Hindi Play Competitions, are some healthy traditions which contribute to the ambience of the campus.

9.2 WEAKNESSES

Deteriorating Academic input

Unfortunately, a rapid fall is observed in the academic level of students in U.P. in recent years from where most of the students are admitted. Institute is arranging for remedial coaching to correct this deficiency.

Infrastructure

The Institute faces a shortage of space in all departments due to rapid increase in student strength and increased research activities. In spite of acquisition and construction of some new buildings, the need has outpaced the availability.

UGC-State Funding Disparity

DEI receives all its Plan and Non-Plan Maintenance grants from UGC except for a few posts that existed prior to the formation of the Demed University, supported by the U.P. State Government. The disparity in the two causes discontentment.

9.3 OPPORTUNITIES

University Of Excellence

Today DEI is poised to become a University of Excellence with a truly Indian aura and cultural heritage due to its unique innovative and comprehensive education system, teaching-learning experience, interdisciplinary research with international and national recognition and extra ordinary support from its Alumni through AADEIs, AAFDEI and Charitable Societies of Dayalbagh in terms of expertise, manpower and funds.

International and National Collaboration

With the successful teaching and research collaborations with the University of Maryland, College Park, USA and IIT Delhi in different disciplines, especially Computer Science, and MoUs with other prestigious universities and institutes, DEI has tremendous opportunity to explore new and tap existing ties to broaden its horizon in multidisciplinary research.

National Development

Today, India is facing the daunting challenge of improving the quality of higher education to international standards and simultaneously increase GER. This is a great opportunity for DEI to contribute by serving as a role model as it has successfully demonstrated an efficient, cost-effective and value-based quality education system. The need of the hour is to extend its reach to other parts of the country by establishing new branches and employing ICT to provide greater access. DEI has established a strong base of teaching and research programmes in state-of-the-art research areas, developed vocational courses for the academically weaker sections to enable them to earn their livelihood and put in place an efficient and an economical model to impart the same to masses. DEI considers this as a noble opportunity to serve the nation.

9.4 CHALLENGES

The challenges before the Institute are the following:

- Successful realization of the goals set in its VISION-2031 mission program
- Attracting brilliant faculty and students to join the Institute
- To motivate bright students to pursue a research career
- Maintaining proper balance between teaching and research.
- To attain academic excellence without sacrificing our values.

10. CONCLUSION

In a short span of 30 years, the Institute has distinguished itself for its innovative educational system and for the quality and value of its graduates.

Nobel Laureate, **Prof. Richard Ernst**, who visited DEI in January, 2005, praised DEI at the Meeting of Nobel Laureates with students, held at Lindau, Germany: *“Dayalbagh Educational Institute is a unique University in the world, where science and spirituality are going together and where Professors and students work in the fields together. In this context, the model of education system as developed and practiced at DEI for more than 2 decades now, is worth mentioning. It talks about developing a “Complete Man”, defined and visualized as a set of several elements, as a well rounded personality”.*

The Dayalbagh Educational Institute had launched the **Vision-2011** program in the year 2005 to raise its status to be one of the top 20 Universities of our country by the year 2011. In the extensive review of Deemed Universities conducted by MHRD in 2009, DEI was awarded 39 marks out of a maximum of 45, placing it at **8th rank among 126 Deemed Universities**.

The Institute is poised to rise to higher levels and be recognized not only nationally but internationally as well. The Dayalbagh Educational Institute has embarked upon a bold **VISION-2031** mission program and has formulated a comprehensive and progressive Strategic Plan for 2012-2031, with the goal to become a top teaching-cum-research Institute through an exemplary system of education. The Vision has been widely discussed and appreciated by distinguished academicians and educationists. To establish Total Quality Management across all activities of the University, the Plan encompasses undergraduate and postgraduate education, research, infrastructure, information and communication technology and campus development.

Keeping in line with the Institute’s unique scheme of innovative, comprehensive, inter-disciplinary and value-based education that fosters academic excellence with holistic development, the Strategic Plan is a road map for providing an environment to produce well-rounded students who are ready to take on the global challenges and be leaders with a fine blend of top quality academics, work-experience and a strong value system. The action-oriented Strategic Plan embodies the spirit of “Why not?”. It will be implemented in four phases, each of five years with clear targets set for each phase. The Institute has accepted this challenge and is confident of achieving success with its dedicated faculty, staff, students, alumni, community and with the Grace and Mercy of Supreme Father.

The Dayalbagh Educational Institute sincerely follows the dictum of its Founder Director, Revered Prof.M.B.Lal Sahab that it is not the size but the quality of work that makes a University Great.

B. PROFILE OF THE UNIVERSITY

1. Name and Address of the University:

Name :	Dayalbagh Educational Institute (Deemed University)		
Address :	Dayalbagh, Agra		
City : Agra	Pin: 282005	State: Uttar Pradesh	
Website: http: www.dei.ac.in			

2. For communication:

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Vice Chancellor (DIRECTOR)	Prof. V.G. Das	O: 0562-2801545 R: 0562-2570760	08755172019	2801226	deidirector@gmail.com
Pro Vice Chancellor(s)		O: R:			
Registrar	Prof. Anand Mohan	O: 0562-2801545 R:	09336907431	2801226	registrar.dei@gmail.com
Steering Committee Co-ordinator	Prof. Sukhdev Roy	O: 0562-2801545	09997592600	2801226	sukhdevroy@dei.ac.in
Co-ordinator IQAC	Dr. Ratan Saini	O: 0562-2801545	09319102047	2801226	ratansaini@gmail.com

3. Status of the University:

State University

State Private University

Central University

University under Section 3 of UGC (Deemed University)

Institution of National Importance

Any other (please specify)

✓

4. Type of University:

Unitary

Affiliating

✓

5. Source of funding:

Central Government

State Government

Self-financing

Any other (please specify)

✓

6. a. Date of establishment of the university : 16/05/1981

b. Prior to the establishment of the university, was it a/an

i. PG Centre Yes No

ii. Affiliated College Yes No

iii. Constituent College Yes No

iv. Autonomous College Yes No

v. Any other (please specify)

If yes, give the date of establishment : 01/07/1947

7. Date of recognition as a university by UGC or any other national agency:

Under Section	Dd	Mm	yyyy	Remarks
i. 2f of UGC*				
ii. 12B of UGC *				
iii. 3 of UGC #	16	05	1981	
iv. Any other ^ (specify)				

* Enclose certificate of recognition. :

Enclose notification of MHRD and UGC for all courses/programs/campuses

Notification of Ministry of Education & Culture (Present MHRD) is in Annexure –I.
(see page 166)

8. Has the university been recognized

a. By UGC as a University with Potential for Excellence?

Yes No

If yes, date of recognition :

b. For its performance by any other governmental agency?

Yes No

If yes, Name of the agency and
date of recognition:

9. Does the university have off-campus centres?

Yes No

If yes, date of establishment :
date of recognition :

10. Does the university have off-shore campuses?

Yes No

If yes, date of establishment :
date of recognition :

11. Location of the campus and area:

	Location *	Campus area in acres	Built up area in sq. mts.
Main campus area	Semi Urban	44	57,120
Other campuses in the country	-	-	-
Campuses abroad	-	-	-

(* Urban, Semi-Urban, Rural, Tribal, Hilly Area, Any other (please specify)

If the university has more than one campus, it may submit a consolidated self-study report reflecting the activities of all the campuses.

Not Applicable. DEI has one campus only, which is its main campus.

12. Provide information on the following: In case of multi-campus University, please provide campus-wise information. : Single Campus

- **Auditorium/seminar complex with infrastructural facilities:** Yes
 - Seminar Hall Complex : 250 sq.m. (250 seats)
 - Convocation Hall : 300 sq.m. (300 seats)
 - **Sports facilities**
 - **Playground** : 3 playgrounds(39,000 sq. m.)
 - **Swimming pool** : No
 - **Gymnasium** : Yes
 - **Any other (please specify)** : Indoor Badminton and Table Tennis
 - **Hostel**
 - **Boys' hostel**
 - **Number of hostels** : Two
 - **Number of inmates** : 230
 - **Facilities** : Solar Power, Solar Cooking, Solar Hot water, Medical, Indoor Games, Reading room, Gym, Internet, Computer and Photocopying
 - **Girls' hostel**
 - **Number of hostels** : Three
 - **Number of inmates** : 520 (186 +290+44)
 - **Facilities** : Solar Power, Solar Cooking, Solar Hot water, Medical, Indoor Games, Reading room, Gym, Internet, Computer and Photocopying
 - **Working women's hostel** : No
 - **Number of hostels** : Nil
 - **Residential facilities for faculty and non-teaching** : Six Quarters
 - **Cafeteria** : Three
 - **Health centre – Nature of facilities available – inpatient, outpatient, ambulance, emergency care facility, etc.**
- Saran Ashram Hospital run by Dayalbagh Medical Relief Society has both inpatient and outpatient facilities. It provides doctors for regular visits to student hostels and meets all other medical needs of the Institute free of charge.
- **Facilities like banking, post office, book shops, etc.** : No.
 - **Transport facilities to cater to the needs of the students and staff** : Two buses for staff/students
 - **Facilities for persons with disabilities** : Ramps and Easy access provided
 - **Animal house** : Yes (One)

- **Incinerator for laboratories** : No
- **Power House** : Solar Power Generating Plants with 515KWp capacity installed. Diesel Generator supply backup available.
- **Waste management facility** : Yes

13. Number of institutions affiliated to the university

Type of colleges	Total	Permanent	Temporary
Arts, Science and Commerce	Nil		
Law	Nil		
Medicine	Nil		
Engineering	Nil		
Education	Nil		
Management	Nil		
Others (specify and provide details)	Nil		

14. Does the University Act provide for conferment of autonomy (as recognized by the UGC) to its affiliated institutions? If yes, give the number of autonomous colleges under the jurisdiction of the University : N.A.

Yes No Number

15. Furnish the following information:

Particulars	Number	Number of Students
a. University Departments		
Undergraduate	22	2712
Post graduate	21	1073
Research centres on the campus	21	269
b. Constituent colleges	03	2092
c. Affiliated colleges	-	
d. Colleges under 2(f)	-	
e. Colleges under 2(f) and 12B	-	
f. NAAC accredited colleges	-	
g. Colleges with Potential for Excellence (UGC)	-	
h. Autonomous colleges	-	
i. Colleges with Postgraduate Departments	-	
j. Colleges with Research Departments	-	
k. University recognized Research Institutes/Centres	-	

16. Does the university conform to the specification of Degrees as enlisted by the UGC?

Yes No

If the university uses any other nomenclatures, please specify.

17. Academic programmes offered by the university departments at present, under the following categories: (Enclose the list of academic programmes offered)

Programmes	Number
UG	22
PG	21
Integrated Masters	09
M.Phil.	21
Ph.D.	21
Integrated Ph.D.	02
Certificate	17
Diploma	11
PG Diploma	10
Any other (please specify)	
Total	133

A detailed list of all academic Programs offered by DEI is given in a Tabular form on Page 3 (Part A-Executive Summary) of this report.

18. Number of working days during the last academic year. 280

19. Number of teaching days during the past four academic years.

2008-09 2009-10 2010-11 2011-12

206 206 207 207

(‘Teaching days’ means days on which classes were engaged. Examination days are not included)

20. Does the university have a department of Teacher Education?

Yes No

If yes,

a. Year of establishment : 01/07/1947

NCTE recognition details (if applicable)

Notification No.: F-3/U.P.-8/3827 (For B.Ed.)

Date : 28/10/1996

Notification No.: F.No.NRC/NCTE/UP-11/M.Ed./2000/3782-88 (For M.Ed.)

Date : 26/07/2000

a. Is the department opting for assessment and accreditation separately?

Yes No

21. Does the university have a teaching department of Physical Education?

Yes No

If yes,

a. Year of establishment

NCTE recognition details (if applicable)

Notification No.:

Date:

Is the department opting for assessment and accreditation separately?

Yes No

22. In the case of Private and Deemed Universities, please indicate whether professional programmes are being offered?

Yes No

If yes, please enclose approval / recognition details issued by the statutory body governing the programme. : AICTE approval letter details given below.

B.Tech(B.Sc.Engg.): Letter F.No.Northern/1-748018103/2012/EOA

Dated : 10.05.2012

M.B.A. : Letter F.No.Northern/1-733031143/2012/EOA Dated : 10.05.2012

Letters Enclosed in Annexure – II (see pages 167-172)

23. Has the university been reviewed by any regulatory authority? If so, furnish a copy of the report and action taken there upon. : Yes, MHRD, 8th rank, 39 out of 45

(In 2009, MHRD had reviewed and assessed the functioning of 126 deemed Universities. DEI has been placed in the FIRST category of 38 Deemed University with a score of 39 out of 45 marks, giving it 8th rank among all the Deemed Universities of our country.)

24. Number of positions in the university

Positions	Teaching faculty			Non-teaching staff	Technical staff
	Professor	Associate Professor	Assistant Professor		
Sanctioned by the UGC/ University/State/ Government	06	28	233	174	113
<i>Recruited</i>	5+65 =70 (65CAS)	26+21 =47 (21CAS)	215-86 =129 (86CAS)	154	110
<i>Yet to recruit</i>	1	2	18	20	3
No. of persons on contract basis	-	-	-	-	-

25. Qualifications of the teaching staff

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers :215							
D.Sc./D.Litt.	1	1	1	0	0	0	3
Ph.D.	47	21	15	30	20	44	177
M.Phil.	0	0	1	0	15	0	16
PG	0	0	0	0	6	13	19
Temporary teachers : 31							
Ph.D.	-	-	-	-	9	6	15
M.Phil.	-	-	-	-	5	3	8
PG	-	-	-	-	6	2	8
Part-time teachers : NIL							

26. Emeritus, Adjunct and Visiting Professors

	Emeritus	Adjunct	Visiting
Number	19	02	01

27. Chairs instituted by the university

Chair details	AADEIs Chair of Excellence
School / Department	Music Department

AADEI's Chair of Excellence in Music : Padma Shri Professor Manas Das Gupta

28. Students enrolled in the university departments during the current academic year, with the following details:

Students		UG	PG	Integ. Masters	M.Phil	Ph.D.	Integ. Ph.D.	D.Litt./ D.Sc.	Cert.	Dipl.	PG Dipl.
From the home state of the University	*M	845	223	-	23	75	-	-	-	13	10
	*F	1715	551	-	121	169	-	-	-	-	45
From other states of India	*M	55	23	-	04	07	-	-	-	08	04
	*F	96	52	-	11	18	-	-	-	-	06
NRI students	*M	01	-	-	-	-	-	-	-	-	-
	*F	-	-	-	-	-	-	-	-	-	-
Foreign students	*M	-	-	-	-	-	-	-	-	-	-
	*F										
Total no. of Students	*M	901	246	-	27	82	-	-	-	21	14
	*F	1811	603	-	132	187	-	-	-	-	51
Total		2712	849	-	159	269	-	-	-	21	65

*M-Male *F-Female

29. 'Unit cost' of education

(Unit cost = total annual recurring expenditure divided by total number of students enrolled)

(a) including the salary component = Rs. 72,887/-

(b) excluding the salary component = Rs. 5,791/-

30. Academic Staff College

: NA

- Year of establishment
- Number of programmes conducted (with duration)

31. Does the university offer Distance Education Programmes (DEP)?

Yes No

If yes, indicate the number of programmes offered : 13
 Are they recognized by the Distance Education Council? : Yes

All courses of Distance Education of DEI are approved by DEC-UGC-AICTE committee.

32. Does the university have a provision for external registration of students?

Yes No

If yes, how many students avail of this provision annually?

33. Is the university applying for Accreditation or Re-Assessment? : Accreditation.

If Accreditation, name the cycle.

Accreditation : Cycle 1 Cycle 2 Cycle 3 Cycle 4
 Re-Assessment:

34. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)

Cycle 1 : 02/02/2006, Accreditation outcome/Result: B++ (83.9%)
 Cycle 2 :, Accreditation outcome/Result :

* Kindly enclose copy of accreditation certificate(s) and peer team report(s)

See Annexure – III (pages 173-196) for Accreditation Certificate & Report.

35. Does the university provide the list of accredited institutions under its jurisdiction on its website? Provide details of the number of accredited affiliated / constituent / autonomous colleges under the university. : N.A.

36. Date of establishment of Internal Quality Assurance Cell (IQAC) and dates of submission of Annual Quality Assurance Reports (AQAR).

IQAC : 01/01/2000

AQAR (i) 2006-07 : 10-9-2007
 (ii) 2007-08 : 15-9-2008
 (iii) 2008-09 : 20-9-2009
 (iv) 2009-10 : 25-9-2010
 (v) 2010-11 : 27-9-2011
 (vi) 2011-12 : 28-9-2012

37. Any other relevant data, the university would like to include. : Nil

C. CRITERION-WISE EVALUATIVE REPORT

CRITERION I: CURRICULAR ASPECTS

1.1 Curriculum Design and Development

1.1.1 How is the institutional vision and mission reflected in the academic programmes of the university?

A. Institutional Vision

“Education, more education, education made perfect is the only panacea for all our country's ills and evils”, as told by Revered Sir Sahabji Maharaj Kt., is the guiding vision of education in the Institute. The distinguishing feature of DEI's education system is the emphasis on combining the much sought excellence with the much needed relevance to contemporary needs.

B. Mission

The mission objective of the Institute is to provide value-based, comprehensive and inter-disciplinary education to evolve a ‘complete man’, a well-rounded total quality person, whose hallmarks are intellectual strength, emotional maturity, truthfulness, simple living, high moral character, scientific temper, general awareness, interdisciplinary outlook and one who discharges his duties and obligations. This mission goal is supported by major objectives of achieving academic excellence, moral and spiritual values and social sensibilities by undertaking intellectual, physical and social activities. The Institute adopts a holistic programme of education to achieve its noble vision. An Interpretive Structural Model showing the Objectives, Educational System Requirements and Organizational Policies and their interlinking to achieve the desired objectives is shown in **Annexure–IV** (page 197). This integrated system of education has been implemented in DEI successfully.

C. Major Considerations in the Education Programme

The Institute follows a unique scheme of innovative, comprehensive, inter-disciplinary and value-based education that fosters academic excellence along with holistic development. The educational system aims to inculcate dignity of labour, encourages initiative and creative work, which is multi-disciplinary, which prepares men for the increasingly techno-oriented society of tomorrow without uprooting them from their agricultural moorings, which generates in the *alumni* the basic values of humanism, secularism and democracy by exposing them to the principles of all the major religions of the world and to their own cultural heritage, thus developing in them an integrated personality of well-adjusted human beings, whose world has not been broken into fragments by narrow domestic walls. The educational system aims to provide affordable quality education to all sections of the society, irrespective of caste, colour, race, and gender.

D. Reflection of DEI's Vision and Mission in Academic Programmes

In pursuance of its noble mission objectives, the following important features and compulsory components have been incorporated in the curriculum of DEI.

Work-based Training

Practical training in applied work related to one of the major subjects (*to create willingness and capacity to work with one's own hands, develop skill and generate a spirit of self-reliance*).

Core Courses

1. **Cultural Education** (*to take pride in the national ethos so that one may not lose one's moorings*).
2. **Comparative Study of Religion**: Hinduism, Buddhism, Jainism, Judaism, Christianity, Islam, the 'Sant Mat' and Modern Religious movements (*to ingrain an attitude of tolerance and a sense of national integration and inculcate moral and spiritual values*).
3. **Scientific Methodology, General Knowledge and Current Affairs**: (*to nurture a scientific temper and be aware of contemporary developments*).
4. **Rural Development**: Study of rural society and economy (*to foster a fuller understanding of the rural life with a view to appreciate properly the polity and the economy of our country and the social forces at work*).
5. **Agricultural operations**
6. **Social Service**: (*to engender the spirit of brotherhood of man and to facilitate the establishment of casteless and classless society*). (a) Village adoption for rural reconstruction (b) Adult and Continuing Education Programme
7. **Co-curricular Activities**: Cultural & Literary activities, Games, Sports and Discipline etc. (*for all-round development of personality*)

Semester-cum-Continuous Evaluation System

This system radically alters the learning process to the benefit of the students. The evaluation, with 75% internal and 25% external components, is a continuous process of class tests, quizzes, assignments, seminars group discussions and attendance. The final grade is awarded through a cumulative grade point average (CGPA) system on a scale from 1 through 10.

Interdisciplinary and Ancillary Electives

Students have to study at least two courses, of which one should be from a different faculty (to further the cause of integrated education and also complement and support the major subjects).

Discipline

A simple dress-code to avoid disparities among students from different sections of society, Morning Prayer and assembly, six working days per week, inculcates a unique work culture and ensures practical realization of the high ideal of simple living and high thinking.

1.1.2 Does the university follow a systematic process in the design and development of the curriculum? If yes, give details of the process (need assessment, feedback, etc.).

Yes. Every department holds the meetings of **Board of Studies (BOS)** every year in February where all academic proposals of the department are considered in the presence of experts. The recommendations of BOS are put up to the **Faculty Board**, and then to the **Academic Council** and to the **Governing Body**. Syllabus modifications required to be done at short notice is possible through the **Standing Committee** of the Academic Council.

The feedback is taken from following.

1. DEI APAC and Employers, to improve employability of candidates
2. Faculty members
3. Students through class committees
4. Academic and Administrative Audit Committee
5. Parent-Teacher and Alumni meetings,
6. External examiners in end-semester theory and practical examinations.

The modification once made is retained normally for 3 years before further modification. Major Review is undertaken once in 10 years through a Faculty level Workshop. Except for minor modification, Institute prefers to hold a workshop involving a number of experts before accepting revision,

The VISION-2031 document of DEI, which was prepared after holding workshops at departmental and Institute levels, has set high targets for the departments.

1.1.3 How are the following aspects ensured through curriculum design and development?

- * **Employability**
- * **Innovation**
- * **Research**

● **EMPLOYABILITY**

The Curriculum has been designed to include essential elements to ensure employability. Compulsory Work Experience courses are an integral component of all undergraduate courses in the Institute. The Alumni Placement Assistance Cell (**DEI-APAC**) and the Institute-Industry Partnership Cell (**IIPC**) conduct a variety of surveys and recommend necessary modifications and improvements to help in employability and even assist them in securing suitable jobs. Institute-industry interactions are regularly organized and feedback from employers taken in different fields.

Nearly seventeen vocational Certificate Level Courses have been introduced in order to meet the demand of Industry for technicians on one hand and to help the weaker sections of the society to get a training, which can enable them to earn their livelihood.

• INNOVATION

The Academic Program of DEI has many innovative features that are designed to optimize the learning process. Some of the features are as follows:

1. **Main Academic Studies** : in two major subjects from the concerned Faculty for first four semesters and one of these for the next two semesters of the Honors course
2. **Interdisciplinary and Ancillary Electives** (1 Sem. each): at least two half courses, of which one should be from a different faculty
3. **Work based-Training** (2 Sem.): Practical training applicable to work related to one of the major subjects
4. **Core Courses** : Cultural Education (1 Sem.), Comparative Study of Religion (1 Sem.), Scientific Methodology, General Knowledge and Current Affairs (4 Sem.), Rural Development (1 Sem.). Agricultural Operations (2 Sem.), Social Service (4 Sem.) and Co-Curricular Activities (4 Sem.).
5. **Semester System with Continuous Evaluation System**:. The evaluation has 75% internal component that consists of quizzes, assignments, class tests, seminars and group discussions and also the attendance. Rest 25% is the end semester component which is totally external. The final grade is awarded through a 10 point CGPA system.
6. **NSS** is a compulsory component with activities organized throughout the year.
7. **Provision for Lateral Entry**: Provision has been made to encourage meritorious students to progress from vocational to Diploma and from Diploma to Degree programs through lateral entry strictly on merit.
8. **Innovative Integrated Programs** : DEI has introduced the following integrated programs to permit bright students to earn additional credits during the two semesters as well as the summer term, thus optimally utilizing their time and completion of the credit requirements in shorter duration:
 1. *B.Com. (Hons.)-M.B.A.*
 2. *B.B.M. (Hons.)-M.B.A.*
 3. *B.Sc. Engg.-M.B.A.*
 4. *M.Com.-B.Ed.*
 5. *M.A.(English)-B.Ed.*
 6. *B.Sc. (Hons.)-M.Sc.-M.Tech. in Computer Science*
 7. *PGDBE-M.A. (Applied Eco.)-M.Phil. (Eco.)*
 8. *PGDT-M.A.-M.Phil.-Ph.D. in Theology*
 9. *B.Sc. Engg.-M.Tech.and*
 10. *B.Sc. Engg.-M.Tech.-Ph.D.*

The M.Phil.programme in dual degree mode is available to students of all PG courses and also to scholars registered for Ph.D.

9. **Co-operative MBA:** This unique innovative program encourages students to spend 5 to 7 months in an Industry on some project and complete the same as their final year project under the able guidance of our faculty.
10. **e-DEI-de program:** A modular program in distance education. Here, a person can credit module after module and improve their job skills. The credits earned accumulate and can eventually fetch a degree.
11. **Blended mode Distance Education Program:** This is another unique innovative mode adopted by DEI. The blended mode teaching is unique and innovative and has proven to be highly beneficial to the weak and underprivileged.

● RESEARCH

The Institute faculty has made a mark in national and international scientific circles for its research contribution which is reflected in its curriculum. The following initiatives ensure research orientation of the curriculum:

1. **Highly Qualified Faculty :** The faculty members of DEI normally stay in the Institute not only in the working hours but also after Institute timings and work with their research scholars. This spirit of hard work and dedication is contagious here. Nearly 85% staff possess Ph.D. qualifications.
2. **Research degrees in all Streams :** The Institute offers M.Phil. and Ph.D. degrees in 21 streams (in all departments).
3. **Scholarships :** Nearly 90% research scholars in Science and Engineering streams get financial support through projects and scholarships. The UG, PG and Research students take advantage of the “Earn while you learn” program supported by project funds in which they learn advanced techniques.
4. **Research Facilities :** DEI has established state-of-the art research laboratories in emerging areas in all Departments with funding from various agencies that include UGC, DST, DBT, BRNS etc.
 - a. **Research Laboratories:** Some of the research laboratories on the campus are as follows.

Biochemical Genetics Laboratory,	Biomedical Laboratory,
Chemical Instrumentation Laboratory,	CAD Laboratory,
Entomology and Limnology Laboratory,	Neural Networks,
Cytogenetical Screening Lab,	Parasitological Laboratory,
Nanostructured Thin Films Lab.,	Toxicology,
Photonics,	Microwave Devices,
VLSI Design,	Microbiology,
Plant Tissue Culture	Nanotechnology Lab.

- b. Inter-disciplinary Research facilities:** The Institute has established a **Research Technology Park** to accommodate Centres of excellence in highly challenging multi-disciplinary research areas, namely,
Centre for Quantum and Nano Computing Systems,
Centre for Consciousness Studies,
Centre for Core Courses
 Research Colloquia are regularly held at these centres.

- 5. Collaborative Research:** Linkages for academic interaction and knowledge sharing have been established and MoUs have been signed with prestigious universities and research Institutes in India and abroad as follows.

Type of Linkage	University/Institution	Area of Collaboration & Department
MoU	University of Maryland, USA	Hydrogen Generation with Solar Energy – Chemistry
MoU	Michigan state University, USA	Bio-inspired Systems - Physics & Comp.Sc.
MoU	University of Missouri, USA	Bio-Technology – Zoology
MoU	University of Waterloo, Canada	Quantum Computing – Mechanical Engg.
Collaboration DST-DFG Grant	Christian Albrechts Universitat, Germany	Algorithm optimization – Mech.Engg.
MoU	I CGEB, New Delhi	Parasitology & Bio-Tech – Zoology, Botany, Chemistry
Collaboration	CEMEF, France	Finite element methods for Mech. Engg. Design.
Collaboration	EPFL, Switzerland	Development of Smart Grid for Solar Power – Elect.Engg.
MoU	TIFR, Mumbai	Astro particle study – Physics & Comp. Sc.
MoU	IIM, Bangalore	Supply Chain Management – Management
MoU	IIT, Delhi	Joint Courses, Joint supervision – Management, Phy & Comp.Sc.&Elect. Engg.
MoUs	Maruti Udyog Ltd. & Yamaha Motor Co.	4-Wheeler & 2-Wheeler courses – Automobile (TC)
Collaboration	CDAC, Pune	Unique Trademark Software development- Mech.Engg.
Collaboration	NIIST, Trivandrum	Dielectric Material studies – Physics & Comp. Sc.
Collaboration	BHEL, Bangalore	Solar Power –Elect Engg

In addition to above, links have been established with the following institutions.

National :

JNCASR, Bangalore,
NPL, New Delhi,
IIM Udaipur,
IIT Bhubaneshwar,

Nuclear Science Centre, New Delhi,
CDRI, Lucknow,
IIM Kolkata,
ICFAI, Hyderabad.

International:

Bell Labs., USA,
University of Arizona, USA;
Wharton Business School,
Sauder School of Business, Canada,
University of North Carolina, USA
Max Planck Institute, Germany,
Rotterdam School of Management,
Groningen University, Netherlands

Harvard University, USA;
Imperial College, London;
University of Pennsylvania, USA;
University of Illinois, USA;
University of British Columbia, Canada;
Technical University, Germany;
Erasmus University
Hokkaido University, Japan.

6. Organization of Conferences/Workshops/Seminars: The Institute organizes every year about 2 or 3 International Conferences and 4 to 5 National Conferences, Workshops and Seminars in areas of research like, Management, Quantum and Nano Computing, Chemistry, Consciousness studies, Psychology, Economics and such other areas where the Institute has strength.

7. Undergraduate Research Awards (UGRA): With financial support from AADEIs, the Institute has taken up an important initiative to provide meritorious UG students with state-of-the-art exposure to frontline research at the UG level, through the Under-Graduate Research Awards. Every year, five to six outstanding students from science and engineering streams are selected to pursue research projects in the Department of Physics and Computer Science and Department of Electrical Engineering.

1.1.4 To what extent does the university use the guidelines of the regulatory bodies for developing and/or restructuring the curricula? Has the university been instrumental in leading any curricular reform, which has created a national impact?

The Institute develops or restructures the curricula strictly as per the guidelines of UGC, AICTE and NCTE. Professional courses such as B.Tech., M.B.A. and Diploma Courses are designed as per AICTE guidelines and approved by it.

The model curricula developed by UGC and syllabus of NET examination are used for framing the syllabus of Degree and PG Courses. The innovative features of DEI, like compulsory core courses, are in addition to the mandatory requirements.

The DEI was accorded the Deemed University status to implement the Education Policy framed by it in 1975. The National Policy on education adopted by Government of India in 1986 had many similarities with the policy of DEI. The innovative schemes of DEI have been widely acclaimed and have made a tremendous impact.

1.1.5 Does the university interact with industry, research bodies and the civil society in the curriculum revision process? If so, how has the university benefitted through interactions with the stakeholders?

The Institute has excellent synergy with industry, research bodies and the local community. Institute maintains close links through following channels.

1. **IIPC:** Offers courses to Industrial units and Research Organisations on topics of their use like Enterprenuership, MATLAB Applications, Management Development, Computer Skills, Tally etc. The demand for these courses emerges from Industry.
2. **Business Advisory Clinic:** Offers free consultancy to Business and Industry
3. **DEI-APAC:** This unit of the Alumni Association has four regional committees in the four regions of our country and maintains communication links both for Training and Placement. They collect the feedback from Industry and guide DEI in curriculum development.
4. **MoU:** The Industrial Organisations with which DEI has entered into MoUs help in establishment of Lab facilities and offer training to our staff. They also help in Curriculum Design.
5. **Workshops and Seminars:** DEI has been inviting Corporate leaders to participate and sponsor candidates for participation in these workshops, wher close interaction takes place.
6. **Cooperative Education:** The scheme of Cooperative Education introduced recently in Engg and management Courses is another important step in bringing Industry close to the Academics.
7. **Extension activities:** A large number of extension activities of the Institute, like Open Day, Parent-Teacher and Alumni meets, community service and non-formal education in neighboring villages and tribal areas help in establishing very close links with the civil society and also in the development of the curriculum.

For all major curriculum revision, the departments hold workshops and discussions with external experts from other universities, industry and research organizations. The views of all stakeholders are considered before the changes are proposed in the curriculum. Interaction with various stakeholders has benefitted the Institute in taking the following new initiatives to strengthen its curriculum :

A. With Industry:

Interaction with leading industrial organizations such as Infosys, Cadence, Yamaha, Maruti, BHEL etc. has led to the following benefits:

1. Exposure to staff and students to industry requirements
2. Introduction of desired skills in various courses
3. Improvement in practical training
4. Modernization and upgradation of Workshops and labs.
5. Introduction of new programmes such as Modular Courses.
6. Formulation of Cooperative Education program for Engg and MBA.
7. Initiation of Consultancy work

B. With Research Bodies:

1. Strengthening teaching and research : Introduction of M.Sc., M.Phil. and Ph.D. programmes and courses in emerging inter-disciplinary areas such as Nanotechnology, Biotechnology, Quantum Computing.
2. Joint Courses with prestigious International and National Institutes: Offering common courses through e-conferencing jointly conducted by DEI with University of Maryland, College Park, USA and IIT Delhi.
3. MoUs with leading International and National Institutes: Facilitated teaching and research in state-of-the-art areas.
4. Joint supervision of research scholars with IITD faculty has facilitated utilization of expertise and facilities at both ends and to undertake challenging research problems.
5. Provision for students to credit open mode courses offered by US Universities have enabled them to participate in International Competitions and obtain high ranks.
6. Generation of funds and modernization of research labs and setting up of research centres
7. Joint R & D projects and research with leading international and national universities and research institutes have opened up opportunities for both faculty and students.
8. Has provided faculty and students valuable exposure to industrial experience.
9. Consultancy work by faculty to utilize their expertise to do practical productive work for organizations such as DRDO.

C. With Civil Society:

1. Introduction of Integrated and Dual degree programs.
2. Establishment of Women's Polytechnic
3. Launching of Distance Education Programme due to tremendous demand and enabled weaker sections to benefit through vocational education
4. Making provision for lateral entry and option for multiple exits in the academic programme

1.1.6 Give details of how the university facilitates the introduction of new programmes of studies in its affiliated colleges.

Not applicable.

1.1.7 Does the university encourage its colleges to provide additional skill-oriented programmes relevant to regional needs? Cite instances (not applicable for unitary universities).

Not applicable

1.2 Academic Flexibility**1.2.1 Furnish the inventory for the following:****Programs taught on Campus**

- B.A. Honours (Drawing & Painting/Music/Hindi/English/Sanskrit/Home Science/Econ./Psychology/Sociology/Political Science)
- B.B.M. Honours

- B.Com. Honours
- B.Sc. (Home Science) Honours
- B.Sc. Honours (Physics/Computer Science/Chemistry/Math/Botany/Zoology)
- B.Tech. (Elect. Engg. with specializations in Electronics / Comp. Sc.)
- B.Tech. (Mech. Engg. with specializations in Ind. Engg. / Comp. Sc.)
- B.Ed.
- PGDT
- PGDTDP
- PGDCSA
- PGDBE
- PGDPC
- PGDSHE
- PGDJMC
- PGDEBT
- M.A.
(Drg./Music/Hindi/English/Sanskrit/Theology/Economics/Psy./Socio./Pol.Sc.)
- M.Com.
- M.Sc. (Physics/Computer Science/Chemistry/Math/Botany/Zoology)
- M.Sc. (Home Science)
- M.B.A. (Business Management)
- M.Ed.
- M.Phil. (in all P.G. Depts. 21 streams)
- M.Tech. (Engg. Systems)
- M.Tech. (Computer Science)
- Ph.D. (in all P.G.Depts. 21 streams)
- Diploma in 11 subjects
- Vocational Courses in 17 subjects

(a) Overseas Program offered on Campus:

DEI offers a course on Post Graduate Diploma on Theology, which is also offered at five overseas study centres in U.K., Canada and USA

The following two vocational courses have been started in Colombo in Sri Lanka

1. Motor Vehicle Mechanic

2. Modern Office Management & Secretarial Practice

(b) Programs for Colleges

Not applicable

1.2.2 Give details on the following provisions with reference to academic flexibility

(a) Core/Elective options

The Core Courses are arranged as Institute, Faculty and Departmental Core Courses:

1. The **Institute Core** comprises of seven courses, namely, *Cultural Education*,

Comparative Study of Religion, Scientific Methodology G.K. and Current Affairs, Rural Development, Agricultural operations, Social Service and Co-curricular activities, described in Sec. 1.1.1 of this report, which are compulsory for all U.G. Courses irrespective of the branch of study.

2. At the **Faculty level**, B.A. and B.Sc. students have to opt for two major subjects for the first four semesters. Apart from major subjects the student has to opt for two half courses (minor subjects), of which one has to be from another faculty. In the third year, the student has to opt for one of the major courses credited earlier, which will be the subject of graduation in Honours. Elective options are available at Honours level and in PG programs.
3. Engg. students have to study the **Faculty and Departmental core courses** apart from **Institute core** courses given in (i) above. There are a large number of electives which are channelized into three streams of specialization in each department. Students have to opt for electives in arts and humanities also in the first year.

(b) Enrichment Courses

Several special additional Certificate courses are offered to Science and Engineering students as follows:

1. Courses on Operating Systems and Computer Networks are offered by **University of Maryland, USA**, under MoU. These courses attended jointly by students of both Institutes.
2. Courses run jointly by **IIT Delhi** and DEI are:
 - (i) *Intelligent Information processing*
 - (ii) *Media Processing and Communication*
 (These courses are also permitted as optional electives whose credits are counted for their regular courses)
3. Courses offered by **Stanford University** and **MIT** on open access on-line mode, are made available to students.
4. Courses offered regularly by **Alumni Association** for students (after college hours). In the session 2011-12, the following courses were offered that benefitted 373 students, on the following topics:
 - a. *Programming through C*
 - b. *Computer Basics and Microsoft Office Excel.*
 - c. *Basic Soft Skills*
 - d. *Tally ERP9*
 - e. *UNIX and PERL*
 - f. *Network Administration*
 - g. *Auto CAD Workshop*
 - h. *Advance Communication Skills and Spoken English*
 - i. *Resume Writing and Interview skills*

(c) Courses offered in Modular Form

In order to facilitate students joining distance education program to earn credits in smaller modules as per their convenience, DEI has introduced an on-line program for distance education under the banner “e-DEI-de”, in which the student can earn credits for each module and the degree is awarded when the required number of credits are accumulated for the concerned degree. This is at present introduced for some vocational courses in Distance Education and is to be extended to other programs later.

Credit Accumulation and Transfer facility

The facility of credit accumulation is available in the e-DEI-de program of DEI and also in the modular programs of vocational courses. Students can also earn advance credits in some courses.

(d) Lateral and vertical mobility within and across programmes, courses and disciplines

The Institute has lateral entry facility for students getting high rank in certificate courses to join Diploma courses. Similarly lateral entry facility is provided for admission to Engineering Degree program for bright students of Diploma. 10% seats are reserved for lateral entry students in both diploma and degree programs. Similar lateral entry facility is available for students of Modern Office Management Diploma and Certificate Courses for entry into B.Com.

The Institute has provided a facility for direct admission to all post graduate courses for top ranking students in the U.G. program. Thus bright students of U.G. Courses are given incentive for admission to P.G. program of their field. This facility of vertical mobility is available upto Ph.D. level courses.

1.2.3 Does the university have an explicit policy and strategy for attracting international students?

All programs are open for NRI students. The Institute offers PG Diploma Courses in Theology at five centres in USA, UK and Canada, in order to make the westerners aware of Eastern Philosophy in the area of Theology.

DEI has also opened a study centre in Colombo, where two vocational courses have been started on the same pattern as in India, namely, “Motor Vehicle Mechanic” and “Modern Office Management & Secretarial Practice”. In view of extremely encouraging results, it is proposed to extend this provision further to other places. The financial support to run these courses was partially obtained from the Association of Alumni and Friends of DEI (AAFDEI) registered in USA.

1.2.4 Have any courses been developed targeting international students? If so, how successful have they been? If 'no', explain the impediments.

DEI has opened a few Distance Education study centers outside India to offer the following three courses on specific demand from persons of those regions.

1. PG Diploma in Theology (for US, Canada and Europe)
2. Motor Vehicle Mechanic Certificate (for Sri Lanka)
3. Modern Office Management & Secretarial Practice (for Sri Lanka)

1.2.5 Does the university facilitate dual degree and twinning programmes? If yes, give details.

Yes. The M.Phil. program is combined with PG in dual degree mode in all departments. There are nine integrated degree programs where UG students can credit PG courses in the final year. This provision has been made for bright students who prefer to optimize their studies by utilizing summer terms and cover required credits in lesser time.

1.2.6 Does the university offer self-financing programmes? If yes, list them and indicate if policies regarding admission, fee structure, teacher qualification and salary are at par with the aided programmes?

Yes. Some Diploma and Certificate Level programs offered by DEI Technical College are run under self-financing mode. All distance education programs are run under self-financing mode. As a policy, all expenses including fees and all facilities for the self-financing courses are kept same as other UGC/State aided courses, for both regular and distance mode. The self-financed courses are financially fully supported by charitable societies of Dayalbagh. The fees collected from students meets the maintenance expenses.

The Institute is in full control of Academic and Administrative matters for both regular and distance mode courses. No franchise is given to others. The following table shows the similarities and differences between the aided and self financed courses of DEI.

Criterion	State Govt. aided full time Diploma in Mech., Elect. And Auto Engg.	Self financed full time Diploma in Electronics, Civil, Architecture etc.
Admission procedure	Admission purely on merit based on: 1. Marks obtained in 10 th and 12 th classes (20%) 2. Written test (60%) 3. Interview (20%) Reservation for SC, ST and OBC @ 15%, 7.5% and 27% resp.	Admission purely on merit based on the total marks : 1. Marks obtained in 10 th and 12 th classes (20%) 2. Written test (60%) 3. Interview (20%) Reservation for SC, ST and OBC @ 15%, 7.5% and 27% resp.
Approvals of Govt. regulations agencies	AICTE approved	AICTE approved
Fee per Semester	Rs. 4150/-	Rs. 4150/-
Teacher	Engg. Degree Holders	Engg. Degree Holders
Source of Teacher Salary	UP State Govt.	Charitable Societies of Dayalbagh

1.2.7 Does the university provide the flexibility of bringing together the conventional face-to-face mode and the distance mode of education and allow students to choose and combine the courses they are interested in? If 'yes,' give operational details.

The distance mode programs of DEI have the following common features with the regular courses running in DEI.

1. The syllabus is the same for both
2. Regular classes of three hours per day are held for distance mode, while the regular program holds classes whole day.
3. Continuous evaluation is adopted at both places.
4. Examinations are held simultaneously with the same question papers.
5. Class strength restricted to 25 in all distance mode courses at each study centre.
6. The ranks awarded by University are for the combined group of conventional and distance mode students as a single entity.
7. All lateral entry provisions are same for both conventional and distance mode students.
8. Personal Contact Programs : The distance mode students are required to attend some practical classes in the DEI Campus for about 2 weeks every semester to work on such equipment, which is not available at their centres.

Though the distance mode education is at par with regular mode and both programs run synchronously, the Institute does not permit migration from one stream to another.

1.2.8 Has the university adopted the Choice Based Credit System (CBCS)? If yes, for how many programmes? What efforts have been made by the university to encourage the introduction of CBCS in its affiliated colleges?

No. The Institute at present does not have provision for choice based credit system. It does not give affiliation to any college.

1.2.9 What percentage of programmes offered by the university follow:

- * Annual system
- * Semester system
- * Trimester system

100% courses offered by DEI follow **Semester System**.

1.2.10 How does the university promote inter-disciplinary programmes? Name a few programmes and comment on their outcome.

The Institute Education Policy stresses on Inter-disciplinary approach to education. This is achieved in several ways as follows:

1. The U.G. programs of all streams have a requirement that the student has to register for one minor course (or half course) from outside the faculty. As an example: The students of B.A. of Arts Faculty have to take one half course in Science, Commerce, Social Sciences, Education or Engineering.

2. The Applied Science, Mathematics, Accountancy and Humanities courses are offered to students of B.Tech., BBM, MBA etc. by the departments of the Faculties of Science, Commerce and Arts.
3. Research and Technology Park organizes Research Colloquia frequently where faculty and students of several faculties and external experts participate, giving a common platform for exchange of cross-disciplinary ideas between the research workers of different faculties.
4. Research projects on broad themes involving multiple disciplines are taken up like Nanotechnology, Solar Hydrogen Production, Soft Computing, Design of Solar Vehicle, Bio Energy, Biophotonics, Environmental Bio-technology etc.
5. Several P.G. programs like PG Diploma Courses in Environmental Biotechnology, Safety Health and Environment, Journalism and Mass Communication, M.Sc. program in plant and Microbial Biotechnology and the M.Tech. program in Engineering Systems are all inter-departmental and inter-disciplinary programs.

1.3 Curriculum Enrichment

1.3.1 How often is the curriculum of the university reviewed and upgraded for making it socially relevant and/or job oriented/knowledge intensive and meeting the emerging needs of students and other stakeholders?

The Board of Studies of every department meets every year in the month of February and March. The changes made in curriculum are sustained for three years before further change. Major revisions are done by holding workshops where experts from other universities are invited to participate. Faculty level workshops are held once in ten years.

The DEI-APAC organizes placement camps at Industrial hubs like Noida and Gurgaon from time to time and feedback is obtained from prospective employers about their needs of manpower. The vocational courses and work experience courses are modified to suit their needs. Expert alumni of DEI-APAC also give region wise annual reports about the placement scenario. The specializations in B.Sc. Engineering Courses were introduced as per their recommendations.

The MoUs with IITs and Foreign Universities and subsequent visits and research interactions expose gaps in the curriculum and remedial measures are taken, which make our courses quite advanced. IIT Delhi offers courses taught jointly by faculty of DEI and IITD to students of DEI and IITD. DEI faculty is invited to take short courses at other Institutes that include, IIM Bangalore, Christian Albrecht University, Keil, Germany, Michigan Technological University, USA and Missouri State University, USA.

The unique feature of DEI curriculum is that its graduates imbibe high moral values and social sensibilities, in addition to academic excellence. The development of curriculum is guided in such a way that it meets the needs of the people, especially the under privileged. The Institute is running school level courses in rural and tribal belts.

1.3.2 During the last four years, how many new programmes at UG and PG levels were introduced? Give details.

- * **Inter-disciplinary**
- * **programmes in emerging areas**

(a) Inter disciplinary

1. PG Diploma in Environmental Biotechnology
2. PG Diploma in Pharmaceutical Chemistry
3. PG Diploma in Journalism and Mass Communication
4. PG Diploma in Safety, Health and Environment
5. B.Sc. in Computer Science

(b) Emerging Areas

1. M.Sc. in Computer Science
2. M.Tech. in Computer Science
3. M.Phil. program in 21 streams
4. M.Sc. in Botany with specialization in Plant and Microbial Biotechnology
5. Cooperative MBA with Industry

(c) Job oriented courses for weaker sections

Nine Diploma courses were introduced as follows:

1. Civil Engg.
2. Architecture
3. Electronics
4. Interior Design and Decoration
5. Modern Office Management & Secretarial Practice
6. Garment Technology
7. Textile Design and Printing
8. Ayurveda (Upa Vaidya)
9. Leather Technology & Footwear
in Computer aided Shoe Design

Vocational courses were introduced in 17 streams as follows:

{Motor Vehicle Mechanic(2 wheeler), Motor Vehicle Mechanic(4 wheeler), Modern Office Management, Office Assistant & Computer Operator, Wireman, Electrician, Welder, Turner, Fitter, Pre-school Teacher Education, Textile Technology, Nuring Aides, Companion help for Aged and Infirm, Midwifery Dress Designing & Tailoring, Textile Design & Printing, Maintenance and Repair of Medical & Electronic Lab Equipment }

1.3.3 What are the strategies adopted for the revision of the existing programmes? What percentage of courses underwent a syllabus revision?

Strategies adopted for course revision involve getting feedback through different channels from all stakeholders as follows:

1. From students: Through class committee reports, suggestion boxes and through Proctorial Committees.
2. From Employers and Alumni: Through surveys conducted by Alumni Association.

3. From Academic peers and Corporate Heads: Through workshops at DEI and other places.
4. Industry: Through job fairs and placement interviews.
5. Parents: Through teacher parent meets.
6. Community : Through Open Day Exhibition held on Annual Day every year.
7. Reports of External Examiners : These reports are given high importance. The department proposes changes in syllabus based on above. If the changes are substantial, a Workshop is held on the issue and the recommendations are put up to the statutory bodies for approvals.

Percentage of Courses revised: Annually, about 15% courses get revised. If a change is introduced, it is normally retained for at least three years.

1.3.4 What are the value-added courses offered by the university and how does the university ensure that all students have access to them?

The Institute has introduced integrated PG Programs in the following nine streams:

1. BBM (Hons.)- MBA
2. B. Tech.- MBA
3. B.Com.(Hons.)- MBA
4. M.A. (English)- B.Ed.
5. M.Com.- B.Ed.
6. B.Sc. Engg.- M.Tech. (Engineering Systems)
7. B.Sc. (Hons)- M.Sc.- M.Tech. (Computer Science)
8. PGDBE- M.A.- M.Phil. (Economics)
9. PGDT- M.A.- M.Phil.- Ph.D. (Theology)

These courses are available to all students admitted to DEI, selected by merit. All the programs have multiple entry and exit options and there is full freedom to students to exit the scheme after completing a course at any level. Similarly one can also enter at any level.

1.3.5 Has the university introduced any higher order skill development programmes in consonance with the national requirements as outlined by the National Skills Development Corporation and other agencies?

Yes. The AICTE has introduced a program ‘National Vocational Education Qualification Framework (NVEQF)’ under which the Academic and Vocational streams of education have been blended seamlessly so that the students can migrate from one stream to another. DEI has adopted this scheme. The Center for Applied Rural Technology of DEI, has been registered as ‘**Skill Knowledge Provider**’ in Automobile and IT subjects, due to its long experience in offering vocational courses. The DEI Technical College and other schools have been registered as ‘**Vocational Education Providers**’. The scheme starts with levels L1 at class nine and goes up to L7. The Institute has introduced the NVEQF scheme of vocational education at class nine, eleven and at Diploma levels.

1.4 Feedback System

1.4.1 Does the university have a formal mechanism to obtain feedback from students regarding the curriculum and how is it made use of?

Student feedback regarding curriculum is obtained through Class Committees, Proctorial Committees and AAAC Meetings. The Head of the Department apprises the Faculty members in Departmental Meetings and ensures that proper action is taken by concerned Faculty members and issues placed before the Board of Studies for revision of courses.

1.4.2 Does the university elicit feedback on the curriculum from national and international faculty? If yes, specify a few methods such as conducting webinars, workshops, online discussions, etc. and its impact.

Yes. The Institute has a reliable feedback mechanism in place as given below:

1. AADEIs, the Alumni Association of DEI conducts surveys at various levels and submits its reports to Director and also presents at the meetings of Advisory Committee on Education of Dayalbagh.
2. The Academic and Administrative Audit Committee of DEI has a strong participation of eminent Professors of IIT Delhi and of DEI and chaired by former Director Prof. S.S. Bhojwani. The committee visits every department at least twice every year and some times more frequently and holds meetings separately with Teaching staff, Non-teaching staff and students and submits a very detailed and critical report. This committee also presents its reports at the ACE meetings.
3. The Advisory Committee on Education, Dayalbagh Educational Institutions consisting of eminent academicians, educationists, serving and retired emeritus professors from DEI and other prestigious institutions that include Delhi University, IIT Delhi, IIT Jodhpur, NCERT, meets once in two months and carefully analyses the progress of DEI through various surveys, reports and feedback and proposes short term and long term plan of action that can benefit the Institute. The above three committees help DEI in all possible ways in achieving its goals and targets.
4. **International Feedback** : DEI has signed MoUs with some top US Universities and active interaction and visits take place by faculty and Research scholars from both sides. Many bright innovative schemes have originated by this international linkages.

1.4.3 Specify the mechanism through which affiliated institutions give feedback on curriculum enrichment and the extent to which it is made use of.

Not applicable.

1.4.4 What are the quality sustenance and quality enhancement measures undertaken by the university in ensuring the effective development of the curricula?

Focus on **Quality** : The innovative, comprehensive and flexible Education Policy of DEI has put in place Total Quality Management System (TQM) which ensures efficiency and productivity. The Quality of Teachers and Quality of Equipment are essential ingredients. The system tends to meet the Societal Needs and is Economy Oriented. Four main considerations of this TQM are:

- (a) Initiative
- (b) Creativity
- (c) Innovation
- (d) Excellence

The DEI Internal Quality Assurance Cell (IQAC) functions under the above guidelines and its activities envelope the University Departments, University Administration and other Centres.

DEI has undertaken the following quality sustenance and enhancement measures since the previous Assessment and Accreditation with regards to Curricular Aspects:

- *Introduction of 64 new programs in the last 6 years as follows:*
 - UG, PG and M.Tech. Programs in Computer Science,*
 - PG in Theology, Economics, Sociology, Pol.Sc.,*
 - PG Diplopma in 6 streams, nine Integrated Programs, M.Phil. in 21 streams,*
 - Introduction of Specializations in B.Tech. in Computer Science, Electronics and Industrial Engineering and Specializations in M.Sc. courses.*
 - Introduction of 9 Diploma courses (Civil Engg., Architecture, Textile Design, Garment Technology, Interior Design, Office Management, Leather Technology, Ayurvedic Assistant and Electronics)*
 - Introduction of 17 vocational certificate courses for meeting the needs of Industry for Technician level manpower.*
- *Introduction of PhD under joint supervision with IITs under MoU.*
- *Introduction of courses jointly run with IITs & University of Maryland, USA.*
- *Introduction of grading system (alphabetic letter grades in place of marks)*
- *Thrust in Research:*
 - Development of state of the art Research laboratories and taking up Research Projects of National Importance.*
 - Research & Technology Park, Participation in Indo-US, Indo-German and Indo-Swiss Research Collaborations and visits, Patents etc.*
- *Introduction of an innovative Blended mode Distance Education program aimed at helping the weaker sections.*

Any other information regarding Curricular Aspects, the university would like to include .

Evaluative observations in previous assessment report and action taken.

Observation #1: Equal access to gender bias/restrictions in Engineering and Arts programme in admission may be made.

Action Taken: 15 seats have been reserved for girls in admission to B.Tech. and admission to male students permitted in all PG programmes of Arts faculty.

Observation #2: The University is suggested to add more disciplines in Engineering and Masters Degree programme in Social Sciences.

Action Taken: New degree programmes in Engineering have been introduced as follows. For B.Tech. in Elect. Engg. specializations in Electronics & Computer Applications, and for B.Tech. in Mechanical Engineering specializations in Ind. Engg. & Computer Applications. In the faculty of Social Sciences M.A. and M.Phil. programs have been introduced in Sociology, Political Science and Economics and M.Phil. in Management. M.Phil. programmes have been introduced in 20 more streams. In addition B.Sc.(Hons), M.Sc. and M.Tech. have been started in Computer Science. At Diploma level 9 new programs have been added. 17 vocational courses have also been started.

Observation #3: The University may review its policy of awarding graduate degree after two years.

Action Taken: The University offers three year UG Honors degrees in different subjects. Students who do not want to pursue the programme after successful completion of two years are given an exit option with an Under graduate pass degree.

CRITERION II: TEACHING-LEARNING AND EVALUATION

2.1 Student Enrolment and Profile

2.1.1 How does the university ensure publicity and transparency in the admission process?

The Admission Notice is published in leading national and local newspapers and on the Institute Website. For the convenience of applicants, the prospectus and application form can be downloaded from the Institute Website free of cost.

2.1.2 Explain in detail the process of admission put in place by the university. List the criteria for admission:(e.g.:(i)merit,(ii)merit with entrance test, (iii)merit, entrance test and interview,(iv)common entrance test conducted by state agencies and national agencies (v) other criteria followed by the university (please specify).

The admission to all **UG courses** of DEI is based on **Academic Merit plus written test plus Interview**. Not a single seat is given as Management quota in any course. Only candidates getting marks above certain cut-off are allowed to appear in the interview and written test.

For admission to **B.Tech.**, the merit is based on

- (i) Marks of JEE (Main) conducted by CBSE,
- (ii) Normalized High School and Intermediate marks,
- (iii) Marks based on certificates of NSS, NCC, Co-curricular activities
- (iv) Marks scored at interview judging personality and General Knowledge. .

There is no written test for **P.G. Courses** (M.A., M.Com. and M.Sc.),where the weightage for interview is 25% and that for qualifying examinations is 75%. The reservation rules of UGC are fully observed.

Admission to **Ph.D.** is based on the UGC-2009 guidelines through the Research Entrance Test (RET) and interview.

2.1.3 Provide details of admission process in the affiliated colleges and the university's role in monitoring the same.

Not applicable.

2.1.4 Does the university have a mechanism to review its admission process and student profile annually? If yes, what is the outcome of such an analysis and how has it contributed to the improvement of the process?

The University has an Admission Committee, chaired by Director with all Deans, and Principal as its members and Registrar as its Secretary. This committee oversees the entire admission process ensuring the compliance of all the rules of the Institute. It also fixes the schedules for Entrance Tests and Interviews and has powers to recommend admissions over and above the allocated number of seats. It reviews the admission process at the end of all admissions giving guidelines for the next year.

The committee had recommended in August 2010 that the Prospectus, Entrance Test Syllabus and Application Forms be made available free of cost on the Institute Website and to permit the candidate to generate any number of application forms by photo copying them. This became necessary due to difficulties faced by candidates living at far off places.

The committee also recommended the computerization of admission work, which has been developed (in-house) and implemented.

2.1.5 What are the strategies adopted to increase/improve access for students belonging to various categories:

The Institute strictly follows the UGC guidelines of reservation in admissions and other provisions as given below.

- (a) **SC/ST & OBC:** There is a reservation of 15% for SC, 7.5% for ST and 27% for OBC in all courses across the Institute including the self-financing courses.
- (b) **Women:** The disciplined and safe atmosphere of DEI, culture of respect and freedom for growth and many other positive features have resulted in the total female student strength in the Institute to be as high as 68%.
- (c) **Persons with varied disabilities:** There is a reservation of 3% in all courses, except in Engineering. The Institute offers special assistance and special sports are organized every year for differently abled students.
- (d) **Economically weaker sections:** The Institute has special focus on weaker sections. The Institute fee is kept low. The semester fee for Engineering is Rs. 6,850/- and for Management Rs. 6,050/- only. Nearly 17 job oriented vocational courses and 10 diploma courses have been started at DEI to help the weaker sections. The vocational courses have been introduced at 81 study centres all over India, in tribal belts and in remote rural and backward areas. DEI considers this work as its social responsibility and every care is taken to make education affordable.
- (e) **Persons with special talents like Sports, Games etc.:** In the admission process, 20% weightage is given to Interview, where marks are awarded in a structured pattern with a provision for proficiency in Sports, Extracurricular activities, NCC, NSS and Social Service. The rules for award of these marks are clearly specified.

2.1.6 Number of students enrolled in university departments in the last four years:

The students admitted to University level courses in the last 4 years is given below.

Categories	Year 1 (2008-09)		Year 2 (2009-10)		Year 3 (2010-11)		Year 4 (2011-12)	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	151	389	163	387	188	411	198	454
ST	34	37	37	31	42	29	48	34
OBC	166	402	200	493	245	609	339	664
General	453	1338	450	1305	493	1384	702	1623
PH	02	05	06	11	04	15	05	08
Year wise Total	806	2171	856	2227	972	2448	1292	2783

The strength of students is being increased gradually year after year by introducing new courses. The seats in Engineering have been increased from 60 to 105 with due approval of AICTE.

2.1.7 Has the university conducted any analysis of demand ratio for the various programmes of the university departments and affiliated colleges? If so, highlight the significant trends explaining the reasons for increase/decrease.

Yes. The Institute has analyzed the demand ratio for various programmes. There has been a steady increase in the number of applicants in almost all courses due to following factors.

- (i) Value based and excellent quality education.
- (ii) Affordable to economically weaker sections due to low fees and other expenses.
- (iii) Discipline and strict adherence to academic calendar,
- (iv) Innovative programmes: integrated masters, dual degrees etc.
- (v) Large number of vocational courses for job seekers of lower strata
- (vi) Provision of Lateral entry for bright students at every level to higher courses.
- (vii) Opportunities for research in frontline areas.
- (viii) Good campus placements
- (ix) Greater accessibility of information through ICT facilities and e-journals.
- (x) Cooperative Education program for greater industrial contacts.

The details of various programmes of DEI are as follows:

Programmes	Number of applications	Number of students admitted	Demand Ratio
UG	11716	1171	1:10
PG	2301	533	1:4
Integrated Masters	-	-	-
M.Phil.(Dual mode with P.G.)	180	159	1:1
Ph.D.	468	79	1:6
Integrated Ph.D.	-	-	-
PG Diploma	252	65	1:4
Diploma Ayurveda	27	12	1:2
Diploma (Engg.)	4158	270	1:15
Certificate courses	948	315	1:3

2.1.8 Were any programmes discontinued/staggered by the university in the last four years? If yes, please specify the reasons.

Yes. The Department of Life Long Learning and Extension had started a course on ‘Post Graduate Diploma in Environmental Education’ in the year 2007. After three years, this course was discontinued due to difficulty faced by these students in finding placement. DEI-APAC suggested that Safety and Health aspects be included in this course. Accordingly a new course ‘PG Diploma in Safety, Health and Environment’ has been floated with effect from July 2011 and is running successfully with good student acceptance and placement.

2.2 Catering to Diverse Needs of Students

2.2.1 Does the university organize orientation / induction programme for freshers? If yes, give details such as the duration, issues covered, experts involved and mechanism for using the feedback in subsequent years.

The Institute organizes a compulsory two-day **orientation programme** for all students in batches, immediately after admission. The Director welcomes and apprises the students about the mission, philosophy and objectives of the Institute. The distinctive features of the innovative and comprehensive scheme of Education are explained in detail. The Heads of respective departments explain the subject combinations available. A film on DEI is also shown to them..

The Assistant Registrar (Acad.) explains the Semester System and the continuous system of evaluation and grading system. The Sports Officer, Chief Warden and Core Course Conveners give details of their respective facilities. Students are taken on a **conducted tour of the campus** where they are shown all the central facilities, departments and laboratories.

All students and their parents are also permitted to go round the faculties on ‘**OPEN DAY**’ organized every year on 31st January as part of Founder’s day celebrations.

2.2.2 Does the university have a mechanism through which the “differential requirements of the student population” are analyzed after admission and before the commencement of classes? If so, how are the key issues identified and addressed?

On the basis of the merit obtained at the time of admission, the student is admitted to DEI. At the time of registration, a team of faculty members discuss and counsel the students about the various subject options available and explain the combinations permitted. Sometimes parents of students also join in the discussion with the counseling team. Normally students get the choice opted. The departments also show some flexibility and create an additional section if student strength exceeds in a particular stream. In some cases, small test is held to determine the aptitude of the student for a particular option. The Institute rules permit a change of option within the first two weeks in case the student has any difficulty in the option chosen.

2.2.3 Does the university offer bridge/remedial/add-on courses? If yes, how are they structured into the time-table? Give details of the courses offered, department-wise/faculty-wise?

There is a provision for remedial coaching classes for SC/ST, OBC and Minorities and for weak students of general category under UGC scheme of

Remedial Coaching. The remedial coaching classes are held through out the session. Remedial coaching is compulsorily given to failed candidates facing Remedial examinations. In some departments a scheme of Peer Coaching is practiced where bright students help their weaker classmates with very good impact.

The Alumni Association of DEI (AADEIs) offers several short courses to students of DEI. In session 2011-12 the following courses were given.

S. No.	Course	Dates	No. of Students		
			Male	Female	Total
1.	Programming in C	20.7.2011 to 28.8.2011	20	03	23
2.	(a) Microsoft Office and Computer Basics	20.7.2011 to 28.8.2011	13	12	25
	(b) Microsoft Excel	4.10.2011 to 5.10.2011	23	53	76
3.	Basic Soft Skills	6 weeks (thrice)	24	22	46
4.	Resume Writing and Interview Techniques	Twice for Engg. , MBA	44	23	67
5.	UNIX & PERL	1.9.2011 to 1.10.2011	06	0	06
6.	Tally ERP 9	15.10.2011 to 8.1.2012	16	12	28
7.	Network Administration	10.1.2012 to 31.3.2012	09	01	10
8.	Advanced Communication Skills	15.1.2012 (for MBA)	01	09	10
9.	Auto CAD Workshop	2.1.2012 (for Engg.)	39	0	39
Total			185	135	320

The English Department runs special classes on 'English Speaking' for Engineering Degree/Diploma and MBA students, specially crafted as per their needs. Special classes are arranged regularly to help students to prepare for civil services and NET examination. Nearly thirty candidates have been clearing NET examination every year and half of them with JRF.

2.2.4 Has the university conducted any study on the academic growth of students from disadvantaged sections of society, economically disadvantaged, physically handicapped, slow learners, etc.? If yes, what are the main findings?

The reports of Proctorial meetings and Class Committees provide information about the problems of weaker students and other disadvantaged groups. Remedial and Tutorial Classes are held and assistance from classmates is arranged to help them. Classmates have come forward to assist blind students. Some of the lectures are uploaded on the web to facilitate slow learners to learn at their own pace. Students are also provided facility to access web courses in the Hostels. Coaching classes are held for the students failing in any subject to prepare them for the remedial exams.

The above measures resulted in recording a pass percentage of nearly 95%.

2.2.5 How does the university identify and respond to the learning needs of advanced learners?

The Institute identifies advanced learners by their performance in admission tests, through Quizzes and Class tests under the continuous evaluation scheme and teacher-student interaction. The Institute offers a number of opportunities for the bright students to augment their talent and meet their learning needs.

1. Under-Graduate Research Awards (UGRA) – The Institute in association with the Alumni Association has initiated these awards to encourage extremely bright science and engineering students at the UG level to undertake research projects.
2. Students are encouraged to make research contributions in their major project at the PG level and publish their results in journals and also present it at National and International Conferences.
3. Students are encouraged to participate in summer research fellowship programmes at leading research institutes and laboratories, sponsored by Indian science academies.
4. The Institute in collaboration with the Systems Society of India organizes various competitions and an Annual Students Systems Conference (Paritantra) and Technical Colloquia regularly and gives prizes and awards.
5. Innovative Integrated Programs: Provision has been made for bright students to register in the Innovative Integrated Programs which permit them to advance credit courses of a higher degree while in the final year and in the summer vacations of their UG Course, to get the higher degree in lesser time.
6. MoUs and Collaboration: The MoUs with IITs and Universities in USA and Canada have provision for bright DEI students and Faculty to work in the labs of those Universities. There are eleven Research Scholars who have registered for Ph.D. in DEI with a co-supervisor at IIT Delhi in Engineering, Science, Computer Science and Management streams. Research Scholars of Physics and Chemistry Departments have performed research experiments at University of Maryland, College Park, USA with financial support from DST-NSF Project.
7. Scholarships - 90% Research Scholars in Science and Engineering receive scholarships.
8. Financial support is provided to students for participation in National and International Conferences.
9. The Institute in association with Association of Alumni and Friends of DEI (AAFDEI) registered in USA provides financial support and boarding and lodging and transport assistance to students when they visit USA for higher studies or for conferences.
10. Earn while you learn : Provision has been made for UG, PG and Research students for part time jobs in the large number of projects running in the Institute. This helps them learn state of the art techniques and also get remuneration.

2.3 Teaching-Learning Process

2.3.1 How does the university plan and organise the teaching, learning and evaluation schedules (academic calendar, teaching plan, evaluation blue print, etc.)?

The Academic Calendar that includes dates of admission tests, interviews, holidays, mid-semester and end-semester examinations, NSS Camps, Co-curricular activities etc. are fixed in advance by Academic and Planning Board and notified in the Prospectus and Student Diary after approval of the Governing Body. The Institute follows a six day per week schedule and all sports and cultural functions are scheduled in such a way that class schedule is not disturbed, thus ensuring that the number of teaching days is around 207 per year.

The Institute follows a continuous evaluation system with nearly twelve components of evaluation in each subject credited by the student. The Quiz tests and Class Assignments are evenly spread avoiding clash of dates. The teacher notifies the scheme of course coverage and gives the copies of the syllabus and Question Banks to students at the beginning of the semester.

The Institute has followed its academic calendar strictly without any disruption ever since the formation of the University and the results are declared by 21st June and 31st January for the two semesters respectively, every year, for all courses without fail.

2.3.2 Does the university provide course outlines and course schedules prior to the commencement of the academic session? If yes, how is the effectiveness of the process ensured?

The syllabus of all courses of DEI as approved by the Board of Studies, the Faculty Board and the Academic Council is put up on Web and is also given to students at the beginning of the semester. The syllabus of each course is divided into five units. The number of periods required to cover each unit is clearly notified in the syllabus. The number of Lectures, Tutorials and Practical periods per week and the number of credits assigned to that course are mentioned in the syllabus, alongwith a list of books as suggested reading.

Effectiveness: The Heads of Departments conduct the class committee meetings with students at least once each semester. Any shortcoming in course coverage or any discrepancy in teaching is brought to the notice of HOD by students and action is taken to rectify the same.

2.3.3 Does the university face any challenges in completing the curriculum within the stipulated time frame and calendar? If yes, elaborate on the challenges encountered and the institutional measures to overcome these.

No. The Institute follows a continuous evaluation system, which has component evaluations that include four quizzes, two class/home assignments, 3 class tests, Tutorials/ Group Discussions evenly spread over the semester in a fixed time frame. The amount of course coverage is also stipulated. This enables the teachers and students to ascertain and maintain the pace of course coverage as they get early feedback for any slippage. They can take corrective measures well in time. All teachers are required to maintain a course diary, giving information of the topics

covered in each lecture. This is maintained on the Attendance Register and the Heads of Department also check the coverage. Feedbacks from various mechanisms also cover up lapses if any.

2.3.4 How is learning made student-centric? Give a list of participatory learning activities adopted by the faculty that contributes to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

The curriculum has been designed in DEI with a focus on all round development of its graduates. While the scheme meets the need to achieve highest academic standards, it also serves those who look forward to job oriented education. In addition the need to build up moral and spiritual values has been fully met. These complex requirements have been met through the following features of the innovative Educational policy of DEI. The **Annexure-IV, page 197** shows an **Interpretive structural model** of the Educational system implemented in DEI. This scientifically developed model shows the Objectives, Educational System requirements and Organisational policies and their interlinking which contribute towards holistic development of a **COMPLETE PERSON**. The innovative features of this novel Educational scheme are briefly given below.

1. Continuous assessment with compulsory components of quizzes, assignments, class tests, Tutorials and Seminar-cum-group discussions.
2. Work-Based Training, Subsidiary and Non-Faculty half courses and Electives.
3. Exhaustive question banks are provided to students in each course that help students to assimilate knowledge acquired.
4. Emphasis on research-based projects both at the PG and UG levels also enables them to interact with research scholars and develop a research perspective.
5. The innovative compulsory core courses ensure imbibing the right values.
6. Web based lessons are made available to all students to learn the topic at their convenient time and at their pace.
7. Easy access to Computers with Wi-Fi and internet connectivity help develop habits of self learning and life long learning in students.
8. The academic ambience and contact with academicians is conducive to develop right attitudes in the receptive young minds.

2.3.5 What is the university's policy on inviting experts/people of eminence to deliver lectures and/or organize seminars for students?

The Institute invites experts and people of eminence to deliver lectures and organize seminars for students. Lectures, short courses and seminars are organized by all departments, research centres and IIPC throughout the year. Some of the other initiatives taken up by the Institute are given below.

1. The AADEIs supports "chairs of excellence" in various departments. Example:
 - (a) **Prof. Manas Das Gupta** – Former Professor of Tabla at Shantiniketan and a noted Artist has been appointed as Chair of Excellence in Music Department.
2. Appointment of Corporate Directors as Adjunct Professors:
 - (a) **Mr. V.Prem Swarup** – Dept. of Management – Former Vice Chairman of SRF Ltd.
 - (b) **Mr. Nagesh Pydah** – Dept. of Applied Business Economics – Former Chairman and Managing Director of Oriental Bank of Commerce.

3. Inviting top Academicians as Visiting Professors and Advisors:
 - (a) **Prof. V.C. Prasad** – Visiting Professor in Electrical Engg. Department – Former Professor, IIT Delhi.
 - (b) **Prof. V.B. Gupta** – Coordinator Distance Education – Former Professor and Head, Dept. of Textile Technology, IIT Delhi.
 - (c) **Prof. Anand Prakash** – Advisor, International Programs – Former Research Scientist of U.S.Defence Department and Assistant Professor, MIT, USA
 - (d) **Prof. Gur Saran Adhar, Prof. Anand Srivastava, Prof. Dakshina Murty, Prof. P.K.Kalra** are other Visiting Professors who have spent one semester or more in DEI on sabbatical leave.
4. **Visiting Faculty under Projects:** Under DST-NSF project on Solar Hydrogen and DST-DFG project in the area of computer algorithms, faculty members and Research Scholars of US & German Universities visit and work in DEI.
5. **Visiting Experts under MoUs:** Experts from Institutes having MoU with DEI regularly visit the Institute and give seminars for both faculty and students.
6. **Paritantra - Student Conference :** Experts are invited to this annual student's conference on different themes every year.
7. **Conferences & Seminars :** Some of the recent International Conferences organized by DEI are as follows.
 - a. International Conference on Practice and Research in Management (**PRIM-2011**), February 2011.
 - b. Inaugural Workshop of the Centre for Consciousness Studies (**CONCENT-2011**), October 2011.
 - c. International Conference on Chemistry of Phytopotentials: Health, Energy and Environmental Perspectives (**CPHEE-2011**), November 2011.
 - d. International Conference on Economics and Business: Analysis and Applications (**EBAA-2011**), November 2011.
 - e. International Conference on Agile Manufacturing (**ICAM-2011**), December 2011.
 - f. International School on Quantum and Nano Computing Systems and Applications (**QANSAS-2008 to 2011**) is held in December every year since 2008 as an annual feature.

Several Eminent Scientists and Academicians from India and abroad, including Noble Laureates participated in these conferences. The vision talks have been recorded and uploaded on the Web.

2.3.6 Does the university formally encourage blended learning by using e-learning resources?

In the blended mode of distance education followed by DEI, students are required to attend regular classes for 3 hrs every day and continuous evaluation with class tests, quizzes, Assignments, G.D. are held throughout the semester. Students are provided

printed notes of every lecture prepared on IGNOU pattern. Qualified mentors show the pre recorded lectures, explain the topic and take them to labs/workshops for practicals. The e-learning resources have been developed for fourteen vocational courses and five degree courses in the Multi media lab of DEI. Some material is translated to regional languages also. A DEI course portal, “vidyaprasar.dei.ac.in” has been installed on the Web, where the videos and the course material of these courses have been uploaded for all those interested. Lessons are also transmitted from DEI and Delhi through the EDUSAT channel also regularly to study centers.

2.3.7 What are the technologies and facilities such as virtual laboratories, e-learning, open educational resources and mobile education used by the faculty for effective teaching?

ICT Facilities: The multimedia lab has installed state-of-the-art Polycom Core System which can record lectures being delivered in fifteen e-classrooms in the Institute simultaneously and can stream video lessons from recorded and live sessions to multiple users. It has also facilities to enable regular lectures and special events to be conferenced across DEI Campus and also with other Universities with which DEI has signed MoUs. All the faculties have e-class rooms and the campus is Wi-Fi enabled.

DEI has established advanced ICT Centres at Bangalore and Delhi with leased broad-band connectivity in order to utilize the technical talent available there. Lectures are also delivered by IIT Delhi faculty from the ICT Centre at Delhi.

Open Education Resources: Open Education Resources of a large number of courses are uploaded on the Institute Web portal, ‘vidyaprasar.dei.ac.in’ and available free to any one.

Virtual Laboratories: Under MHRD Projects, DEI has developed the following virtual laboratories:

1. Virtual Electronics Lab
2. Virtual Electro-chemistry Lab
3. Virtual Microwave Lab
4. Virtual Strength of Materials Lab and
5. Virtual Power Systems Lab.

These labs are unique in the sense that practicals are conducted by learners on-line in real mode from any college in India using internet. They get the results of practicals, including waveforms also on-line on their screens in real time. These laboratories make available costly equipment to learners where actual experiments are performed and student gets guidance and the software inhibits erroneous steps which are harmful or destructive. The technology developed at DEI can be used for teaching practical work even in hazardous environment.

EDUSAT: Institute has been allotted time on C-channel of EDUSAT for delivering lessons to its study centres. Institute has also arranged for multi- channel transmission of its lessons using broad-band connectivity through a server in USA.

2.3.8 Is there any designated group among the faculty to monitor the trends and issues regarding developments in Open Source Community and integrate its benefits in the university's educational processes?

The Multimedia Laboratory under its Coordinator, Dr. Vishal Sahni and his team of workers and Prof. Gur saran, Prof. C. Patvardhan keep the Institute in the fore front on all issues regarding open source learning. With support from MHRD Projects and Alumni Association, the facilities available at this lab are among the best facilities available anywhere in India.

The faculty members and students of all departments utilize these facilities for developing e-resources under expert supervision.

2.3.9 What steps has the university taken to convert traditional classrooms into 24x7 learning places?

DEI is developing e-resources in a big way. The lessons of some courses have been uploaded on the Web portal, "vidyaprasar.dei.ac.in" and are made available 24 x 7 to general public at no cost. In order to help learners, this Web has a special feature of "**Meet the Teacher**" to facilitate on-line interaction with the teacher at a specified time to clear the doubts of students in the mode of Video conferencing.

A provision for certification through on-line courses for distance education learners has been made in the new initiative **e-DEI-de** program of DEI, where a student can register for smaller modules of four weeks and earn credits on successful completion of a module. The credits accumulate as the candidate clears more and more modules leading eventually to a degree.

2.3.10 Is there a provision for the services of counselors/mentors/advisors for each class or group of students for academic, personal and psycho-social guidance? If yes, give details of the process and the number of students who have benefitted.

The Institute has a **proctorial system** in which a teacher acts as a proctor for a group of about 20 students. The proctor acts as a counselor and helps the students in academic matters and also in personal issues if required. The scheme is very effective in all professional courses such as Engineering, Management and Education. Very close interaction exists between staff and students due to Social service activities under NSS which is compulsory for all UG students. The students get counseling and guidance in a natural way during these activities and a feeling of brotherhood and belongingness develops among students.

The class committee meetings which are organized for each class, have proven to be an effective channel for the students to express their views and difficulties directly to the Heads of Department. This pre-empts most of the psycho-sociological problems of the students. The Psychology Dept. also offers guidance through its **Counseling Cell**.

2.3.11 Were any innovative teaching approaches/methods/practices adopted/put to use by the faculty during the last four years? If yes, did they improve learning?

What were the methods used to evaluate the impact of such practices? What are the efforts made by the institution in giving the faculty due recognition for innovation in teaching?

In courses where students find difficulty in grasping the subject, teachers have successfully employed a technique called, ‘**Active Learning Methodology**’, where the teacher gives the notes in the beginning of the class, makes the student to read it and then discusses the topic. This method has given very good response from the students.

During the last four years, the Institute has established 25 **e-class rooms** across the Institute and encouraged the use of e-learning and multimedia resources to enhance teaching-learning experience. The faculty members have enthusiastically come forward to adopt multimedia projections in their classroom teaching to supplement blackboard teaching. Students are encouraged to give their Seminars as power point presentations.

The impact of extensive use of **electronic aids** resulted in better presentations by students in national and international seminars leading to several awards. The **web based lessons** have made a tremendous impact on teaching-learning environment. The use of **interactive boards** has led to more effective teaching in subjects requiring Drawing work.

Teachers using innovative teaching methods are given due recognition under Career advancement scheme for promotions.

2.3.12 How does the university create a culture of instilling and nurturing creativity and scientific temper among the learners?

DEI has implemented a Total Quality Management System with the following components:

1. Initiative
2. Creativity
3. Innovation
4. Excellence

Creativity and scientific temper are nurtured through the following means:

1. The Institute has a Core course on ‘**Scientific Methodology, General Knowledge and Current Affairs**’, which is compulsory for all U.G. students and is meant to inculcate a spirit of scientific, logical and rational thinking.
2. Students are encouraged through schemes like ‘**UGRA**’ to undertake **research based projects** at the UG and PG levels.
3. Faculty and students are encouraged to participate in **Conferences, Symposia and Seminars**, Summer research fellowships to expose them to state-of-the-art research in the world and to highlight their own contributions.
4. Special student conferences (**PARITANTRA**) and competitions such as essay writing, quizzes, model and paper presentations are organized to develop creative thinking.
5. Ensuring PG experiments in all research laboratories to expose students to sophisticated equipment and new experimental techniques.

6. Encouraging multidisciplinary **collaborative research** amongst departments, faculties and institutes.
7. Productive **Industry-Institute interaction** through Consultancy, technology transfer and sponsored research.
8. Providing easy access to **learning resources** through Institute website, web-based services, wi-fi connectivity, e-journals and books.
9. Establishing multidisciplinary focus research areas and Research Centres at the **Research Technology Park**. Research colloquia are held regularly.
10. Encouraging Faculty to undertake Govt. sponsored **R & D projects**.
11. Implementing innovative schemes such as the **Business Advisory Clinic** to help needy Business and Industrial Establishments and individuals to undertake entrepreneurship. Nearly 3,000 small and medium consultancy cases have been successfully guided by it.
12. Encouraging prototype development, commercialization of know-how and entrepreneurship.
13. Student Projects: The Institute encourages creativity in Student Projects. Many of these projects have a great commercial potential. Some examples are:
 - (i) EM Solution Developed by Botany Dept. for organic – Sewage treatment.
 - (ii) Patents have been filed in Green Chemistry, Microwaves and Zoology based on Research having potential for commercial exploitation. The Institute has supported prototype development of such research ideas.
 - (iii) Defense Projects: A close interaction has been established with Aerial Delivery Research and Development Establishment (DRDO), Agra and several projects have been awarded to faculty members of DEI. Noteworthy among these are Design of AEROSTAT and Dynamic Braking System.
 - (iv) The second year B.Tech. students have to do one project on ‘**Creative Engineering Design**’.
 - (v) Engineering students of third year take up ‘**Design Engineering and Theme Development Project**’, in which the student generates creative and innovative solutions for day-to-day problems of the community. This is a highly creative activity and many new ideas have emerged.
14. The Institute organizes **Summer Schools in Science and Mathematics** for High School Students of neighbourhood every year, to inculcate scientific temper and to make them aspire for a career in science. The faculty gives lectures to school children to motivate them towards science.
15. A book, ‘**Foundations of School Mathematics**’ introducing an innovative approach to teach mathematics at school level has been published by DEI. This book was developed through a series of summer programs conducted at DEI for school children by Prof. N.P.Bhatia of University of Maryland, USA and other faculty members of DEI.

2.3.13 Does the university consider student projects mandatory in the learning programme? If yes, for how many programmes have they been (percentage of total) made mandatory?

* **Number of projects executed within the university**

- * **Names of external institutions associated with the university for student project work**
- * **Role of faculty in facilitating such projects**

Student Projects are mandatory in Engineering, Management and all Post graduate courses. The Engineering curriculum emphasizes on projects from II year onwards and develop creativity and innovation needed for industrial success. The approach of this scheme at different levels is as given below.

- (a) II year B.Tech. – Creative Engineering Project
- (b) III year B.Tech.– Design Engineering and Theme Development Project
- (c) IV year B.Tech. – Cooperative Project with Industry

All projects are guided by faculty members. For some projects DEI-APAC provides expert alumni from Industry to act as Mentors, especially at final year.

The number of projects executed each year are around 70 in Engineering and 45 in Science. The Management projects number about 30. Science graduates use facilities at leading research labs like, (i) JALMA in Agra (ii) ICGEB, Delhi, (iii) NPL, Delhi and (iv) IIT, Delhi.

2.3.14 Does the university have a well qualified pool of human resource to meet the requirements of the curriculum? If there is a shortfall, how is it supplemented?

The University is blessed with highly talented and dedicated faculty with 85% staff having Ph.D. The staff student ratio is 1:15. The scheme of Professor Emeritus has added twenty distinguished professors with an average of nearly 30 years of teaching and research experience. The schemes of Adjunct Professor, Chairs of Excellence and Visiting Professors have added to the quality of human resource. In case of short fall, the University makes ad-hoc appointments or engages paid Research Scholars for assistance in practical classes.

A large number of qualified and talented persons provide services for running Distance education centers as **Mentors, Facilitators** and **Center Administrators**, for running hostels in DEI as **Wardens** and **Managers**, for construction work as **Engineers, Architects** etc. They are paid nominal allowances by Charitable societies of Dayalbagh. This helps in reducing the financial burden on students. At present about 942 persons are contributing their services to DEI in this manner.

2.3.15 How are the faculty enabled to prepare computer-aided teaching/learning materials? What are the facilities available in the university for such efforts?

The Institute provides extensive ICT facilities as follows:

1. **Multi Media Lab:** The Multi-media laboratory of DEI is a central facility of the University. It has state of the art hardware and software facilities for recording, video editing and transmitting as given below.
 - **Video Conferencing Facilities & Polycom Core Infrastructure Solution:** The Multi-media Lab has also procured and installed one Polycom VX8000 with multiparty conferencing licence, one Sony PCS-G50 video communication system and four Polycom HDX4000 high definition desktop conferencing systems. These systems enable regular

lectures and special events to be conferenced across DEI campus and also between DEI and Universities with which DEI has signed MoUs.

- **Super Computing Cluster:** A fully integrated high performance computing cluster system with 24 nodes has been installed in the multimedia lab.
- **Advanced Video Editing Facility:** This laboratory has procured Nine IBM Intellistations (M Pro, Z Pro and PIV based systems) and seven Dell 960 advanced video editing stations. These stations with Edius NX and Edius 5 softwares are used for capturing live lectures and editing and publishing them for DEI course portal “vidyaprasar.dei.ac.in”.
- **Video Archiving Facility:** There are two HP Network Attached Storage servers with a total of 66TB of storage capacity for the video archiving facility and for publishing videos for “Video on Demand” services.

It has well trained permanent staff. A large number of students have been trained who help in video editing and animation. The permanent staff helps in recording lessons delivered at any of the e-classrooms across the Institute by prior arrangement.

2. **Faculty Level Facilities:** All Faculties have e-classrooms equipped with video recording and transmission facilities. In addition, the Music Department has a specialized recording studio and the Drawing Department has a fully equipped Digital Laboratory. The Textile Design and Printing section is fully computerized. The English Department offers a course on Journalism and Mass Communication and has an advanced computer lab and a language laboratory.

All staff and research scholars individually have access to internet and computing facilities. The entire campus is Wi-Fi enabled and connected through a 1GB fibre optic back bone.

2.3.16 Does the university have a mechanism for the evaluation of teachers by the students / alumni? If yes, how is the evaluation feedback used to improve the quality of the teaching-learning process?

Teacher evaluation by students and alumni is through the following mechanisms:

- (i). Individual class teacher feedbacks
- (ii). Suggestion Boxes kept outside the Dean’s offices
- (iii). Class Committees
- (iv). Proctorial Committees
- (v). IQAC surveys
- (vi). AAAC Meetings
- (vii). Alumni surveys
- (viii). External expert End-Semester Exam report

Feedback is shared with Head, Dean and Director and necessary action is taken.

2.4 Teacher Quality

2.4.1 How does the university plan and manage its human resources to meet the changing requirements of the curriculum?

The Institute prepares its Vision Plans after careful assessment of the future needs. The Institute has drafted the VISION-2031 Plan identifying strategic areas of development and is in the process of implementing the same step by step. The most difficult part of implementation is that of getting talented faculty. The Institute scouts for talented candidates and motivates them to serve the Institute. Some such persons who have joined DEI in various capacities in recent years are,

- (a) Prof. Sanjeev Swami- from IIT Kanpur -as Professor in Management
- (b) Prof. V.C. Prasad - from IIT Delhi -as Visting professor
- (c) Prof. V.B. Gupta - from IIT Delhi -as Coordinator, Dist. Education
- (d) Prof. Anand Mohan - from BHU Varanasi -as Registrar

- ***Inter-departmental and Inter-faculty collaborations***

The Institute promotes interdisciplinary collaboration. Some areas which have emerged with such multi departmental inputs are,

Field of Research	Collaborating Departments
Solar Energy Studies	Chemistry, Phy & Comp. Sc., Elect.Engg. and Mech. Engg.
Quantum and Nano Computing	Mech. Engg., Phy & Comp.Sc.,Elect. Engg.
Consciousness Studies	Mech. & Elect. Engg., Sanskrit(Theology), Phy. & Comp. Sc., English, Psychology, Chemistry, Zoology & Management.
Environmental Studies	Chemistry, Zoology, LLLE
Bio-inspired Systems	Phy & Comp. Sc., Zoology, Elect. Engg.
Nano-Bio-technology	Zoology, Botany, Chemistry
Virtual Laboratory Techniques	Elect. & Mech. Engg., Physics and Comp. Sc. andUSIC.

National and International Inter-Institutional collaborations

The details of Institute interaction through MoUs and collaboration is given below:

Type of Linkage	University/Institution	Department of DEI	Area of Collaboration
MoU	University of Maryland, College Park USA	Chemistry Physics & Comp. Science	Hydrogen Generation with Solar Energy One Course in Comp.Sc. offered every Semester.
MoU	Michigan state University, USA	Physics & Comp.Sc.	Bio-inspired Systems
MoU	University of Missouri, USA	Chemistry & Zoology	Green Chemistry & Nano-Bio-Technology
MoU	University of Waterloo, Canada	Mechanical Engg.	Quantum Computing
Collaboration DST-DFG Grant	Christian Albrechts Universitat, Kiel, Germany	Mechanical Engg.	Algorithm optimization
MoU	International Center for Biotechnology & Genetic Engineering, New Delhi	Zoology, Botany & Chemistry	Parasitology & Bio-Technology
Collaboration	CEMEF, France	Mechanical Engg.	Finite element methods
Collaboration	EPFL, Switzerland	Electrical Engg.	Development of Smart Grid for Solar Power
MoU	TIFR, Mumbai	Physics	Astro particle Physics
MoU	IIM, Bangalore	Management	Supply Chain Manage. Courses offered by DEI
MoU	IIT, Delhi	Management, Comp. Sc.	Joint Courses and Joint supervision for Ph.D.
MoUs	Maruti Udyog Ltd. & Yamaha Motor Co.	Automobile Engg. Of Tech. College	4 Wheeler & 2 Wheeler Course upgradation.
Collaboration	CDAC, Pune	Mechanical Engg.	Unique Trademark Software development- Mech.Engg.
Collaboration	NIIST, Trivandrum	Physics	Dielectric Materials
Collaboration	BHEL, Bangalore	Electrical Engg.	Solar Power –Elect Engg
Collaboration	ADRDE, AGRA	Mechanical Engg.	Arrestor Barrier System Akash Deep etc.
Collaboration	MBICEM, Delhi	English	Lectures on Journalism

In addition to above, links have been established with the following institutions.

International : Bell Labs., USA, Harvard University, USA;
 University of Arizona, USA; Imperial College, London;
 Wharton Business School, University of Pennsylvania, USA;
 Sauder School of Business, Canada, University of Illinois, Chicago, USA;
 University of North Carolina, USA University of British Columbia, Canada;
 Max Planck Institute, Germany, Technical University, Munich, Germany;
 Rotterdam School of Management, Erasmus University
 Groningen University, Netherlands and Hokkaido University, Japan.

National : JNCASR, Bangalore, Nuclear Science Centre, New Delhi,
 NPL, New Delhi, CDRI, Lucknow,
 IIM, Udaipur, IIM, Kolkata,
 IIT, Bhubaneswar, ICFAI, Hyderabad,
 IIT, Kanpur, Madras & Bombay JALMA, AGRA

- ***Extensive involvement with external experts at various levels:***

As members of various bodies External End-Semester Examiners, Board of Studies, Academic Council, Governing Body etc.

As visiting experts for Seminars/Conferences/Workshops; Visiting Professors Emeritus Professors, Chair of Excellence, etc.

Some of the eminent Professors who had spent some time in DEI and have made active academic contribution are listed below.

- Prof. Nam Prashad Bhatia, Prof. Emeritus, Maths Department, University of Maryland, Baltimore, USA
- Prof. Prem Prakash, Retd. Professor of Management, University of Pittsburgh, USA
- Prof. Ashok Agarwal, University of Maryland, College Park, USA
- Prof. V. Dakshina Murty, Dept. of Mechanical Engg., University of Portland, USA
- Prof. Gur Saran Adhar, Dept. of Computer Science, University of North Carolina, Wilmington, USA
- Prof. Anand Srivastava, Christian Albrecht University, Kiel, Germany
- Prof. Pami Dua, Delhi School of Economics, New Delhi
- Prof. P.K. Kalra, Director IIT Jodhpur, Member AAC and ACE.
- Prof. D.K. Srivastava, Tata Institute of Social Sciences, Mumbai
- Prof. Huzur Saran, Head, Dept. of Computer Science and Engg., IIT Delhi
- Prof. P.K. Kalra, Dept. of Computer Science and Engg., IIT Delhi

- ***Training Faculty through Faculty training programmes, Orientation/Refresher Courses***

The Institute encourages faculty members to participate in Orientation and Refresher Courses and Training programs. Institute also regularly organizes tutorials, workshops and International Conferences. It also provides financial support to Faculty and students to participate in Conferences in India and abroad so as to keep the faculty and students abreast of the recent developments.

Improving infrastructure

The Institute has a Works Department headed by Superintendent of Works assisted by two ASWs, 4 Engineers, One Architect and 16 lower staff of various levels. This department looks after the maintenance and repair of Electrical and Electronic installations, Furniture and Buildings. It also provides audio visual facilities for cultural and other Institute functions.

The rapid expansion of courses and increase in intake has caused an acute shortage of space in the Institute. To redress this problem several buildings were transferred to DEI by the Dayalbagh Society and several new buildings/ extensions of existing buildings have been constructed as listed below.

S.No.	Construction	New/Extension	Details
1	Girl's Hostel-II	New(Madhuvan)	290 seat Hostel
2	International Faculty Hostel Cum Seminar Hall Complex	New (Near Radha Nagar)	16 rooms and 250 seat Hall
3	Works Department	New (Near Boy's Canteen)	For Office cum Work shop
4	Central Library	Extension	For Journals
5	Water Tank cum Kiosk	New	1.5 million litre
6	Research & Technology Park	New (MI Complex)	Interdisciplinary Research
7	Multi media Lab and Computer Center.	New Extensions	Both are Central facilities
8	Social Science Building	New extension	For BBM, MBA
9	30 KVA, 33KV Substation	New (opp. USIC)	For Elect. Power
10	Pharmaceutical Chem. Lab	Old Cold Storage	For PGDPC
11	Animal House	New	Zoology Dept.
12	Battery Rooms	New (5 Rooms)	For Solar Power.
13	REI Dairy, Tannery Building, Womens Polytechnic building.	Transferred to DEI by Dayalbagh	Leather, Textile & Agr. Operations.
14	Jatropha Farm, Medicinal Herb farm	13 acres of land transferred by MCREI	Farm land for Research on Bio-Deisel & Herbs.

2.4.2 Furnish details of the faculty

Highest Qualification	Professors		Associate Professors		Assistant Professors		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers : 215							
D.Sc./D.Litt.	1	1	1	-	-	-	3
Ph.D.	47	21	15	30	20	44	177
M.Phil.	-	-	1	-	15	-	16
PG	-	-	-	-	6	13	19
Temporary teachers : 31							
Ph.D.	-	-	-	-	9	6	15
M.Phil./M.Tech	-	-	-	-	5	3	8
PG	-	-	-	-	6	2	8
Part-time teachers : NIL							
Ph.D.	-	-	-	-	-	-	-
M.Phil./M.Tech	-	-	-	-	-	-	-
PG	-	-	-	-	-	-	-

2.4.3 Does the university encourage diversity in its faculty recruitment? Provide the following details (department / school-wise).

DEI believes in recruiting faculty from diverse backgrounds. DEI sends the call letters for various posts to IITs and advertizes in National newspapers to attract talent. The following table shows the percentages of the staff recruited.

Faculty	Faculty Recruitment From								Total
	The same University (D.E.I.)		Other Universities				Other Countries		
			Within the State		Outside the State				
No	%	No	%	No	%	No	%		
Engineering	15	42	06	16	15	42	-	-	36
Education	13	39	15	46	5	15	-	-	33
Arts	26	47	18	33	12	20	-	-	56
Science	25	42	10	17	23	37	2	04	60
Commerce	7	43	7	50	1	7	-	-	15
Social Science	6	15	11	23	23	62	-	-	40
USIC (Center)	2	67	-	-	-	-	1	33	3
Total	94	38	67	28	79	33	3	1	243

2.4.4 How does the university ensure that qualified faculty are appointed for new programmes/emerging areas of study (Bio-technology, Bio-informatics, Material Science, Nanotechnology, Comparative Media Studies, Diaspora Studies, Forensic Computing, Educational Leadership, etc.)? How many faculty members were appointed to teach new programmes during the last four years?

University advertises all the vacant posts in National and Local Newspapers, on the Institute Website, Employment News, AIU etc. The advertisements clearly

specify the minimum qualifications as per UGC Guidelines and the specialization desired. The Institute prefers to recruit candidates with Ph.D. and with good publications in the desired field. The details of faculty recruitment in the last four years are given below:

Year	Lecturer	Reader	Professor	Total
2008-09	05	01	-	06
2009-10	26	-	-	26
2010-11	-	01	-	01
2011-12	44	01	01	46

All vacant faculty positions are advertised once a year and interviews held as per UGC guide lines.

2.4.5 How many Emeritus/Adjunct Faculty/Visiting Professors are on the rolls of the university?

Adjunct Professor :02
 Visiting Professor :01
 Emeritus Professor :19
 Chair of Excellence :01

Total 23 persons of eminence help in teaching and Research with a spirit of service. Emeritus Professors are paid only conveyance allowance. They teach at least one theory paper and help in Research as Co-guides.

2.4.6 What policies/systems are in place to academically recharge and rejuvenate teachers (e.g.providing research grants, study leave, nomination to national/international conferences/seminars, in-service training, organizing national/international conferences etc.)?

Teachers are encouraged to take up research projects, to participate and present their research work at international and national conferences/seminars, update their knowledge through the UGC certified orientation and Refresher courses and to attend special training programmes within and outside the Institute. It encourages organization of conferences/seminars within the Institute. It encourages interdisciplinary teaching and research between Departments and Institutes. Study leave is given to staff for pursuing higher studies or Research work either in India or abroad with salary as per rules. Mr P.S.Sudhish, Dr Vishal Sahni, Prof Prem Pyara, Prof D K Chaturvedi and several other staff members availed of this facility.

2.4.7 How many faculty received awards/recognitions for excellence in teaching at the state, national and international level during the last four years?

Many faculty members have been recognized for excellence in teaching during the last five years with awards and recognitions that include membership of academic bodies, as resource persons, inviting for talks etc. Please see Sl. No. 3.4.4. for a list of awards and recognitions and also individual Departmental Profiles.

2.4.8 How many faculty underwent staff development programmes during the last four years (add any other programme if necessary)?

Academic Staff Development Programmes	No. of Faculty
Refresher courses	49
HRD programmes	12
Orientation programmes	30
Staff training conducted by the university	20
Staff training conducted by other institutions	06
Summer / Winter schools, workshops, etc.	02

2.4.9 What percentage of the faculty have participated in the following ?

- * been invited as **Resource persons** in Workshops/Seminars/Conferences organized by external professional agencies? : 10 %
- * **participated** in external Workshops/Seminars/Conferences recognized by national/ international professional bodies? : 80%
- * **presented papers** in Workshops/Seminars/Conferences conducted or recognized by professional agencies? : 80%
- * **teaching experience** in other universities/national institutions and other institutions? : 10%
- * **industrial engagement?** : 5%
- * **international experience** in teaching? : 2.5%

2.4.10 How often does the university organize academic development programmes (e.g.: curriculum development, teaching-learning methods, examination reforms, content / knowledge management, etc.) for its faculty aimed at enriching the teaching-learning process?

The Institute has organized the following academic development programs in the year 2011-12:

1. Management Development Programs (two)
2. Curriculum Development Programs / Syllabus Workshops : 3 to 4 per year. In the years 2011 and 2012 Workshops were held in 6 departments; viz. Music, Economics, Mechanical Engineering, Electrical Engineering, Management, Physics & Computer Science.
3. International school on Quantum & Nano Computing Systems and Applications (QANSAS) is held every year since 2008.

2.4.11 Does the university have a mechanism to encourage

- * **Mobility of faculty between universities for teaching?**
- * **Faculty exchange programmes with national and international bodies?**

If yes, how have these schemes helped in enriching the quality of the faculty?

As mentioned in Section 2.4.1., the Institute encourages mobility of faculty members between universities for teaching and also faculty exchange programmes with national and international bodies through MoUs.

Names of Faculty members from IITs etc. who have spent sabbaticals at DEI are,

- | | |
|----------------------------|-----------------------------|
| 1. Prof. P.S.Satsangi | IIT, Delhi |
| 2. Prof. V. Dakshina Murty | Univ of Portland, USA |
| 3. Prof. Gur Saran Adhar | Univ of North Carolina, USA |
| 4. Prof. P.K.Kalra | IIT, Delhi |

Faculty members from DEI, who have spent sabbaticals at IITs etc. are

- | | |
|---------------------------|----------------------------------|
| 1. Prof. V.P.Pyara | - IIT, Kanpur |
| 2. Mr. Prem Sewak Sudhish | - Michigan State University, USA |
| 3. Prof. D.K.Chaturvedi | - Univ. of Calgary, USA |
| 4. Dr. Vishal Sahni | - Univ of Waterloo, Canada |

This has helped in enriching the quality of the faculty in terms of developing both theoretical and experimental expertise in emerging areas, formulation of new courses, degree programmes, undertaking cutting edge research and establishment of research facilities and centres at DEI.

2.5 Evaluation Process and Reforms

2.5.1 How does the university ensure that all the stakeholders are aware of the evaluation processes that are operative?

The DEI Prospectus and its Website provide full information about the evaluation system. All the students attend the Orientation Program in the first week of their admission, where a complete overview and of the Educational System of DEI and the evaluation process are explained in detail.

2.5.2 What are the important examination reforms initiated by the university and to what extent have they been implemented in the university departments and affiliated colleges? Cite a few examples, which have positively impacted the examination management system

DEI follows a continuous evaluation system carrying 75% weightage and rest 25% weightage is given to external end semester examinations. Some important steps taken are:

- (a) The External Examiners are requested to give a question-wise report on the performance of candidates. This important feedback is given to teachers and to the Heads of Departments.

Impact: The critical feedback of the examiners has made the teachers aware of their weak points and made a positive impact on their quality of teaching.

- (b) The students have to study the entire syllabus in a course and not leave any portion by choice. The syllabus of each paper is divided into five Units and the question paper is set such as to make the student answer from all units.

Impact: The knowledge of students is enriched in reading the entire course. The coverage of full course is also mandatory for the teacher.

- (c) Alphabetical Grading has been introduced in all courses instead of Marks as per UGC Guidelines.

Impact: The change-over to alphabetical grading has helped students to concentrate on learning the subject, rather than rote learning.

2.5.3 What is the average time taken by the University for declaration of examination results? In case of delay, what measures have been taken to address them? Indicate the mode / media adopted by the university for the publication of examination results (e.g. website, SMS, email, etc.).

The Institute follows a strict Academic Calendar. The last examinations in the two semesters are scheduled on 23rd December and 20th May and the results are declared on 24th January and 21st June respectively except for a rare case where the results of one or two courses get delayed. The results are declared on the Institute and Faculty Notice Boards and also published in local newspapers.

2.5.4 How does the university ensure transparency in the evaluation process? What are the rigorous features introduced by the university to ensure confidentiality?

The Institute has adopted continuous internal evaluation with 75% weightage assigned to it. The student has to appear in the following tests for each course.

- a. Three Class tests (best two to be counted),
- b. Four Quiz tests (best three to be counted),
- c. Assignments of different types and
- d. Group Discussions / Tutorials

The student is shown the corrected answer sheets in the class within two weeks of the date of the test. Students can freely discuss with the teacher their queries and doubts.

The marks are converted into grades and the entire chart is displayed for at least three days on the Faculty notice board. Students are required to point out any errors in these displayed lists within ten days for correction. The Department Moderation Committees examines the grade sheets of each course and approves.

The end-semester examination carries 25% weightage is through external experts and is confidential. The Director appoints the examiners from a panel recommended by Board of Studies for each course. Practical examinations for all courses and M.Sc. project dissertation examinations are conducted by external examiners. This confidentiality is also maintained for M.Phil. and Ph.D. thesis evaluation.

2.5.5 Does the university have an integrated examination platform for the following processes?

- * **Pre-examination processes** – Time table generation, OMR, student list generation, invigilators, squads, attendance sheet, online payment gateway, etc.
- * **Examination process** – Examination material management, logistics, etc.
- * **Post-examination process** – Attendance capture, OMR-based exam result, auto processing, generic result processing, certification, etc.

The University Academic Section has a systematic and integrated platform as follows:

Admission Process: The data of Application forms is entered first and cutoff lists are declared for appearing in the Interview and test. The System for Objective tests and evaluation is also developed in-house. After the Interview the software generates the merit lists.

Pre Examination Processes: As soon as students get admitted they have to fill a registration form giving the details of courses opted by the student. This registration can be done both on-line or manually. The data is used to generate roll lists giving the names and roll numbers of the students registered in each paper.

Examination Process: For all Quiz tests, OMR based evaluation facility is available. On-line examinations are also permitted which are sometimes adopted in Engineering and Science Faculties.

Post Examination Process: In order to help the teacher to keep student records of the continuous evaluation, a software program has been developed, which keeps the record of marks scored by the student in each component of evaluation in a chart. For converting marks into grades, this software helps in generating a histogram, which shows bunching of students at different levels. The Departmental Moderation Committee chaired by the Head of Department oversees the grading and submits to Academic Section. Marks from External Examination are given separate grades. All the software required for result preparation and certificate generation has also been developed in-house in the Institute.

2.5.6 Has the university introduced any reforms in its Ph.D. evaluation process?

The UGC 2009 regulations have been fully implemented. The following conditions have been fully implemented.

1. The candidates are admitted on merit through written entrance tests.
2. The candidates credit course work of one semester (except for M.Phil. passed).
3. The candidate must have at least one publication in a refereed journal.
4. At least one of the two external examiners evaluating the Ph.D. dissertation should be from outside the state.
5. The oral defence of Ph.D. should be open to all.
6. The dissertations to be uploaded on Web portal 'Shodhganga' of Infilbnet.

The Research Degree Committee of the concerned area of specialization vets the Research proposal in detail and ensures the quality. Plagiarism is checked. The tendency to limit the work to theory only is discouraged and practical work is encouraged in all Science and Engineering research proposals.

2.5.7 Has the university created any provision for including the name of the college in the degree certificate?

There are no affiliated colleges under DEI.

2.5.8 What is the mechanism for redressal of grievances with reference to examinations?

Redressal of Grievances:

- (a) **Internal Evaluation:** The teacher displays corrected answer books to students and student grievances are addressed. In case of any controversy, the Head of Department intervenes. The marks with grades of all the internal components of evaluation are displayed on faculty notice board for at least three days at the end of the semester. Students can verify and get any discrepancy rectified.
- (b) **For External Examination:** The student can apply for scrutiny within one month of declaration of results in case of any suspected discrepancy.

The results committee considers all aspects and sees that all grievances are properly addressed.

2.5.9 What efforts have been made by the university to streamline the operations at the Office of the Controller of Examinations? Mention any significant efforts which have improved the process and functioning of the examination division/section.

The Academic Section of DEI has maintained very efficient record of declaring results in time and maintaining confidentiality. To meet the increasing requirements and to improve efficiency, this section is being computerized with software developed in-house under the ERP Project sanctioned by MHRD. The following facilities have been developed and implemented

1. **Computerization of Admission Tests:** Instead of costly two colour answer sheets, the software developed at DEI used common black and white printed photo copied answer sheets and is capable of eliminating errors very effectively without the need of human intervention.
2. **Computerization of Registration:** The registration of students is computerized generating subject wise roll lists.
3. **On-line** entry of Marks by teachers is facilitated.
4. **Tabulation:** The computation of results is also fully computerized.
5. **Web Support:** Marks and results are made available on Institute Website.
6. **Old Records:** Entire old record has been entered in the data bank of academic section, which avoids delay in verification or issue of duplicate certificates.

2.6. Student Performance and Learning Outcomes

2.6.1 Has the university articulated its Graduate Attributes? If so, how does it facilitate and monitor its implementation and outcome?

The mission objective of the DEI Educational Policy is the development of “Complete Man”. Three main objectives are (i) Academic Excellence (ii) Moral and Spiritual Values and (iii) Social Sensibilities. The Educational Policy document of

DEI has identified the components constituting the above objectives and the Educational System features required for achieving them. Further, the Organizational Policy elements have also been identified which steer the Educational System in the achievement of all aims and objects and can finally lead to the development of the 'Complete Person'. The elements which comprise the above and their interaction which results in the holistic development of the graduate is given in an 'Interpretative Structural Model' in Annexure-IV on page 197.

DEI has been successful in implementing this system. The students have to perform not only intellectual activities but also physical and social activities through Core Courses, Work Experience Courses, Social Service, Cultural activities, Sports and Games. The Institute is committed to its value-based ideals, its programs of excellence and for the upliftment of the weaker sections. The entire scheme is closely monitored through feedback at various levels and by AAC through its interaction with the faculty and students.

2.6.2 Does the university have clearly stated learning outcomes for its academic programmes? If yes, give details on how the students and staff are made aware of these?

The Institute has clearly defined learning outcomes of its Academic Programs in its Prospectus and on its website. The entire Educational system is geared to implement the innovative Teaching-Learning environment as envisaged in the Educational Policy of the Institute. The system as depicted in the ISM model given in Annexure-IV (page 197) has to be understood by both the teacher and taught for getting the desired outcome. The Heads of Departments explain the system to freshly inducted faculty members. Students are made aware of this system and the traditions of the Institute at the **Orientation Program** which is compulsorily held in the first few days after the admission of a candidate.

Though the curriculum revision takes place annually through Board of Studies, Institute never compromises on the innovative features of its Educational system, which is the bedrock on which its foundations are laid.

2.6.3 How are the university's teaching, learning and assessment strategies structured to facilitate the achievement of the intended learning outcomes?

The innovative structured curriculum with its multidimensional features that include multiple components of evaluation and assessment coupled with multiple channels for feedback facilitate the intended learning outcomes. The University believes in strong Teacher-Student interaction for achieving the intended learning outcomes. The weightage to attendance in course evaluation, staff attendance six days per week working in a disciplined environment are conducive to achieve the desired objectives.

2.6.4 How does the university collect and analyze data on student learning outcomes and use it to overcome the barriers to learning?

1. The external examiners evaluating the answer scripts give their comments on the performance of the students both question wise and in general in their reports. This forms a valuable source of data on student learning outcomes. This

information is sent to the course teacher and also to the Head of Department for follow up action. The Departments and the faculty use this feedback for corrective action.

2. The second most important feedback is obtained from the Placement Cell and DEI-APAC. The prospective employers send Selection Committees for Campus Selection, who give critical comments comparing our graduates with those of other Universities and also with the graduates selected in earlier years. This has proven to be a valuable source of information for assessing the success of DEI.
3. The IQAC, AAC and AADEIs surveys help in getting feedback from all levels and have proved to be extremely useful for taking corrective measures.

2.6.5 What are the new technologies deployed by the university in enhancing student learning and evaluation and how does it seek to meet fresh/ future challenges?

DEI has been in the forefront in exploitation of new technologies for enhancing student learning and evaluation. DEI has a highly talented staff to retain its leadership. The facilities developed in recent years are as follows:

1. *e-classrooms in all faculties (25 e-classrooms established)*
2. *Data Archiving & High capacity Servers*
3. *Fully Networked and Wi-Fi enabled Campus*
4. *Computerized Library*
5. *International Contacts through MoUs*
6. *Web-based lectures through Vidya Prasar portal*
7. *Virtual Laboratories in five different fields.*
8. *Ultra Modern Multi Media Lab and other Research Laboratories*

Any other information regarding Teaching, Learning and Evaluation which the university would like to include.

There were no evaluative observations made under Teaching-Learning and Evaluation in the previous assessment report. However, steps taken to sustain and improve teaching-learning and evaluation processes are the following:

- *Introduction of optional Courses*
- *Offering joint courses with IIT Delhi and University of Maryland, College Park, USA*
- *Facilities for joining open courses floated by U.S. Universities like MIT and Stanford*
- *Remedial Coaching for weak students*
- *Provision of Multimedia facilities and establishment of e-class rooms*
- *Encouragement for Research even at U.G. Level.*
- *Timely evaluation and display of Answer scripts*
- *Award of grades in all courses after moderation by the department*
- *Vocational courses for women*
- *Provision for lateral entries*
- *Joint supervision of Ph.D. with IIT Delhi*

CRITERION III:

RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

3.1.1 Does the university have a Research Committee to monitor and address issues related to research? If yes, what is its composition? Mention a few recommendations, which have been implemented and their impact.

The Research Degree Committee (RDC) of DEI consists of the following:

- (a) Director - Chairman
- (b) Dean, Post Graduate Studies
- (c) Dean of the Faculty
- (d) Head of Department
- (e) Research Guide
- (f) External Expert – 1
- (g) External Expert – 2

The RDC approves the synopses submitted by Research Scholars and prepares the panel of examiners and oversees the quality of Research Work. A research scholar undertakes a thorough literature survey and prepares a synopsis of the proposed research work for registration in Ph.D., which is approved by the Institute RDC of the subject, before the research is carried out. This ensures proper preparation and focus so that a concerted action plan can be executed by both the Supervisor and the research scholar.

Some RDC Recommendations are as follows.

1. Joint Research guidance approved from faculty members of Institutes with which DEI has signed MoU.
2. Recommended that the research scholars must present their work in the Departmental colloquia.

There has been a very good impact of these recommendations and the quality of research work has improved significantly.

3.1.2 What is the policy of the university to promote research in its affiliated / constituent colleges?

Not applicable.

3.1.3 What are the proactive mechanisms adopted by the university to facilitate the smooth implementation of research schemes/projects?

- * advancing funds for sanctioned projects
- * providing seed money
- * simplification of procedures related to sanctions / purchases to be made by the investigators
- * autonomy to the principal investigator/coordinator for utilizing overhead charges

- * **timely release of grants**
- * **timely auditing**
- * **submission of utilization certificate to the funding authorities**

The Institute very actively promotes research on the Campus. The details of support are as follows:

- (a) **Advancing Funds:** Once a project is sanctioned, financial support is provided to begin work by advancing funds. This support is also extended at the end also in case project funds are exhausted and some work is pending, so that the objectives can be fruitfully achieved.
- (b) **Seed Money:** For initiating Research in some areas, seed money is provided by AADEIs on recommendation of the Director. It sanctioned Rs. 7 lacs for initiating research in Astrophysics to Dr. Sonali Bhatnagar that eventually led to a project and collaboration with TIFR, Mumbai.
- (c) **Simplification of Procedures related to sanctions/purchases to be made:** The Governing Body has constituted an Empowered Committee with special powers to help in completing projects in time.
- (d) **Autonomy to the P.I. for utilizing overhead charges:** The P.I. can utilize Institute Overheads Account and the interest on the project if necessary.
- (e) **Timely Release of Grants:** Once a project is approved by the Governing Body along with its budget, list of equipment and creation of any posts, the Accounts Section takes care to see that there is no delay in release of funds.
- (f) **Timely Auditing:** The Institute accounts are audited first by a C.A. appointed as Auditor by the Governing Body. Later Local Funds Auditor of U.P. and A.G. Auditor of Central Government audit the accounts regularly every year.
- (g) The audited **Utilization Certificates** are given by Internal Auditors without any delay.

3.1.4 How is interdisciplinary research promoted?

- (a) **Between different departments of University:**
DEI has established a Research and Technology Park in a 2000 sq.m. area with the sole aim to promote inter-disciplinary collaboration in Research. At present a Centre of Quantum and Nano Computing Systems, a Centre of Consciousness Studies and a Centre for Core Course Studies have been established and another Centre for Bio-inspired Systems is under development. Research colloquia, national and international conferences and student competitions are held regularly at these Centres with active participation of faculty, research scholars and other students from India and abroad.
- (b) **Collaboration with national and international institutes:**
DEI has signed MoUs with leading Universities of USA and Canada in addition to active research collaboration with some Universities in France, U.K., Japan

and Germany. These linkages, which are the outcome of close interaction of the faculty of DEI with those Institutes, help the Institute in keeping pace with the best in the world. The faculty members and research scholars are supported financially for visits through various schemes for both research work and participation in international conferences.

3.1.5 Give details of workshops/training programmes/sensitization programmes conducted by the university to promote a research culture on campus.

The Institute has the practice of holding **research colloquia** in all faculties where the faculty members and research scholars present their research contributions. In Science Faculty, these meetings are held department-wise. Similarly, Management Department holds its separate research meets. Departments supported under the UGC-SAP funded departments organize Workshops/Seminars/Training programmes/sensitization programmes every year in their respective areas of specializations. Workshops and seminars on IPR have also been organized to generate awareness of intellectual property rights and procedure for filing of patents. The Research Colloquia are regularly held in the Research Technology Park on topics of inter-disciplinary nature.

The Alumni Association (AADEIs) provides support for research work that includes Under-graduate Research Awards (UGRA), financial support to hold international conferences and seed money for research.

Some research journals are also published in DEI to give a forum for budding researchers to showcase their achievements. These are,

1. DEI Journal of Science and Engineering Research
2. FOERA (Faculty of Education Research Abstracts)
3. Shodh Shree (A research journal of Hindi)
4. Literary Paritantra (Systems) – An International journal on systems approach to English literature

3.1.6 How does the university facilitate researchers of eminence to visit the campus as adjunct professors? What is the impact of such efforts on the research activities of the university?

The Institute has the following schemes for inviting persons of eminence to visit the campus, stay and work in DEI for long durations:

- 1. AADEI's Chairs of Excellence:** The Alumni Association has a scheme to provide funds to pay honorarium to persons of eminence as Chairs of Excellence in various Departments. At present, Padma Shri Prof. Manas Das Gupta, a renowned Tabla Artist, and a former Professor of Santiniketan is the AADEIs Chair of Excellence in the Department of Music.
- 2. Visiting Professor Scheme of UGC:** At present Prof. V.C. Prasad, former Professor of Electrical Engineering, IIT Delhi has joined as Visiting Professor for two years.

3. **Adjunct Professors:** Mr. V. Prem Swarup, former Managing Director, SRF Ltd. and Mr. Nagesh Pydah, Former Chairman and Managing Director, Oriental Bank of Commerce have joined DEI as Adjunct Professors.
4. **Professor Emeritus Scheme:** Nineteen persons of eminence (former Professors of DEI) have joined as Emeritus Professors and teach and guide research actively.
5. **Eminent Visitors:** Under MoUs and Project Collaborations several professors who visited DEI for a period of one to three months are:

Visitors	From
1.Prof. Nam Prasad Bhatia	University of Maryland, Baltimore, U.S.A.
2.Prof. Gur Saran Adhar	University of North Carolina, U.S.A.
3. Prof. Harihar Prasad Kohli	Jackson State University, Jackson, U.S.A.
4. Prof. Prem Prakash	University of Pittsburgh, USA
5. Prof. Anand Srivastava	Christian Albrecht University, Germany
6. Prof. Sheryl Ehrman	University of Maryland, College Park, U.S.A.
7. Prof. Ashok Agrawala	University of Maryland, College Park, U.S.A.

6. **AAFDEI :** The Association of Alumni and Friends of DEI registered in USA provides funds for travel of US Experts to visit DEI and also supports scholars from DEI going to USA for research in several ways. They arrange to receive research scholars going to USA at airport and help in comfortable and safe stay there.

Impact: The respective departments have benefitted from their research experience. Sustained interaction with faculty and students has enriched their research contribution. The eminent visitors have been instrumental in forging collaborations between their research groups and DEI, that have led to formal signing of MoUs.

3.1.7 What percentage of the total budget is earmarked for research? Give details of heads of expenditure, financial allocation and actual utilization.

In the year 2010-11, the total research expenditure was Rs. 13.72 crores out of total expenditure of Rs. 60.41 crores. This comes to approximately 22.6%.The details are as follows.

Heads of Expenditure	Amount (Rs. In crores)
Equipment	8.01
Salary	2.03
Contingency	0.67
Consumables	0.47
Travel	0.51
Others	2.03
Total	13.72

This figure of Rs.13.72 crores refers to the amount of utilization. The sanctioned grant for R&D projects is about Rs. 42 crores and is to be spent in the project duration of 2 to 3 years.

3.1.8 In its budget, does the university earmark funds for promoting research in its affiliated colleges? If yes, provide details.

Not applicable.

3.1.9 Does the university encourage research by awarding Post Doctoral Fellowships/Research Associateships? If yes, provide details like number of students registered, funding by the university and other sources.

DEI supports post doctoral research in various departments supported by government funding organizations like DST, DBT, AICTE, UGC etc.

One of the post doctoral fellows, Dr. Preeti Sharma Rawat has been working in this capacity in the Department of Zoology, has published 20 papers in international journals with citation index as high as 3.5 and has also filed 2 patents in the field of pesticides.

Dr.Gavendra Singh is also working in the same Department, as a Post-doctoral Fellow with Prof. Soam Prakash.

Dr.Prateek Pandya works on NMR with Prof. Surat Kumar in the department of Chemistry.

3.1.10 What percentage of faculty have utilized the sabbatical leave for pursuit of higher research in premier institutions within the country and abroad? How does the university monitor the output of these scholars?

Nearly 4% of faculty has utilized sabbatical leave/study leave for research in premier Institutes of higher learning in India and abroad. Some of them are as follows:

1. Dr. Rahul S. Sharma - Rensselaer Polytechnic Institute
2. Dr. Sudha Sahgal - Institute of Advanced Studies, Shimla
3. Dr. Vishal Sahni - University of Waterloo, Canada
4. Mr. P.S. Sudhish - Michigan State University, USA
5. Prof. C. Patvardhan - Christian Albrecht Universitat, Kiel, Germany
6. Prof. D.K. Chatuvedi - University of Calgary, Canada
7. Prof. D.K. Srivastava - IIM Indore
8. Prof. Rahul Caprihan - University of Groningen, Netherlands
9. Prof. Rahul Caprihan - University of Michigan, Ann Arbor, USA
10. Prof. S.P. Kaushik - IIM Ahmedabad
11. Prof. Sanjeev Swami - IIM, Bangalore
12. Prof. V. Prem Pyara - IIT Kanpur

The faculty members on return present their research work at the research colloquia and also submit a written report to Director. This material is used to evaluate their work.

3.1.11 Provide details of national and international conferences organized by the university highlighting the names of eminent scientists/scholars who participated in these events.

Several International Conferences have been organized in front line research areas, which have attracted renowned scientists from around the world including Nobel Laureates that include Professor Richard Ernst, Professor Douglas Osheroff, and

Professor R. Richardson. Some of the recent International Seminars and Conferences organized and some eminent scientists who had participated is given below.

1. International Conference on Practice and Research in Management (PRIM-2011), February 2011.
 - (a) *Prof. Kathryn E. Stecke*, School of Management, University of Texas
 - (b) *Prof. Prem Vrat*, Professor & former Vice Chancellor, U.P.T.U.
 - (c) *Prof. Ralph L Keeney*, Research Professor, Duke University, U.S.A.
 - (d) *Ms. Renu Sud Karnad*, Managing Director, HDFC Ltd.
 - (e) *Prof. Josh Eliashberg*, Wharton School, University of Pennsylvania,
 - (f) *Prof. Charles B. Weinberg*, Sauder School of Business, University of British Columbia, Vancouver, Canada,
 - (g) *Prof. Rakesh Sarin*, Paine Chair Professor, Anderson School of Management Faculty, UCLA, U.S.A.
 - (h) *Prof. Berend Wierenga*, Professor, Rotterdam School of Management.
 - (i) *Prof. Ir. Jannes Slomp*, Adjunct Professor, Faculty of Economics & Business of the University of Groningen, The Netherlands,
 - (j) *Prof. Karmeshu*, Professor, Jawaharlal Nehru University, New Delhi
 - (k) *Prof. G. Raghuram*, Chair Professor, I.I.M., Ahmedabad
 - (l) *Prof. Janat Shah*, Director, I.I.M., Udaipur.
 - (m) *Prof. D.K. Banwet*, Professor I.I.T., Delhi.
 - (n) *Prof. Ashok Mittal*, MHRD IPR Professor of Intellectual Property Rights
 - (o) *Prof Narendra K. Sharma*, I.I.T., Kanpur,
 - (p) *Prof. Peeyush Mehta*, I.I.T. Kanpur(*currently, Professor, I.I.M. Kolkata*).
2. Workshop on Consciousness Studies (CONCENT-2011), October, 2011.
 - (a) *Prof. Jack Tuszynski*, University of Alberta, Canada
 - (b) *Prof. Elizabeth Behrman*, Wichita State University, USA
3. International Conference on Chemistry of Phytopotentials: Health, Energy and Environmental Perspectives (CPHEE-2011), November 2011.
 - (a) *Sri Anant N. Malviya*, Professor Emeritus, Strasbourg, France
 - (b) *Mr. Bready J. Deaton*, Chancellor, University of Missouri, USA
 - (c) *Sri Kattesh V. Katti*, Director, Cancer Nano-technology Platform, University of Missouri, USA
 - (d) *Sri Kailash C. Agarwal*, Professor Emeritus, Medical Science, Brown University Providence, USA
 - (e) *Sri Rejender S. Varma*, Chemistry Research Professor, Sam Houston State University Texas, USA
 - (f) *Mr. James Barber*, Ernst Chain Professor, Imperial College, London
 - (g) *Mr. Jorge L. Gardea Torresdey*, Dudley Professor Chemistry, Environmental Science and Engineering, University of Texas, USA
 - (h) *Mr. Fancis Johnson*, Professor Pharmacological Science and Chemistry, Stony Brook University, USA
 - (i) *Sri Muraleedharan G. Nair*, Professor, College of Natural Sciences and Resources, Michigan State University, USA
4. International Conference on Economics and Business: Analysis and Applications (EBAA-2011), Nov. 2011
 - (a) *Prof. Kaushik Basu*, Chief Economic Adviser, Ministry of Finance, Government of India (Inaugural Address)
 - (b) *Dr. Subir V Gokarn*, Dy. Governor, Reserve Bank of India
 - (c) *Sri Arun Bharat Ram*, Chairman, SRF Limited, Gurgaon

- (d) *Prof. B.L. Pandit, RBI Chair Professor, ICRIER, New Delhi*
- (e) *Mr. Richard Collie, Chief Financial Officer, HSBC. India*
- (f) *Mr. Jerry Klopfer, Principal, KPMG LLP, New York*
- (g) *Prof. D.K. Srivastava, Director, Asia Grad.School of Business, Hyderabad*
- (h) *Prof. Rohini Pande, Mohd. Kamal Professor of Public Policy, Harvard Kennedy School, Harvard University, USA*
- (i) *Prof. N.R. Bhanumurthy, NIPFP, New Delhi*
- (j) *Mr. Roop Salotra, President and CEO, SRF Ltd., Gurgaon*
- (k) *Prof. Subhash C. Ray, University of Connecticut, USA*
- (l) *Prof. Roy Batchelor, Professor, Banking and Finance, Cass Business School, London and Director, Cass Executive MBA Programme, Dubai*
5. International Conference on Agile Manufacturing (ICAM-2011), Dec. 2011 :-
- (a) *Prof Alok Verma, President, ICAM, U.S.A,*
- (b) *Prof. D.V. Singh, Ex-V.C., I.I.T., Roorkee,*
- (c) *Prof. N.K. Gupta, I.I.T., Delhi,*
- (d) *Prof. Ram Babu Kodali, BITS, Pilani*
- (e) *Prof. Pavellkononov, WMU, U.S.A., and,*
- (f) *Dr. Gene Hou, U.S.A.*
6. National Seminar on “Concept of Eco-village as Role Model for Sustainable Environment and Development (CERMSED–2011)” in collaboration with SPHEEHA (Society for Preservation of Healthy Environment and Ecology and Heritage of Agra.
- (a) *Dr. M.S. Swaminathan, FRS*
- (b) *Mr. Rajendra Singh, Eminent Water Conservationist*
- (c) *Prof. Robert S. Gilman, President, Context Institute, USA*
- (d) *Prof. Jagdish Kishwan, Additional Director General, MoEF, New Delhi*
- (e) *Prof. Bhavik R. Bakshi, Vice-Chancellor, TERI, New Delhi*
7. PARITANTRA – 2012 (Students Systems Conference), 2012
- (a) *Prof. R. Natarajan, Former Chairman, AICTE*
- (b) *Prof. S. Swaminathan, IIT, Delhi*
8. SCI-HIGH (Summer School in Science for High School Students), 2012
- (a) *Sri R.P. Agarwal, Board of Governors, IIT, Delhi*
- (b) *Prof. B.S. Sonde, Indian Institute of Science, Bangalore*
9. International School on Quantum and Nano Computing Systems and Applications is held annually in the month of December as QANSAS-2008, QANSAS-2009, QANSAS-2010 and QANSAS-2011.
- Some of the participants at QANSAS-2011 are,
- (a) *Prof. Stuart Hameroff, University of Arizona*
- (b) *Prof. Carl Williams, University of Maryland, College Park, USA*
- (c) *Prof. Anirban Bandyopadhyay, NIMS, Japan*
- (d) *Prof. Gilles Brassard, University of Montreal, CANADA*

3.2 Resource Mobilization for Research

3.2.1 What are the financial provisions made in the university budget for supporting students’ research projects?

The financial provisions made in the university budget for supporting research projects is indirectly through the following provisions :

- a. Rs. 12.0 lacs per annum for subscriptions to research journal.
- b. Rs. 25 lacs per annum for consumables and chemicals.
- c. AADEIs seed money for research projects and also financial incentive under 'UGRA'.
- d. Consultancy funds, which are ~Rs. 32.5 lacs per annum.

In addition, research equipment is procured partly through plan grants amounting to Rs. 80 lacs per annum and partly through Research Projects to the extent of Rs. 4.0 crores per annum. The substantial amount of R & D funding supports students' research projects in a big way.

3.2.2 Has the university taken any special efforts to encourage its faculty to file for patents? If so, how many have been registered and accepted?

Yes. The AAAC has encouraged faculty members to apply for patents for their innovative projects. The following patent applications have been filed by faculty and students in recent years:

S. No.	Description of Patents	Faculty Members	Department
1.	Software Tool, "e-verification of Distinctiveness of Confusingly similar Trademarks" (selected by CDAC for productionizing and an MoU has been signed with CDAC)	Dr. C. Vasantha Lakshmi and Prof. C. Patvardhan	Physics & Computer Science & Electrical Engg. Respectively
2.	"Decontamination of Toxic Metals from Water bodies using Agricultural Waste"	Prof. Man Mohan Srivastava	Chemistry
3.	"Magnetically tunable electro-magnetic band gap structures on non-magnetic substrates"	Dr. K.S. Daya	Physics & Comp. Sc.
4.	Clean Green Fuel Technology	Bharat Aggarwal	II yr. B.Tech.
5.	Oxygen Displacement for rust removal	Bharat Aggarwal	II yr. B.Tech.
6.	"Development of a Novel Insecticide from Cuscutta Reflexa".	Dr. Preeti and Dr. C.N. Srivastava	Zoology
7.	"A novel larvicide of mosquito"	Prof. Soam Prakash	Zoology
8.	Memory Controller address and data pin multiplexing. 16.3.2012 US Patent US/18.3.11/USA201113050948	Dhruv Satsangi	Lecturer, TC
9.	Handling of Common path pessimism removal in hierarchical timing Analysis US 13/487157	Sushobhit Singh	Electt. Engg.
10.	Timing budgeting for multilevel partitions US 13/586495	Sushobhit Singh	Elect. Engg.
11.	Non-invasive vaccination through skin European Patent(2002)EP1031346B1 US Patent (Jan.,11,2011)US7867480	Amla Chopra	Zoology
12.	Transnasal transport/immunization with highly adaptable carriers. April 19, 2011, US Patent 7927622, European patent(2002)EP1031347B1:17	Amla Chopra	Zoology

3.2.3 Provide the following details of ongoing research projects of faculty:

	Year wise	Number	Name of the project	Name of the funding agency	Total grant received Rs. in lacs
1. University awarded projects					
Minor projects					
Major projects					
2. Other agencies - national and international (specify)					
Minor projects					
Major projects	2010 to 2012	15 11 01 06 24 01 02 01 02 01 06 01 05 01	NMEICT Engg,Scien. Solar-Hyd. Engg. Faculties Chemistry NMR Pollution Bio-Tech. Bio-Diesel FIST Soc.Sc. SAP Computer Algorithms	MHRD DST DST-NSF AICTE UGC CSIR BRNS ISRO-GBP DBT PCRA DST ICSSR UGC DST-DFG TOTAL (Rs.lacs)	2784.00 266.00 16.70 47.70 165.00 4.10 38.83 53.57 88.03 8.40 478.00 5.32 255.80 10.50 4221.95

3.2.4 Does the university have any projects sponsored by the industry / corporate houses? If yes, give details such as the name of the project, funding agency and grants received.

Details of the projects sponsored by the industry/corporate houses

Project Title	Funding Agency	Amount (Rs. Lacs)	Faculty Members	Department
Computer Algorithm Optimization.	Cadence India Ltd.	12.50 (\$ 2,500)	Prof. C. Patvardhan	Electrical Engineering
Software for unique identification of Trade marks	CDAC	30.00	Prof. C. Patvardhan & Dr.C.V.Laxmi	Electrical Engineering
Solar Tracking for PV Modules	BHEL, India	5.00	Prof. A.K. Saxena & Dr. D. Bhagwan Das	Electrical Engineering
Akaksh Deep Acrodynamic Braking Systems	ADRDE, Agra	39.76	Prof. K. Hans Raj	Mechanical Engineering
Optical Information Processing with Bacteriorhodopsin	ADRDE, Agra	9.90	Prof. Sukhdev Roy	Physics and Computer Science
Standard testing facility	Manufacturing Industry of Agra	39.76	Prof. A.K. Saxena & Dr. D.B. Das	Electrical Engineering

Electrical Machines and Instrument Calibration facility	Manufacturing Industry of Agra	16.50	Prof. A.K. Saxena Dr. D.B. Das	Electrical Engineering
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3.2.5 How many departments of the university have been recognized for their research activities by national/international agencies (UGC-SAP, CAS; Department with Potential for Excellence; DST-FIST; DBT, ICSSR, ICHR, ICPR, etc.) and what is the quantum of assistance received? Mention any two significant outcomes or breakthroughs achieved by this recognition.

UGC-SAP :The following departments have been selected by UGC under SAP, with a cumulative grant of Rs. 255.8 lacs has been sanctioned:

1. Physics and Computer Science (Phase II)
2. Chemistry (Phase II)
3. Electrical Engineering
4. Music
5. Mechanical Engineering

FIST Level–1: Six Departments have received a total grant of Rs. 438.0 lacs.

1. Physics and Computer Science (Phase-II)
2. Chemistry (Phase-II)
3. Zoology
4. Mechanical Engineering
5. Electrical Engineering
6. Mathematics

DBT: Three projects worth Rs. 88.03 lacs have been sanctioned.

1. Zoology
2. Chemistry

ICSSR (5.32 lacs)

1. Sociology

CSIR (4.10 lacs)

1. Chemistry Department

International

DST-NSF Project : 16.70 lacs

DST-DFG Project : 10.50 lacs

Two significant outcomes achieved by this recognition are (i) initiation of research in emerging multidisciplinary research areas that include quantum and nano computing, nano-biotechnology, photoelectric splitting of water to generate hydrogen, neuro-fuzzy systems, soft computing etc. and (ii) establishment of state-of-the-art research laboratories with international collaborations.

3.2.6 List details of the following:

(a). Research projects completed and grants received during the last four years (funded by National/International agencies).

1. Dr. J.N. Srivastava, Bioremediation of waste water by EM technology, UGC, 2010-2013, 8.93 lakhs.
2. Dr. Ranjit Kumar, and Dr. G.P. Satsangi. Biochemical study of Aerosols, 2012-2015, DST, 18.00 lakhs.

3. Dr. D. Prem Kumar and Prof. Sant Prakash (Zoology Dept), UGC, Innovative Inter - disciplinary Programme, Special Paper on Molecular Biology, 2007-2012, 20.00.
4. Prof D.S. Rao and Dr. J.N. Srivastava, Certificate Course on Biofertilizer, UGC, Career Oriented Programme, 2009 onwards, 7.00 lakhs.
5. Prof. M.M Srivastava, Decontamination of heavy metals from water bodies using Agricultural waste [*Saracaindica* leaf biomass] A green approach for sustainable development, Virtual Chemistry Lab, UGC, New Delhi, (2007-2010), 5.21 lakhs.
6. Prof. M. M Srivastava, virtual chemistry lab, MHRD (2010-2012), 55.0 lakhs.
7. Prof. M. M Srivastava, Phytochemicals in *Thujaoccidentalis*Linn. and their antibreast cancer bioactivity efficacy and distribution of radiolabeled bioactive principle, BRNS, Mumbai, (2010-2012), 15.00 lakhs.
8. Dr. Shalini Srivastava, Process development for decontamination and chemical speciation of arsenic from waste water using novel cellulosic biomaterials: artificial neural network modeling, UGC, New Delhi, (2011-2014), 5.78 lakhs.
9. Prof. Surat Kumar, A Study on Drug-DNA Complexes by Spectroscopy, UGC (2005-2008), 5.52 lakhs.
10. Prof. Surat Kumar, Study on DNA Complexes of Vinblastine, Vincristine and Taxol Using Spectroscopic Techniques, DBT, (2009-2012), Rs. 21.1 lakhs.
11. Prof. Surat Kumar Structural Characterization of Taxol-DNA Complex by Spectroscopic & Molecular Modeling Techniques, UGC, (2009-2012), Rs. 7.41 lakhs.
12. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI) and V.R. Satsangi (Co-PI), A study on preparation and characterization of nano structured Copper oxide for their possible application in PEC splitting of water, UGC, (2006-2009), 5.34 lakhs.
13. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI) and V.R. Satsangi (Co-PI), A Study on Nano-structured Metal Oxides Preparation, characterization & The Effect Of Swift Heavy Ion Irradiation For Possible Application In Photo-electrochemical Splitting of Water, DST Nano Science Initiative, (2007-2011), Rs. 66.0 lakhs.
14. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), A study on the multilayered Nano-structured metal Oxides for efficient Photo splitting of Water, DST, (2007), Rs. 14.67 lakhs.
15. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), Experimental &DFT studies on metal oxides nanostructures in photo-electrochemical splitting of water, UGC, (2011-2014), Rs. 8.11 lakhs.
16. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), Generation, storage and distribution of solar hydrogen, DST, (2012-2014), Rs. 90.45.
17. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), Experimental & First-principles Theoretical Studies on Metal Oxides Nanostructures in Photoelectro-chemical Splitting of Water, DST, (2012-2015), Rs. 53.0 lakhs.
18. Prof. Sahab Dass (Co-PI), Prof. Rohit Srivastava (Co-PI), A study on nanostructured Fe₂O₃ thin films prepared by electro-deposition for solar generation of hydrogen, UGC, (2010-2013), Rs. 8.15 lakhs.

19. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), CNT based metal oxide nano-structures for photoelectron-chemical generation of hydrogen, DST, (2011-2014), Rs. 38.90 lakhs.
20. Prof. Rohit Srivastava (PI), Prof. Sahab Dass (Co-PI), An investigation on the role of some dye sensitizers in doped metal oxide based photo electrochemical cells, UGC, (2005-2008), Rs. 8.72 lakhs.
21. Prof. Rohit Srivastava (PI), Prof. Sahab Dass (Co-PI), Solar studies on solar light induced splitting of water for hydrogen production using mixed oxide semiconductors, BRNS – DAE, (2008 –2011), Rs. 24.23 lakhs.
22. Prof. Rohit Srivastava (PI), Prof. Sahab Dass (Co-PI), A study on preparation and characterization of nano-structured Zinc oxide for its possible application in splitting of water, UGC, (2010-2013), Rs. 5.87 lakhs.
23. Prof. Rohit Srivastava (PI), Prof. Sahab Dass (Co-PI), A Study on preparation and characterization of nano-structured zinc oxide for its possible application in PEC splitting of water, UGC, (2010-2013), Rs. 5.54 lakhs.
24. Dr. K.M Kumari (PI), Dr. Anita Lakhani (Co-PI), Measurements of organic and blakhskscarbon and chemical constituents of Ambient Aerosol at a sub urban site of the Indo-Gangetic Plain, DST, (2008-2011), Rs. 36.65 lakhs.
25. Dr. K.M Kumari (PI), Dr. Anita Lakhani (Co-PI), Chemical characterization of nutrients & anti nutrients in seeds of a neglected wild species *Chenopodium album*, UGC, (2008-2011), Rs. 7.50 lakhs.
26. Dr. Anita Lakhani (PI), Dr. K.M. Kumari (Co-PI), Size resolved chemical speciation of polyaromatic hydrocarbons in urban atmosphere, DST, (2004-2007), Rs. 7.32 lakhs.
27. Dr. Anita Lakhani (PI), Dr. K.M. Kumari (Co-PI), Characterization, Toxicity and Health risk assessment of PAH in Particulate Matter and emissions from different combustion fuels, DST, (2009-2012), Rs. 26.6 lakhs.
28. Dr. K.M Kumari (PI), Dr. Anita Lakhani (Co-PI), Ozone-Precursor (VOC, NO_x, CO relationships in Ambient Atmosphere at a semiarid site, ISRO-GBP, (2007-2013), Rs. 63.00 lakhs.
29. Dr. K.M Kumari (PI), Dr. Anita Lakhani (Co-PI), National Carbonaceous Aerosols Programme – Working Group III: Modeling carbonaceous aerosol source influence and atmospheric effects (Associate Institution), Ministry of Environment and Forests, Rs. 1.1 Crore.
30. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), Professor V.R. Satsangi, Transition metal oxide based nano architectures for photoelectrochemical hydrogen generation, DST-NSF, (2008-2011), Rs. 16.7 lakhs.
31. Prof. Pankaj, Sonochemical Synthesis and Evaluation of the Photocatalytic activity of TiO₂ doped with Transition Metal Salts and Rare Earths, BRNS – DAE, (2009 –2012), Rs. 20.00 lakhs.
32. Dr. Kamal Srivastava (Co-PI), Scheduling of Real-Life Projects with Meta – Heuristics, AICTE, 2005-2007, Rs. 6.00 lakhs.
33. Prof. D. Pandey, Generalized Fuzzy Relation Equations and Optimization models with Applications in Industry, CSIR, 2008-2011, Rs. 9.47 lakhs.
34. Prof. Gursaran, Software Test Data Generation Using Metaheuristic Search Based Techniques, UGC, 2009-2011, Rs. 5.98 lakhs.
35. Prof. K. Hans Raj and Dr. R.S. Sharma, Quantum Inspired Algorithms for Intelligent Manufacturing Systems (UGC), UGC, 2008-2011, Rs. 10.71 lakhs.
36. Prof. S.K. Gaur (Co-PI), Generalized Fuzzy Relational Equations and Fuzzy

- Decision Models with Approximation in Industry, CSIR, 2008-2011, Rs. 4.07 lakhs.
37. Dr. S. K. Srivastava, Design & development of metaheuristics for the graph layout problems, UGC, 2009-2011, Rs. 5.56 lakhs.
 38. Dr. S. K. Srivastava, Developing a biomedical engineering system to reduce occupational health hazards of brick-kiln workers, UGC, 2009-2011, Rs. 8.17 lakhs.
 39. Prof K. HansRaj and Dr. R.S. Sharma, Modeling, Optimization and Experimentation of Equal channel angular pressing, DST, 2009-2012, Rs. 35.00 lakhs.
 40. Prof K. HansRaj and Dr. R.S. Sharma, Modelling and Experimental Study of Severe Plastic Deformation using ECAP (AICTE), AICTE, 2009-2011, Rs. 11.50 lakhs.
 41. Dr. Vishal Sahni, MHRD National Mission on Education through ICT “Quantum and Nano Computing Virtual Centre” (Main DPR), MAIN DPR, Rs. 500.00 lakhs.
 42. Dr. D. Ganeshwar Rao, Modeling and Optimization of Diesel Engine for Bio-diesel Blends using Artificial Neural Networks and Evolutionary Algorithms, UGC, 2010-13, Rs. 8.23 lakhs.
 43. Dr. D. G. Rao, Mr. R.C.Gupta and Prof. D. Prem Kumar, Identification of high oil yielding Jatropha plants and *in vitro* scaling, 2010-12, Rs. 7.5 lakhs.
 44. Dr. R.S. Sharma, Metal Forming Virtual Laboratory, MHRD, 2010-2013, Rs. 84.0 lakhs.
 45. Prof. Ranjit Singh and Sh. Purshottam Kumar, Utilizing Waste Energy to Enhance the Utility, Cost Effectiveness and Quality of Castings for Small Scale Cast Iron Foundries of Agra, UGC, 2011-2013, Rs. 7.20 lakhs.
 46. Dr. G.P. Satsangi, Mulyonke Vikas Mein Pramukhpanch Sant Kaviyon Ke Sheikshik Vicharonkee VartmanYug Mein Upadaiyata, UGC Major Research project, 2008-2010, Rs. 5.48 lakhs.
 47. Dr. Lajwanti, and Dr. NPS Chandel, Effect of Internet use on the Study habits, Adjustment and Academic Achievement of Higher Secondary Students 2011, UGC, 2011, Rs. 4.68 lakhs.
 48. Dr. Rupali Satsangi and Dr. Raj Kumari Kalra, An Action Plan for Attaining Millennium Development Goals (MDGS), UGC, Rs. 6.36 lakhs.
 49. Corporate Internet Financial Reporting Practices in India: A study of BSE Sensex and NSE Nifty Companies, UGC, Delhi, 2007-2010, Rs. 4.79 lakhs.
 50. Internet Financial Reporting in International Prospective – A comparative Study of India and US Companies, ICSSR, Delhi, 2011-2013, Rs. 5.32 lacs.
 51. Economic Analysis of Air Pollutant on Human Health, UGC, 2008-2010, Rs. 6.12 lakhs.
 52. Dynamic System Modeling of Macroeconomic Determinants of Stock Market Volatility via Fuzzy-Neural Networks: Evidence From National Stock Exchange of India Ltd., UGC, New Delhi, 2011-2013, Rs. 4, 50,200.
 53. Prof. Poornima Jain, Inclusion & Exclusion: Dimensions of Policy & Practice, UGC, 2008-2011, Rs. 4.65 lakhs.
 54. Dr. C.M. Markan, Developing neuromorphic adaptable cortical feature maps, DST-SERC, 2009-12, Rs. 16.53 lakhs.
 55. Prof. Sukhdev Roy, Design of optical logic gates with bacteriorhodopsin, DST, 2009-2011, Rs. 27.00 lakhs.
 56. Prof. Sukhdev Roy and Prof. A.K. Saxena, All-optical control of ultraslow and

- superluminal light and its application to quantum computing, UGC, 2009-2012, Rs. 10.00 lakhs.
57. Prof. Sukhdev Roy, Professor A.K. Saxena, Nature-inspired optical computing with nano-bio-photonic plant photoreceptors, AICTE, 2007-2009, Rs. 10.00 lakhs.
 58. Prof. V. R. Satsangi, A study on nanostructured Fe₂O₃ thin film prepared by electrodeposition for solar generation of hydrogen, UGC, 2010-13, Rs. 8.00 lakhs.
 59. Dr. K. Soami Daya, Prof. Satish Kumar, Village Community Network: Technology development and deployment plan, MHRD, 2011-12, Rs. 600.00 lakhs.
 60. Prof. Satish Kumar, Teachers empowerment, students empowerment and integration of tools for empowerment and synchronous delivery, MHRD, 2010-13, Rs. 750.00 lakhs.
 61. Mr. P.S. Sudhish, MHRD NMECT Educational Resource Planning Software Development Project, MHRD, 2010-12, Rs. 300.05 lakhs.
 62. Dr. Sonali Bhatnagar, e-book content on High Energy Physics and Astroparticle Physics, MHRD, 2011-12, Rs. 14.00 lakhs.
 63. Dr. C.M. Markan, Software Tools, Opensource Tools, Simulation Tools, MHRD, 2009-11, Rs. 70.00 lakhs.
 64. Dr. C. M. Markan, Remote Triggered Virtual Labs, MHRD, 2009-11, Rs. 100.00 lakhs.
 65. Dr. C. Vasantha Lakshmi and Prof. C. Patvardhan, Development of an e-verification system for confusingly similar trademarks, MIT, 2007-2010, Rs. 18.19 lakhs and again in 2010-12 of Rs. 29.08 lacs.
 66. Prof. C. Patvardhan and Dr. C. Vasantha Lakshmi (Co-PI), Quantum evolutionary algorithms for engineering optimization, AICTE, 2007-09, Rs. 6.70 lakhs.

(b). **Inter-institutional collaborative projects & grants received**

i) All India collaboration

- MHRD Project on ‘Talk to a Teacher’, coordinated by IIT Bombay : Rs. 90 lakhs
- MHRD Project on ‘ERP for Universities’, coordinated by IIT Kanpur : Rs. 95 lakhs
- MHRD Project on “Virtual Instrumentation “, co-ordinated by IIT Delhi : Rs. 1.50 crores
- DST Project on Generation, Storage and Distribution of Solar Hydrogen, with IIT Kanpur & five other premier Institutes of India : Rs. 90.45 lakhs.
- DST Project on Experimental & First principles Theoretical Studies on Metal Oxides Nanostructures in Photoelectrochemical Splitting of Water, under Nano Mission with JNCSR, Bangalore : Rs. 53.0 lakhs.

ii) International

- DST-NSF Indo-US project on Material Management for Solar Hydrogen with University of Maryland, College Park, USA : Rs. 16.70 lakhs
- DST-DFG Indo-German Project on Algorithm Optimization : Rs. 10.50 lakhs

3.3 Infrastructure for Research

3.3.1 What efforts have been made by the university to improve its infrastructure requirements to facilitate research? What strategies have been evolved to meet the needs of researchers in emerging disciplines?

Strategies that have been evolved to meet the needs of researchers in emerging disciplines and to strengthen research infrastructure and to forge ties with leading research groups and institutes to facilitate exchange of ideas and sharing of resources. This has been facilitated through Conferences, exchange visits and MoUs.

(a) Institute has established a Research Technology Park with the following centres for interdisciplinary research:

1. Centre for Quantum and Nano Computing Systems
2. Centre for Consciousness Studies
3. Centre for Core Courses
4. Centre for Bio-inspired Systems (In process)

(b) State-of-the-art Virtual Laboratories established in the following areas :

1. Electrochemistry
2. Strength of Materials
3. Electronics
4. Microwaves
5. MAT LAB Simulation

(c) Some other Laboratories with advanced facilities in the Institute are as follows:

1. Material Testing
2. Digital Drawing
3. VLSI Simulation
4. XRD and Solar Power Generation
5. Multimedia
6. Music Studio
7. Computer Centre
8. Microwaves
9. Embedded Systems
10. Atmospheric Chemistry
11. Nano Biotechnology
12. Neural Networks
13. Environmental Parasitology
14. Photonics
15. Natural products
16. Quantum Computing

In addition the following steps were taken

- i. Subscription to e-journals.
- ii. Establishment of e-classrooms and multimedia facilities.
- iii. Two-way interactive teaching between IITD and Univ. of Maryland, USA with DEI.
- iv. Establishing solar power supply to give reliable and self sufficient power.

- v. To reduce the carbon footprint.
- vi. Guest House facilities for Visiting Scientists for stay of long durations.(by AADEIs)

3.3.2 Does the university have an Information Resource Centre to cater to the needs of researchers? If yes, provide details of the facility.

The Institute has an Information Centre where complete information for all resources available in the Institute is provided. It provides guidance for patenting and publications.

3.3.3 Does the university have a University Science Instrumentation Centre (USIC)? If yes, have the facilities been made available to research scholars? What is the funding allotted to USIC?

Institute has established 'University Science Instrumentation Centre' (USIC). It has facilities for :

1. Glass Blowing
2. Electronic repair
3. Refrigeration and air-conditioning
4. Mechanical Engineering Workshop
5. Computer maintenance

In addition, a Virtual Electro Chemistry Lab has been established with a grant of Rs. 90 lakhs from MHRD. The annual maintenance budget of USIC is Rs. 2.5 lacs.

3.3.4 Does the university provide residential facilities (with computer and internet facilities) for research scholars, post-doctoral fellows, research associates, summer fellows of various academies and visiting scientists (national/international)?

The Institute has established an International faculty hostel with sixteen well furnished rooms and Conference Halls for visiting scientists and post doctoral fellows. For research scholars the Institute provides Hostel facilities that also include computer and internet facilities. The Institute in association with the Alumni Association (AADEIs) has also established a well furnished Guest House for Visiting Scientists from abroad, so that they can spend long periods at DEI under the MoUs for fruitful collaboration in academic and research projects.

3.3.5 Does the university have a specialized research centre/ workstation on-campus and off-campus to address the special challenges of research programmes?

The Institute has established a Research and Technology Park with a few centres of excellence in emerging areas of research. A covered area of 2,000 sq.m. has been earmarked for the park and its future development.

3.3.6 Does the university have centres of national and international recognition/repute? Give a brief description of how these facilities are made use of by researchers from other laboratories.

The Centres of the Institute mentioned in 3.3.1. have received national and international recognition from renowned scientists, researchers, educationists and

academicians. They have been impressed by the diversity of researchers associated with them and the multidimensional research being carried out. In addition to these, some of the research laboratories of the Institute have received recognition in challenging, emerging niche research areas, namely, PEC splitting of water to generate hydrogen, atmospheric studies, nano-bio-photonics, soft computing, natural products, nano materials and textile design. Researchers utilize the expertise of the faculty associated with the Centres, resources that include books, journals, instrumentation and seminar halls to research activities.

3.4 Research Publications and Awards

3.4.1 Does the university publish any research journal(s)? If yes, indicate the composition of the editorial board, editorial policies and state whether it/they is/are listed in any international database.

Yes. The Institute brings out four research journals as given below:

1. **DEI Journal of Science and Engineering Research** : ISSN 0970 – 0463
Editorial Board comprises Prof. Sant Prakash, Zoology Dept., Prof. Rahul Caprihan, Mech. Engg. Dept., Prof. Sanjeev Swami, Dept. of Management and Prof. P. Sriramamurti

Policy: To publish original Research articles in the areas of Science and Engineering after getting them reviewed by Experts.

2. **Literary Paritantra (Systems)** – Published Annually: ISSN 0974 – 7915 (Print), ISSN 0974 – 7923 (On-line)
Editorial Board comprises Prof. P.S. Satsangi, Emeritus Editor, Prof. J.K. Verma, Dr. V. Prem Lata, Ms. Bani Dayal and Ms. Malvika Gupta

Advisory Board Prof. D. Venkat Rao, Univ. of Hyderabad, Dr. T. Ravichandran, IIT Kanpur, Prof. Shrawan K. Sharma, G.K. University, Haridwar, Prof. P. Sriramamurti, DEI and Prof. S.C. Dubey, Allahabad Univ.

Editorial Policies: It is an International journal on Literature and Theory. It aims to promote application of Systems theory to Literature so as to integrate in a formal mode the nature and culture in a single cosmos of which the inner plurality and unity are simultaneously ensured.

3. **Shodh Shree** – Published Annually : ISSN 0974 – 7958
Editorial Board comprises Prof. Sharmila Saxena, Head, Dept. of Hindi, Prof. Prem Kali Sharma and Prof. Aditya Prachandia.
Editorial Policies: A research journal on Hindi Literature. Original works of research accepted after review by experts.

4. **FOERA (Faculty of Education Research Abstracts)** – Published Annually : ISSN 0974 – 7966

Editorial Board consists of Prof. K.C. Vashishtha, Editor-in-Chief along with some other Faculty members, with Professor R.N. Mehrotra Former Dean, CIE, Delhi University, Professor M. Sen Gupta, Former Head, ERIC, NCERT,

Professor Harikesh Singh, BHU, Prof. U.C. Kulshrestha, Lucknow University and Prof. S.P. Malhotra, NCTE, New Delhi as advisors.

Editorial Policies: A research journal dedicated to research in the field of Education. This journal publishes peer reviewed Research Articles and a few Research Abstracts.

3.4.2 Give details of publications by the faculty:

- * Number of papers published in peer reviewed journals (national/international) : 866
- * Monographs : -
- * Chapters in Books : 123
- * Books edited : 04
- * Books with ISBN with details of publishers : 85
- * Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, EBSCO host, etc.)
- * Citation Index – range/average : 1-103/3
- * Impact Factor – range / average : 0.4-13.44/1.8
- * h-index : Max. 14

Publications of faculty members and students of DEI in the last five years

S. No.	Department	Publications						
		National	Inter-national	Total	Books Edited*	ISBN*	Total	Book Chapters Total
1.	Drawing and Painting	12	-	12			11	-
2.	English	12	02	14			-	05
3.	Hindi	82	-	82			08	-
4.	Home Science	08	04	12			13	06
5.	Music	38	02	40			13	04
6.	Sanskrit	26	0	26			05	10
7.	Accountancy and Law	16	06	22			-	02
8.	A. Bus.Econ.	12	03	15			-	11
9.	Foundations on Education	45	02	47			11	02
10.	Pedagogical Science	42	04	46			06	02
11.	Electrical Engg.	24	22	46			04	01
12.	Mechanical Engg.	24	12	36			04	02
13.	Botany	16	26	42			-	04
14.	Chemistry	34	73	107			07	26
15.	Maths	15	25	40			-	-
16.	Physics & Computer Sc.	19	38	57			01	04
17.	Zoology	18	42	60			-	04
18.	Economics	13	10	23			-	18
19.	Management	14	26	40			25	16
20.	Psychology	40	23	63			-	02
21.	Sociology and Political Sc.	22	14	36			-	04
Total				866			108	123

Books published by Faculty :

1. Satish Kumar, Neural Networks: A Classroom Approach, 2nd ed., Tata McGraw Hill, 2012, ISBN: 1259006166; ISBN-13:1259006166, 978-1259006166.
 2. D.K. Chaturvedi, Soft Computing: Techniques and Its Applications in Electrical Engineering, 2008, ISBN:3540774807; ISBN-13:9783540774808, 978-3540774808.
 3. M.M. Srivastava, High Performance Thin Layer Chromatography, Springer, Germany, 2010.
 4. Pankaj, Theoretical and experimental sonochemistry involving inorganic systems, Springer, UK, 2010.
 5. Vishal Sahni, Quantum Computing, Tata Mc Graw Hill, New Delhi, 2007.
 6. Vishal Sahni, D. Goswami, NanoComputing, Tata McGraw Hill, New Delhi, 2009.
 7. Vishal Sahni (Ed.), Proceedings of the Joint International Conference on Applied Systems Research and XXXIII National Systems Conference Tata McGraw Hill, 2009.
 8. Vishal Sahni, Dayal Pyari Srivastava and V. Lakshminarayanan, Quantum Information Systems, Tata Mc Graw Hill, New Delhi, 2010.
 9. S. Agarwala, I. Das, K. Kumar and Surat Kumar (Eds.), Health Psychology, Allied Publishers, New Delhi (2009).
 10. Proceedings of the International Conference on Nanoscience and Technology in Chemistry, Health, Environment and Energy published by Tata McGraw (ISBN-10: 0-07-068063-9), 2010.
 11. Chemistry of Phytopotentials: Health, Energy and Environmental Perspectives, Springer e- book, (ISBN 978- 3- 642- 23393- 7), 2011
 12. Ragini Roy and Ashwini Kumar Sharma, "Chini Prakrati Chitran Ke Adarsh", ISBN No. : 81-903863-2-8, Associate Publication, Agra, pages 137, 2007.
 13. Ragini Roy and Ashwini Kumar Sharma, "Barahmasa", ISBN No. : 978-81-903863-9-5, Associate Publication, Agra, pages 158, 2008.
 14. Ashwini Kumar Sharma, "Jaipur Shaily Ke Tithi Yukt Laghu Chitra", ISBN No.: 81-903863-8-7, Associate Publication, Agra, pages 143, 2008.
 15. Parul Bhatnagar, "Decorative Design History in Indian Textiles & Costumes", ISBN-13:9786612800719, Book Rix, USA, 2010.
 16. Parul Bhatnagar, "Fibres", e-book Single, ISBN-B0043M4RQ0, Amazon, UK, 2010.
 17. Parul Bhatnagar, "Decorative Design History in Indian Textiles & Costumes", ISBN-6612800712, Book Rix, USA, 2010.
 18. Parul Bhatnagar, "Costumes and Textile Designs of India", ISBN-978-1468188844, Smash Words, 2010.
- 9 books were published as a part of Textile Design and Printing course material, Published by Dayalbagh Press.
- | | | |
|-----------------------------------------|---|---------------|
| 19. Introduction to textiles 2008 | - | 81 902843-2-0 |
| 20. A Business skills & Ethics 2008 | - | 81 902843-3-9 |
| 21. Drawing 2008 | - | 81 902843-4-7 |
| 22. Colour & Texture 2008 | - | 81 902843-5-5 |
| 23. Elements of Design 2008 | - | 81 902843-6-3 |
| 24. The Traditional textiles of India | - | 81 902843-8-3 |
| 25. The Dyeing and printing of textiles | - | 81 902843-1-2 |
| 26. Textile ornamentation techniques | - | 81 902843-7-1 |
| 27. Computer Aided Textile Designing | - | 81 902843-9-8 |
28. Aditya Prachandia, 'Manav Mulya Vyakhya Kosh', Kitab Ghar, New Delhi, ISBN-978-81-7016-872-0, 2009.
 29. Aditya Prachandia, 'Madhyakaleen Hindi Sant Kavya : Darshan Aur Mulyankan', Akhil Bhartiya Sahitya Kala Manch, Muradabad (U.P.) in 2008.

30. Aditya Prachandia, 'Apbhransh Alok', Akhil Bhartiya Sahitya Kala Manch, Muradabad (U.P.) in 2008.
31. Aditya Prachandia Co.-author in Vishwa Kosh-'Tulnatmak Soochna Vishwa Kosh' Mahatma Gandhi Antarrashtriya Vishwa Vidhyalya, Verdhha Maharashtra, 2008.
32. Soami Pyari Kaura, 'Naatakkaar Mohan Rakesh', K.L Pachauri Prakashan, Ghaziabad, ISBN.978-81-88075-8, 2008.
33. Soami Pyari Kaura, 'Jaishankar Prasad aur Mohan Rakesh Ke Natakon mein pratibimbit yugeen Samasyayein', Satyam Publication House, New Delhi, ISBN 978-81-88134-87-8-2008
34. Aditya Prachandia, 'Shravak Ki Aachar Sanhita', Jain Shodh Academy, Aligarh, U.P., 2007.
35. Kamlesh Kumari Ravi, 'Ritikaleen Kavya Parampara aur Acharya Brijesh', first edition – Publications - K.L. Pachauri, Indrapuri Loni, Ghaziabad, 2006.
36. Soami Pyari Kaura, 'Hindi Natak aur Rangmunch', K.L. Pachori Prakashan, Ghaziabad.
37. 10 books (each of 15 lessons) were published in May 2009 as a part of dress designing and tailoring course material, published by Dayalbagh Press.
38. वस्त्र विज्ञान एवं परिधान का परिचय - ISBN No. 978-81-908802-0-6
39. व्यापारिक योग्यता एवं नीतियाँ - ISBN No. 978-81-908802-1-3
40. परिधान निर्माण की तकनीक - ISBN No. 978-81-908802-2-0
41. रेखाचित्र एवं कढ़ाई - ISBN No. 978-81-908802-3-7
42. बच्चों के परिधान - ISBN No. 978-81-908802-4-4
43. परिधान निर्माण - ISBN No. 978-81-908802-5-1
44. अग्रसर परिधान निर्माण - ISBN No. 978-81-908802-6-8
45. वयस्क परिधान - ISBN No. 978-81-908802-7-5
46. महिलाओं के परिधान - ISBN No. 978-81-908802-8-2
47. पुरुषों के परिधान - ISBN No. 978-81-908802-9-9
48. Dr. Sangita Saini and Mrs. Vandana Singh, "Guide to Manufacture of Garments using Delicate Fabrics" by published by NITRA, 15 Jan 2011.
49. Mrs. Charu Swami, "Textile Design- Theory and Concepts" by Mrs. Charu Swami, Published by New Age International (P) Ltd, Publishers, 2011.
50. Dr. Lovely Sharma & Ishwar Singh Khinchi "Rajasthani Lokgeeton Mein Shastriyata" – Radha Publication, 2000.
51. Dr. Sudha Sahgal & Dr. Shikha Mamgain "Pauri Garhwal Ka Lok – Sangeet : Ek Adhyayan"- Radha Publication, Delhi.2006, ISBN No. 978-81-7487-516-5.
52. Lovely Sharma (ed.), Exploration In Indian Music, Sanjay Prakashan, New Delhi, 2008, ISBN: 8174532986; ISBN-13:9788174532985, 978-8174532985.
53. Lovely Sharma, Glimpses On Indian Musicology, Sanjay Prakashan, New Delhi, 2008, ISBN : 8174532927; ISBN-13:9788174532923, 978-8174532923.
54. Lovely Sharma, Academic Centres For The Promotion Of Indian Music, Sanjay Prakashan, New Delhi, 2010, ISBN: 8174533419, ISBN-13:9788174533418, 978-8174533418.
55. Lovely Sharma, Trends in Music Therapy Today, Sanjay Prakashan, New Delhi, 2010, SBN:8174533737, ISBN-13:9788174533739, 978-8174533739.
56. Dr. Sudha Sahgal & Mukta "Begum Akhtar Va Upshastriya Sangeet"- Radha Publication, Delhi. ISBN No. 978-81-7487-516-7.
57. Dr. Lovely Sharma-"Trends in Music Therapy Today" –
58. Dr. Subhadra Kumari Satsangi- "Understanding Western Music"- 2009- Associate Publication House, Agra. ISBN No. 81-903863-4-4.

59. Dr. Sudha Sahgal “Prantiya Sangeet; Vividh Paksh”- 2011- Radha Publication, Delhi. ISBN No. 978-81-7487-647-2.
60. Edited and published 20 Volumes of Purakala, the Journal of the Rock art Society of India, From Vol. 1, 1990 to Vol. 20-21, 2011 (except Vol 19, 2009).
61. Dr. Abhimanyu,(Ed.) “Ashtadhyayi” (anuvritti-vritti-udaharana-vartika-ganapathaadi-suchi sahita) Pratibha Prakashan New Delhi-110007pages 300, ISBN NO. 978-81-7702-250-6&978-81-7702-249-0, 2011.
62. Prof. Agam Kulshreshtha, “Smritiyon Mein Arth Vyavahar” Published by’ K.L.Pachori Prakashan’ Gaziabad, Jan.2011, pages 231, ISBN 978-81-88075-71-+.
63. Dr. P.D. Saini, Business Regulatory Framework (Business Law), Author- ISBN: 978-93-81348-15-4, published by `Vayu Education of India, 2/25, Ansari Road, Darya Ganj, New Delhi – 110 002
64. Dr. Swami Prasad Saxena, “Values and Managerial Excellence in the Changing Business Environment” edited volume titled Value Management in Professions: Present Scenario & Future Strategies, by Shastree Nalin K., Dugar BR, Mishra JPN and Dhar AK., Concept Publishing Company, New Delhi (2006) ISBN: 81-8069-341-4 (P 259-265)
65. Dr. Swami Prasad Saxena, “Role of Business Managers” edited volume titled Value Management in Professions: Present Scenario & Future Strategies, by Shastree Nalin K., Dugar BR, Mishra JPN and Dhar AK., Concept Publishing Company, New Delhi (2006) ISBN: 81-8069-341-4 (P 272-281)
66. Dr. Swami Prasad Saxena, “Relational Values of Managers: A Key to Successful Training and Development Program”, edited volume titled Value Management in Professions: Present Scenario & Future Stretagies, by Shastree Nalin K., Dugar BR, Mishra JPN and Dhar AK., Concept Publishing Company, New Delhi (2006) ISBN: 81-8069-341-4 (P 299-303)
67. Dr. Swami Prasad Saxena, “Mergers and Acquisitions as a Strategic Tool to Gain Competitive Advantage: A Study of Merging & Non Merging Firms in Indian Aluminium Industry” edited volume titled Innovation and Adaptability: Twin Engines of Sustained Growth, by Bhakar SS and Pandey VK, Excel Books, New Delhi (2010) ISBN: 978-81-7446-833-8, (P 48-61)
68. Dr. Swami Prasad Saxena, “Contribution of Women in the Family Labor Employment in Dairying in Agra District of Uttar Pradesh”, edited Book titled Strategic Management Social Security and Banking Sector Reforms, by MR Biju, Authors Press, Delhi (2010) ISBN: 13:978-8172735241, 8172735243, (p 189-194)
69. Dr. Swami Prasad Saxena, “Dynamic System Modeling of Stock Market Volatility via Fuzzy and Neuro Fuzzy Approach: Impact of Real Economic Indicators on Indian Stock Market”, Edited Book titled Mechanical Engineering: Emerging Vistas, by BD Gupta, RK Upadhyay, RP Sinha, and Jagvir Singh, Narosa Publishing House, New Delhi (2011) ISBN: 987-81-8487-141-8, (p 187-191)
70. K. Kulshrestha, Teaching of Science (Hindi Edition), R.Lall Book Depot, Meerut, 2010.
71. K. Kulshrestha, Foundations of Educational Tech., R.Lall Book Depot, Meerut, 2010.
72. K. Kulshrestha, Teaching of Mathematics (English Ed.), R.Lall Book Depot, Meerut, 2003.
73. K. Kulshrestha, Teaching of Mathematics (Hindi Ed.), R.Lall Book Depot, Meerut, 1998.
74. R.L. Narayana Simha, Sanskrita Vangmaye Prashnottaravidhi, Arsha Publication, 2009.
75. J.N Srivatava Vinay Kumar and Anil Kumar Bhatnagar, 2012 Antibiotics and their uses: screening of different antibiotics concentration against human pathogenic bacteria. Ibid. ISBN: 978-3848-42401-6.
76. Ajay Kumar, Pragati Saini and J.N Srivastava, 2012. Production & Charactrization of antimycotic drugs from *Bacillus* sps. Ibid. ISBN: 978-3-8473-7025-3

77. Subhash Chandra Biyan & D. Sarveshwara Rao, 2012. Mungbean Crop Production: Observations on Climate change impacts and Integrated Nutrient Management. Lambert Academic Publishing, Germany; Printed in USA. ISBN: 978-3-659-20364-0
78. Subhash Chandra Biyan, Pooja Dhuppar & Basanti. Ch, 2012. Urdbean crop production: Observations on climate change impacts and Integrated Nutrient Management. Lambert Academic Publishing, Germany; Printed in USA. ISBN: 978-3-659-17994-5.
79. Pragati Saini, Ajay Kumar and J. N. Srivastava, 2012 Bioremediation of Sewage water and its impact on plant growth: remediation of waste water using effective bacterial consortium. Ibid. ISBN: 978-3-8484-9533-7
80. Dr. Shalini Srivastava, Essential Oils: Ecofriendly bio pesticides, Chemistry for Green Environment, Narosa Publishing House, New Delhi. 2005.
81. Shalini Srivastava, Pritee Goyal and Dr. M.M. Srivastava, Pesticides: Past, Present and Future “Hand book of Pesticides”, CRC Publication, USA.
82. Shalini Srivastava, Novel Biomaterials: Decontamination of toxic metals from wastewater published by Springer, Germany, 2009.
83. Surila Agarwal, Ira Das, Kavita Kumar and Surat Kumar, Health Psychology. Allied Publishers, New Delhi (2009).
84. Working Women and Care of the Aged, Satyam Publ. House, New Delhi, 2005, ISBN No. 81-88134-33-3,
85. Religious Sects and Social Development, Rawat Publications, Jaipur, 2010, ISBN No. 81-316-0262-1.

3.4.3 Give details of

- * **faculty serving on the editorial boards of national and international journals**
- * **faculty serving as members of steering committees of international conferences recognized by reputed organizations / societies**

A. Membership of Editorial Boards

1. Prof. S.S. Bhojwani, Member, Editorial Board, “Plant Biotechnology Reports”, Springer, Japan.
2. Prof. Satish Kumar, Associate Editor, IEEE Transactions on Fuzzy Systems, USA
3. Professor K. Hans Raj, Associate Editor of the International Journal of Agile Manufacturing, USA and Member of Review Panel, Tata McGraw Hill Publ. Co.
4. Professor Rahul Caprihan :
 - Associate Editor for the International Journal of Flexible Manufacturing Systems, Springer, USA, September 2006 – March 2008.
 - Member of the International Editorial Board for the International Journal of Systemics, Cybernetics and Informatics, USA, 2005 – till date.
5. Prof. Sanjeev Swami
 - Co-Editor, Technology and Operations Management, A Springer Journal, 2012.
 - Editorial Board Member, International Journal of Industrial Engineering (USA), 2011.
 - Editorial Board Member, Int. Journal of Organisation Human Behaviour, 2011.
 - Editorial Advisory Board, JAMR: An Emerald Journal; Emerald Literati Network, 2010. Member, Editorial Board, AIJM, AIMS International Journal, 2010.
 - Editor, Management Section, D.E.I. Journal of Science and Engineering Research, 2007.

6. Prof. Sukhdev Roy
 - Recent Patents on Signal Processing
 - International Journal of Computer and Electrical Engineering
 - Journal of Electronic Science and Technology
 - International Journal of Computer Theory and Engineering
 - Guest Editor, IET Circuits, Devices and Systems Journal (U.K.) Special Issue on “Optical Computing, Circuits, Devices and Systems”, 5 (2), 2011.
7. Prof. J.N. Srivastava
 - Associate Editor, DEI Journal of Science and Engineering
 - Councilor of journal of Indian Botanical Society
 - Member of Editorial Board in Journal Of Living World
 - Indian journal of mycology and plant pathology
 - Journal of Microbial world
 - The National Academy of Science, Allahabad India
 - Reviewer in International journal of advances in plant science
 - Executive member in Vegetos journal
8. Prof. Sant Prakash:
 - Chief Editor – DEI Journal of Science & Engg. Research,
 - Editorial Board – J of Threatened Taxa.
 - Editorial Board – J. of Applied Microbiology and Genetics.
9. Dr. Alka Prakash, Associate Editor: DEI J. Science and Engineering Research
10. Prof. J.K. Verma, Chief Editor, Literary Paritantra (Systems) : An International Peer - reviewed Journal on Literature and Theory.
11. Prof. S.K. Chauhan:

Member Advisory Boards of the Following Journals:

 1. Literary Paritantra (Systems) : An International Peer- reviewed Journal on Literature and Theory
 2. Titiksha : A Journal on Literature (Allahabad) Ed. Prof. S.C. Dubey, Allahabad University.
 3. Creative Writing and Criticism: An International Biannual Journal of English Studies, Ed. Dr. S. Nath, Sikanderbad (UP)
12. Dr. V. Prem Lata, Editor, Literary Paritantra (Systems) : An International Peer - reviewed Journal on Literature and Theory.
13. Professor Aditya Prachandia : Member, Advisory Board, National research journal - Shodharnav- Urai Jallon (since 2009).
Member, Advisory Board in research journal- Shodh Disha - Bijnor (since 2010).
14. Dr. Suraj Parkash, Asstt. Editor, Dalit Asmita, International Journal 2010.
15. Dr. Pramod Kumar
 - Member, Editorial Advisory, Journal of Accounting and Finance, published by Research Development Foundation, Jaipur.
 - Member, Advisory Board, Indian Journal of Development Research (Bi-annual Journal), Institute of development studies, Varanasi
 - Member, Editorial Advisory, Journal of Banking, Information Technology & Management, published by Research Development Association, Jaipur.
 - Member, National Editorial Board, Journal of Social Welfare and Management, Published by World Information Syndicate, New, Delhi.
 - Associate Editor, DEI J. of Science and Engineering with management, DEI, Agra
16. Dr. Pravin Saxena, Editorial advisory Board member, with international Journal of Commerce and Accounting Research.

17. Dr. A.K. Kulshreshtha
- Member of Editorial Board of Educational Journal by Administrative Editor, Kamla-Raj Enterprises, 2009-2010.
 - Member of Editorial Board of Journal of Humanities, Social Sciences and Management since 2009.
18. Prof. Laxmi. R. Kulshreshtha, Member, Editorial Advisory Board, South Asian Journal of Socio-Political Studies
19. Dr. S. Nigam
- Editorial Board Member, Int. Journal of Organisation Human Behaviour, 2011.

B. Member Review Boards of Journals

Professor V.R. Satsangi :

International Journal of Hydrogen Energy, Current Science, India, Intl. J. Physical Chemistry (USA), Material Research Bulletin (USA).

Prof. Rahul Caprihan:

Member of the International Review Board for the International Journal of Production Economics, International Journal of Advanced Manufacturing Technology, Journal of Intelligent Manufacturing, International Transactions of Operational Research, International Journal of Systems Science, and Computers & Operations Research.

Prof. Sukhdev Roy :

Optics Express, IEEE J. Quantum Electronics, Optical Engineering, Optics Communications, J. Modern Optics, Optics and Laser Technology, J. of Photochemistry and Photobiology B: Biology, Intl. J. of Computer Theory and Engineering, Papers in Physics, Intl. J. of Physical Sciences, J. of Petroleum Technology and Alternate Fuels, J. of Engineering and Computer Innovation, Pramana-Journal of Physics, Indian J. of Physics

Dr. Sandeep Paul :

IEEE Transactions on Fuzzy Systems, IEEE Transactions on Neural Networks, IEEE Transactions on Evolutionary Computation

Dr. Sanjay Bhushan, Asian Journal of Management Research, IIM, Bangalore

C. International Committees

Chairmanship/Co-Chairmanship of Conferences or Sessions Abroad

Prof. K. Hansraj,

- Chairman (India) for International Conference on Agile Manufacturing Systems (ICAM – 2011)..

Professor Satish Kumar:

- Session Chair, Special Session (FS-14) on Parallel Computational Intelligence Models, IEEE World Congress on Computational Intelligence, Hong Kong, June 1-6, 2008.

Prof. Sukhdev Roy :

- Conference Programme Committee Chair, International Conference on Nano Science and Technology, Emei Mountain, China, Dec. 18-19, 2010.

- Chaired the session on Nano-Photonics, at the International Conference on Nanotechnology, Optoelectronics and Photonics Technologies (NOPT-2010), Singapore, Feb. 26-28, 2010.

Dr. Shalini Nigam,

- Chaired a Research Presentation session at International Conference for Academic Disciplines organised by International Journal of Arts and Sciences at Harvard University, Cambridge, Massachusetts, USA held from May 27-31, 2012.

Prof. S. Swami,

- Invited Expert Panelist, 2nd Annual Indian Education Congress & Awards 2012 on 28th & 29th April, 2012 at Hotel Claridges, Surajkund, Delhi, organised by Franchise India, in association with S. Chand & Company.

Dr. Sanjay Bhushan,

- Expert Reviewer for 2011 EADSSMI Chair and SCMC Joint Conference-2011

D. Membership of Steering Committees of International Conferences

Professor Rahul Caprihan

- International Program Committee Member for the *International Conference on Systems Engineering and Engineering Management (ICSEEM 2010)*, *World Congress on Engineering*, San Francisco, USA, 20-22 October, 2010.
- International Program Committee Member for the *International Conference on Systems Engineering and Engineering Management (ICSEEM 2009)*, *World Congress on Engineering*, San Francisco, USA, 20-22 October, 2009.
- International Program Committee Member for the *International Conference on Systems Engineering and Engineering Management (ICSEEM 2008)*, *World Congress on Engineering*, San Francisco, USA, 22-24 October, 2008.
- International Program Committee Member for the *International Conference on Systems Engineering and Engineering Management (ICSEEM 2007)*, *World Congress on Engineering*, San Francisco, USA, 24-26 October, 2007.
- International Program Committee Member for the *2nd International Conference on Mass Customization*, Grand Rapids, Michigan organized by Grand Valley State University, Eastern Michigan University, and University of Michigan, September 27-28, 2006.

Professor Satish Kumar

- Intl. Program Committee, Intl Conf. on Soft Computing and Pattern Recognition, since 2009.
- Intl. Program Committee, World Congress on Nature and Biologically Inspired Computing (NABIC), since 2009.
- Intl. Program Committee, IEEE Intl. Conf. on Fuzzy Systems, 2008.

Prof. Sukhdev Roy

- Intl. Organizing Committee, 3th Intl. Workshop on Optical Supercomputing, Bertinoro, Italy, July 19-21, 2012.

- Intl. Conf. on Computational Intelligence and Commun. Networks, Gwalior, Oct. 7-9, 2011,
- IEEE Intl. Conf. on Communication Systems and Network Technologies, Shri Mata Vaishno Devi Univ., Katra, Jammu, June 3-5, 2011.
- World Congress on Information and Commun. Technologies, Mumbai, Dec. 11-14, 2011.
- 10th Intl. Conf. on Fiber Optics and Photonics, I.I.T. Guwahati, Dec. 11-15, 2010.
- 3rd Intl. Workshop on Optical Supercomputing, Bertinoro, Italy, Nov.17-19, 2010.
- 9th Intl. Conf. on Fiber Optics and Photonics, I.I.T. Delhi, Dec. 14-17, 2008.

Dr. Sandeep Paul :

- Intl. Program Committee, Intl Conf. on Soft Computing and Pattern Recognition, since 2009.
- Intl. Program Committee, World Congress on Nature and Biologically Inspired Computing (NABIC) since 2009.
- Intl. Program Committee, IEEE Intl. Conf. on Fuzzy Systems, 2008.

3.4.4 Provide details of

- * **research awards received by the faculty and students**
- * **national and international recognition received by the faculty from reputed professional bodies and agencies**

Details of research awards received by the faculty and students

The Faculty has won a number of research awards, prizes, fellowships and recognitions that include Memberships of Editorial Boards, Review Boards of journals, Chairmanships/Co-Chairmanships of International and National Conferences etc. Please see Departmental profiles for details. Some of the awards received by the faculty are as follows:

1. Prof. Ranjit Singh, Ramanna Fellowship by the Department of Science and Technology, New Delhi, 2006-2009.
2. Prof. Sukhdev Roy, Associateship of the Abdus Salam International Center for Theoretical Physics, Trieste, Italy, 2011-2016.
3. Prof. Sukhdev Roy, 1st IETE Biman Behari Sen Memorial Award, for outstanding contributions in Nano-Photonics, with Citation and Cash Prize, 2007.
4. Prof. Sukhdev Roy, IETE-CEOT Biennial Award for outstanding research contributions in Nano-Bio-Photonics, with Citation and Cash Prize, 2012.
5. Prof. Sukhdev Roy, Hari Om Ashram Prerit H.C. Shah Research Endowment Prize in Physics, by Sardar Patel University, Gujarat, for outstanding Research Publications during 2001-2005, with a Gold Medal and a Cash Prize, 2006.
6. Dr. C. Vasantha Lakshmi, Young System Scientist Award for Best Presentation, National Systems Conference (NSC 2009), DEI, Agra, November, 2009.
7. Dr. Sandeep Paul, Young Scientist Award for Systems Theory, Systems Society of India, 2010.
8. Dr. K. Maharaj Kumari, Distinguished Scientist of the Year 2010 award by NESI in XXIII Annual Conference of National Environmental Science

- Academy (NESA) during Dec. 27-29, 2010 in the Convention Centre of Jamia Hamdard (University).
9. Dr. Anita Lakhani, Environmentalist of the Year 2010 award by NESA in XXIII Annual Conference of National Environmental Science Academy (NESA), Jamia Hamdard University, New Delhi, Dec. 27-29, 2010.
 10. Mr. Vijay Kumar Dhan Prajapati, "Abhivyanja" by University of Allahabad, Allahabad, 2006.
 11. Mr. Vijay Kumar Dhan Prajapati, National Scholarship in the Field of Painting by Ministry of Culture, Govt. of India, 2008-2010.
 12. Professor Aditya Prachandia, 'Sahitya Shiromani Award', Akhil Bhartiya Sahitya Kala Manch, Moradabad (U.P.) in 2007.
 13. Professor Aditya Prachandia, 'Vishva Vidhyalya Satriya Samman' given by Chairman Uttar Pradesh Hindi Sansthan Dr. Shambhu Nath, Lucknow (U.P.) in 2008.
 14. Professor Aditya Prachandia, 'Vidya Sagar' given by Vikramshila Vidyapeeth Bhagalpur Bihar, 2009.
 15. Dr. Soami Pyari Kaura, 'Dr. Lakshmi Narayan Lal Smriti Samman: 2008' sponsored by Akhil Bhartiya Rashtravikas Sanghathan & U.S.M Patrika, Ghaziabad, 2008.
 16. Prof. Lovely Sharma, Kala Bhushan Award by Dr. BRA University, Agra
 17. Prof. Lovely Sharma, "Saraswat Samman" from Akhil Bhartiya Ageet Parishad, Lucknow for Valuable contribution in the field of Sahitya, Sanskriti, Kala aur Shiksha, 2008
 18. Dr. Sudha Sahgal, Vocational Art Award by International Rotary Club (Delhi & Agra Chapter) In 2008.
 19. Dr. Sudha Sahgal, ACME Contributor by C.V. Raman Centre for Physics and Music, CDAC Kolkata & ITCSRA –Kolkata, 2009.
 20. Dr. Sudha Sahgal, Scholar Lec - Dem Awardee by Music Academy, Chennai, 2009.
 21. Dr. Neelu Sharma, Sangeet Sadhak, Gandhi Smarak Seva Samiti, Delhi, 2011.
 22. Dr. Neelu Sharma, Tal Shiromani, Akhil Bhartiya Sanskar Bhartiya, 2011.
 23. Dr. Nishith Gaur, "Loka Ratna Rashtriya Puraskar" awarded by Yuva Shakti Prakashan, Vardha, 2010.
 24. Prof D. K. Chaturvedi, Dr. P.S. Nigam U.P. State Power Sector Award – 2007.
 25. Prof. K. Hans Raj and Prof D. K. Chaturvedi, "Academic Excellence Award", by Aerial Delivery Research and Development (ADRDE), DRDO, Agra, 2010.

Best Paper/Presentation Awards

1. Dr. Parul Bhatnagar, "Reaching Rural India", at the National Seminar on Rural India-A Strategic Pathway to Competitive Advantage, N.C. College of Engineering, Israna, Haryana, 24th March, 2007.
2. Dr. Seema Kashyap, at International Conference on Environmental Parasitology and Community Health care Initiatives (ENPARACOH), held at Zoology Dept., DEI, Agra, 13th-15th October, 2007.
3. Dr. Sangita Saini at EPIGENESIS Empowerment for excellence in Home Science, Lady Irwin College, 4th-6th Oct, 2007.

4. Dr. Sangita Saini and Vandana Singh at the National Conference on “Sustainable Development- A collective vision”, October 31-November 1, 2011, Institute of Home Economics, University of Delhi.
5. Prof. Lovely Sharma, Best Article Award By Sangeet Patrika, Hathras, 2010.
6. Km. Anita, Best Paper Award (Dr. Vijayashri Smirti Yuva Puraskar) on the topic - "Advait Vedant tatha Vishishtadvait Vedant mein Mukti : ek Tulnatmak Adhyayan", by Akhil Bharatiya Darshan Parishad, Varanasi, 2008 .
7. Professor Pramod Kumar, `Convergence of AS: Indian Panorama`, at XXXII All India Accounting Conference, University of Kerala, Nov. 13.-14.2010.
8. Professor Pramod Kumar, `An Empirical study of volatility of Stock Market`, at 10th International Conference on Accounting and Management Issues, Chamber of Industry, Rajasthan & RDA Jaipur, Jan. 8-9, 2011.
9. Professor Pramod Kumar, Prof. B.S. Mathur Memorial Award for paper entitled, Investment Patterns of Mutual Funds Investors- An Empirical Research, in a National Seminar on Contemporary Issues in Accounting Commerce and Business Management, Indian Accounting Association, Gwalior, October, 27-28, 2007
10. Dr. Meenu Singh, ‘Phytochemicals: A Green Cure’ presented in International Conference ‘Chemistry of Phytopotentials; Health, Energy & Environmental Perspectives’, Dept. of Chemistry, DEI, Nov. 4-6, 2011.
11. Dr. Neha Shivhare, “Multisensory Integration Based Learning: A System Perspective”, 3rd Students National System Conf. Paritantra, DEI, Agra, March 8, 2010.
12. Prof. C. Patvardhan and D. Bhagwan Das, in the session on Power Systems for the paper “Novel Quantum Evolutionary Algorithm based Approach for Solution of Multi-Objective Load Dispatch Problem”, National Systems Conference 2007, Manipal, December, 2007.
13. Prof. C. Patvardhan and K. Srinivas, in the session on Soft Computing for the paper “A new hybrid Evolutionary Algorithm for optimization of real parameter functions”, National Systems Conference 2007, Manipal, December, 2007.
14. Prof. C. Patvardhan, in the session on Instrumentation for the paper “Design of web-based Mechatronics Laboratory”, National Systems Conference 2007, Manipal, December, 2007.
15. Prof. C. Patvardhan and Dr. C.V. Lakshmi, “Optical Recognition of Handwritten Devnagari Numerals”, National Systems Conference 2007, Manipal, December, 2007.
16. Prof. C. Patvardhan and Dr. C. V. Lakshmi, “A fast and robust scheme for Optical Character Recognition of Handwritten Devanagari Numerals”, National Systems Conference 2008, Roorkee, December, 2008.
17. Prof. C. Patvardhan, “Novel fast heuristics for the Bounded Diameter Minimum Spanning Tree Problem”, National Systems Conference 2008, Roorkee, December, 2008.
18. Prof. C. Patvardhan, in the Session on Computing Systems, “DEIMMDAS: A Multi-lingual, Multimedia Document Analysis System”, Joint International Conference on Applied Systems Research and XXXIII National Systems Conference, DEI, Agra, November 2009.
19. Prof. C. Patvardhan, Best OR Appln. in Engineering Award, sponsored by the Anna University, Tiruchhirapalli, International Conference on Operations Research Applications in Engineering and Management (ICOREM), Tiruchhirapalli, India, May 2009.

20. Prof. C. Patvardhan, Best Paper Award, XXXIV National Systems Conference, NIT, Suratkal, December, 2010.
21. Prof. C. Patvardhan, Excellence Award, International Conference on Practice and Research in Management, PRIM, February, 2011, DEI, Dayalbagh, Agra.
22. Prof. D.K. Chaturvedi, The Institution of Engineers (India) R & D award, "Adaptive Polar Fuzzy Power System Stabilizer for Multi-machine Environment", 87th Annual General Meeting, U.P. State Centre, Lucknow, Oct. 28th, 2007.
23. Prof. D.K. Chaturvedi, Massuadi Lal Memorial Award, "GA-Fuzzy Technique and its application", at the 87th Annual General Meeting of The Institution of Engineers (India), U.P. State Centre, Lucknow, Oct 28, 2007.
24. Prof. Ranjit Singh, in Session on Soft Computing Technique—in 31st National Systems Conference, MIT, Manipal, December 14–15, 2007, Paper No.–75.
25. Prof. K. Hans Raj for the paper "Quantum Seeded Neuro-Fuzzy Hybrid Evolutionary Computational Technique for Optimization of Hot Extrusion Process", XXXII National Systems Conference (NSC-08), Dec. 17-19, 2008, IIT Roorkee.
26. Prof. D.S. Mishra, "Policy Design for Better Worldliness of a Tribal Area in the Ideal Sustainable Settings of Rajaborari/ Timarni as an Eco - Forest - Village Complex: A system approach", at the Joint International Conference on Applied Systems Research and NSC, DEI, 2009.
27. Prof. K. Hans Raj, Dr. Rahul Swarup Sharma and Sh. Atul Dayal in Mechanical Engineering Session at 34th National Systems Conference, NIT Suratkal, 10-12, December 2010 for the research paper entitled "Finite Element Analysis of High Pressure Torsion (HPT) of a circular disc made of commercially pure aluminum (Al99)".
28. Dr. Anita Lakhani, "Elevated elemental carbon emissions during Diwali festival" in International conference on Chemistry of Phytopotentials: Health, Energy and Environmental Perspectives-2011, DEI, Agra.
29. Dr. Anita Lakhani, "Mass-Size Distribution and Chemical Composition of Ultrafine, Fine and Coarse Atmospheric Particulate Matter At a Sub-urban Site" in International Conference on Nanoscience and Technology in Chemistry, Health, Environment and Energy-2010, DEI, Agra.
30. Dr. K. Maharaj Kumari, "Measurement of Number and Mass size distribution of Atmospheric Aerosols during a dust event at Sub Urban site", at International Conference on Concurrent Techno and Enviro Search-2010 organized by National Institute of Technical Teachers Training and Research, Bhopal.
31. Dr. K. Maharaj Kumari, "Systems of Consciousness for Better World Order" in Joint International Conference on Applied Systems Research and XXXIII National Systems Conference-2009, DEI, Agra.
32. Prof. Surat Kumar, Designing DNA Binding Antitumor Antibiotics with Structure Determination: A Systems Approach, in *National Systems Conference-2008*, Indian Institute of Technology, Roorkee, (2008).
33. Dr. Anita Lakhani, "Ambient Air Pollution at Agra by Polynuclear Aromatic Hydrocarbons" in All India Brainstorming workshop on Urban Air Pollution in India - 2007, organized by IIT, Roorkee.
34. Professor D. Pandey, Young Systems Scientist Award for best paper presentation in the session on Mathematical and Physical Systems at Joint International Conference on Applied Systems Research and XXXII National Systems Conference, DEI, Agra and Systems Society of India from November 27-29, 2009.

35. Professor S. P. Singh, Young Systems Scientist Award for best paper presentation in the session on Mathematical and Physical Systems at Joint International Conference on Applied Systems Research and XXXII National Systems Conference, DEI, Agra, and Systems Society of India from November 27-29, 2009.
36. Prof. Vibha Rani Satsangi, International Conference on Nanotechnology in Chemistry, Health & Environment, NATCHEE 2010, DEI, Agra, Jan. 7-9, 2010.
37. Prof. Sukhdev Roy, in the session on Computer and Communication Systems, at the 32nd National Systems Conference, IIT Roorkee, Dec. 17-19, 2008.
38. Mr. Prem Sewak Sudhish, 34th National Systems Conference, NIT Suratkal, Dec., 2010.
39. Dr. Lotika Singh, First Indian Students Systems Conference, D.E.I., Agra, March 30, 2008.
40. Dr. Sandeep Paul, Best Overall Theory Paper Award, 31st National Systems Conference, MIT, Manipal, India, Dec., 2007.
41. Dr. Alka Prakash, Isolation of pathogenic *Listeriamonocytogenes* from milk products. Intl. Conf. on Env. Parasitology and community health care initiative, ENPARACOH, 2007
42. Prof. Sanjeev Swami (2006), *AMS-ACRA Conference, Florida, USA*, November 1-4, 2006.
43. Prof. Sanjeev Swami, (2009), *International Journal of Research in Marketing*, 26, pp. 75-88. (European Marketing Academy-IJRM Joint Award).
44. Prof. Sanjeev Swami, Mr. Anoop Srivastava, and Prof. D.K. Banwet, IIT Delhi, at Joint International Conference on Applied Systems Research and XXXIII National Systems Conference, 2009, DEI Agra.
45. Prof. Sanjeev Swami, *Journal of Advances in Management Research*, 6 (I), pp. 8-26. (Emerald Highly Commended Paper Award).
46. Dr. Shalini Nigam, at Intl. Conf. on Practice and Research in Management, PRIM 2011, DEI, Agra.
47. Dr. K. Santi Swarup, at Intl. Conf. on Practice and Research in Management, PRIM 2011, DEI, Agra.
48. Mr. Rohit Rajwanshi, at Intl. Conf. on Practice and Research in Management, PRIM 2011, DEI, Agra.
49. Prof. (Ms.) S.P. Sinha and Ms. Sandhya Gupta, Prof. Anima Sen Award for best published paper, Indian Academy of Applied Psychology, 2006.
50. Miss Shalini Sisodiya and Prof. Ira Das, Intl. Conf. on Economics and Business: Analysis and Applications (EBAA), 2011.

Details of national and international recognition received by the faculty from reputed professional bodies and agencies

Fellowships of International and National Societies

- Prof. K. Hansraj elected Fellow and Prof. D.S. Mishra, Prof. Ranjit Singh, Prof. C. Patvardhan and Dr. Rahul S. Sharma elected Associate Fellows, International Society for Productivity Enhancement (ISPE), 2012.
- Prof. Satish Kumar, Prof. D.K. Chaturvedi, Mr. P.S. Sudhish and Dr. Sandeep Paul elected as Senior members of IEEE (USA).
- Prof. V.R. Satsangi and Prof. Sukhdev Roy elected as Life Fellows, Optical Society of India

Membership of Expert Committees

Prof. Sukhdev Roy

- Member, DST Programme Advisory Committee on Biomolecular Electronics and Conducting Polymers, 2010.

Dr. C. Vasantha Lakshmi

- Selection of Computer Science PGTs in Kendriya Vidyalaya, Agra on April 4, 2007.
- Expert Member, PRSG, MCIT project on Trademarks, Anna Univ., Coimbatore, Jan., 2009.
- International Workshop by M/s Rediff on the development of a roadmap for OCR Technologies for Indian Languages, Mysore on 16-17, March, 2007.
- Selection of Computer Science PGTs in Kendriya Vidyalaya, Agra on April 4, 2007.

Mr. P.S. Sudhish, appointed as Expert for Biometric Authentication by the Unique Identification Authority of India, Planning Commission, Government of India.

Details of the recognition received by the students**Post Doctoral Fellowship**

- Dr. Aadesh Pratap Singh, University of Cologne, Germany, 2009.
- Dr. Chandra Pal Singh, University of Florida, Gainesville, USA, 2009.
- Dr. M. Khoobchandani, University of Missouri, USA, 2012
- Dr. Saroj Kumari, Dr. D.S. Kothari Post Doctoral Fellowship, UGC, 2008

Student Awards

- DST Award for Participation in Meeting of Nobel Laureates with Students in Physics, Lindau, Germany,
 - Mohit Prasad, 2012
 - Chanakya Tripathi, 2008
 - Yatendra Choudhary, 2006
- Mohit Prasad, IEEE Best Paper Award at the 9th International Conference on Photonics and Fiber Optics, IIT Delhi, Dec. 2008.
- Parag Sharma, Best Ph.D. Thesis Award, 8th Intl. Conf. Photonics, Hyderabad Univ., 2006
- Sumat Nanda, DST-Kishore Vaigyanik Protsahan Yojana Award, 2009.
- Parul Sharma, Young Scientist Award-2006, by Indian Council of Chemists and IANCAS Best Paper Award by DAE-BRNS.
- Mansi Kulshrestha and Vrishti Kaura, students of B.Sc. (Hons.) won the Consolation Prize in the National Project Competition for their project on "*Reduction in excessive fluoride content in potable water with the help of bio-membranes*", held during NSJ-31. Their proposal was also been selected in the 50 finalists in India Development Marketplace-2007 by World Bank.
- Dr. Shobhita Tonk and Dr. Preeti Paliwal, Dept. of Chemistry and Neetu Vyas and Gavendra Singh, Dept. of Zoology: Junior Scientist of the Year Award by NESI, New Delhi, 2007.
- Ms. Sonal Varshney, Print Graphics Vinaley Merit Award for her Print Graphics "Shakti", at Taiwan, 8-13 July, 2012.

Fellowships

- Aadesh Pratap Singh, Rajiv Gandhi JRF and SRF Fellowships, 2006.
- Aadesh Pratap Singh, INSPIRE Faculty Fellowship, 2012.
- Singdha Rai, DST-INSPIRE Fellowship, 2012
- V. Sumati, DST-INSPIRE Fellowship, 2011.

Best Paper Presentation Awards

- Purnima Sethi and Ankita Mathur, Paritantra, 2012.
- Bhakti Kumar, Paritantra, 2011.
- Best Models, TECHKRITI, IIT Kanpur, 2005, 2006
- Lotika Singh, SSI Young System Scientist, 2008
- V. Sumati, IITR, NSC-2008

3.4.5 Indicate the average number of successful M.Phil. and Ph.D. scholars guided per faculty during the last four years. Does the university participate in *Shodhganga* depositing the Ph.D. theses with INFLIBNET for electronic dissemination through open access?

(a) The number of students passing and the number of faculty guides and the number of students getting degrees per faculty member is given below:

Degree	2008	2009	2010	2011	No. of Guides	No. per Faculty per yr.
M.Phil	-	39	130	107	90	1.0
M.Tech	14	18	15	26*	24	1.0
Ph.D.	17	28	37	35	90	0.35

* *Including M.Tech (C.S.)*

(b) The Institute has entered into an MoU with INFLIBNET for uploading all Ph.D. dissertations on 'Shodhganga'.

3.4.6 What is the official policy of the university to check malpractices and plagiarism in research? Mention the number of plagiarism cases reported and action taken.

Serious action is taken whenever cases of plagiarism are reported. In one case reported by a faculty member, his student did not include his name in a publication. The case was investigated and it was found that the student worked for M.Phil. under this teacher and is now registered for Ph.D. under another faculty member of the same department. The work was not related to his M.Phil. work and was carried out during Ph.D. The case was discussed in the presence of the complainant who personally verified and accepted that the work was different and the matter resolved.

3.4.7 Does the university promote interdisciplinary research? If yes, how many interdepartmental / interdisciplinary research projects have been undertaken and mention the number of departments involved in such endeavors?

Institute has a policy to promote inter-disciplinary research. The Research and Technology Park has been established to provide a platform to promote inter faculty

cooperation to tackle some common themes. Some of these areas are:

1. Quantum and Nano Computing : Electrical and Mechanical Engineering, Physics and Computer Science, Mathematics Department- MHRD Project.
2. Bio-inspired Systems: Physics and Computer Science, Zoology, Chemistry, Electrical Engineering- UID Project of Government of India.
3. Consciousness Studies : Sanskrit, Psychology, Chemistry, Zoology, Electrical & Mechanical Engineering, Physics and Computer Science, Management, Education, English.- Links with Arizona State University
4. Virtual Laboratories : Mechanical and Electrical Engineering, Chemistry, Physics and Computer Science, USIC.- MHRD Projects
5. Solar Hydrogen Generation : Chemistry, Physics and Computer Science- DST-NSF/UGC/DST Projects.
6. Mobile Communications: Physics & Comp. Sc., Elect. Engg., USIC – MHRD Project

Some of the Interdepartmental research projects undertaken are the following:

Departments of Mechanical Engg.-Mathematics

1. Dr. S.K. Srivastava (PI), Dr. Kamal Srivastava (Co-PI), Scheduling of Real-Life Projects with Meta – Heuristics, AICTE, 2005-2007, 6.00 lakhs.
2. Dr. S. K. Srivastava, Dr. Kamal Srivastava, Design & development of metaheuristics for the graph layout problems, UGC, 2009-2011, 5.56 lakhs.
3. Dr. S. K. Srivastava, Dr. Kamal Srivastava, Developing a biomedical engineering system to reduce occupational health hazards of brick-kiln workers, UGC, 2009-2011, 8.17 lakhs.

Departments of Chemistry-Physics and Computer Science

4. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), Professor V.R. Satsangi, Transition metal oxide based nano architectures for photoelectrochemical hydrogen generation, DST-NSF, (2008-2011), 16.7 lakhs.
5. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI) and V.R. Satsangi (Co-PI), A study on preparation and characterization of nano structured Copper oxide for their possible application in PEC splitting of water, UGC, (2006-2009), 5.34lakhs.
6. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI) and V.R. Satsangi (Co-PI), A Study on Nano-structured Metal Oxides Preparation, characterization & The Effect Of Swift Heavy Ion Irradiation For Possible Application In Photoelectrochemical Splitting of Water, DST Nano Science Initiative, (2007-2011), 66.0 lakhs.
7. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), A study on the multilayered Nano-structured metal Oxides for efficient Photo splitting of Water, DST, (2007), 14.67lakhs.
8. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), Experimental & DFT studies on metal oxides nanostructures in photoelectrochemical splitting of water, UGC, (2011-2014), 8.11 lakhs.
9. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), Generation, storage and distribution of solar hydrogen, DST, (2012-2014), 90.45.
10. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), Experimental & First-principles Theoretical Studies on Metal Oxides

- Nanostructures in Photoelectro-chemical Splitting of Water, DST,(2012-2015), 53.0 lakhs.
11. Prof. Sahab Dass (Co-PI), Prof. Rohit Srivastava (Co-PI), and V.R. Satsangi (Co-PI), A study on nanostructured Fe₂O₃ thin films prepared by electro-deposition for solar generation of hydrogen, UGC, (2010-2013), 8.15 lakhs.
 12. Prof. Sahab Dass (PI), Prof. Rohit Srivastava (Co-PI),and V.R. Satsangi (Co-PI), CNT based metal oxide nano-structures for photoelectron-chemical generation of hydrogen, DST, (2011-2014), 38.90 lakhs.
 13. Prof. Rohit Srivastava (PI), Prof. Sahab Dass (Co-PI), and V.R. Satsangi (Co-PI), An investigation on the role of some dye sensitizers in doped metal oxide based photo electrochemical cells, UGC, (2005-2008), 8.72 lakhs.
 14. Prof. Rohit Srivastava (PI), Prof. Sahab Dass (Co-PI), and V.R. Satsangi (Co-PI), Solar studies on solar light induced splitting of water for hydrogen production using mixed oxide semiconductors, BRNS – DAE, (2008 –2011), 24.23 lakhs.
 15. Prof. Rohit Srivastava (PI), Prof. Sahab Dass (Co-PI), and V.R. Satsangi (Co-PI), A study on preparation and characterization of nano-structured Zinc oxide for its possible application in splitting of water, UGC, (2010-2013), 05.87.
 16. Prof. Rohit Srivastava (PI), Prof. Sahab Dass (Co-PI), and V.R. Satsangi (Co-PI), A Study on preparation and characterization of nano-structured zinc oxide for its possible application in PEC splitting of water, UGC, (2010-2013), 5.54 lakhs.

Departments of Mechanical Engg.-Botany

17. Dr. D. G. Rao (PI), Mr. Ram Chand Gupta (Co-PI) and Prof. D. Prem Kumar (Collaborator), Identification of high oil yielding Jatropha plants and *in vitro* scaling up of selected lines for increased bio-diesel production, 2010-2012, 7.5 lakhs.

Department of Botany and Technical College

18. Dr. Ranjit Kumar, and Dr. G.P. Satsangi. Biochemical study of Aerosols, 2012-2015, DST, 18.00 lakhs.

Departments of Physics and Computer Science-Electrical Engineering

19. Prof. Sukhdev Roy and Prof. A.K. Saxena, Nature-inspired optical computing with nano-bio-photonic plant photoreceptors, AICTE, 2007-2009, Rs. 10.00 lakhs.
20. Dr. C.Vasantha Lakshmi and Prof. C. Patvardhan, Development of an e-verification system for confusingly similar trademarks, MIT, 2007-2010, Rs. 18.19 lakhs.
21. Prof. C. Patvardhan and Dr. C. Vasantha Lakshmi (Co-PI), Quantum evolutionary algorithms for engineering optimization, AICTE, 2007-09, Rs. 6.70 lakhs.
22. Dr. C. Vasantha Lakshmi and Prof. C. Patvardhan, Development of a web based tool for e-verification of confusingly similar Indian trademarks, MIT, 2010-2012, Rs. 29.08 lakhs.

Departments of Physics and Computer Science, Chemistry and Botany

23. Prof. Sukhdev Roy (PI), Prof. M.M. Srivastava and Prof. S.S. Bhojwani, Design of optical logic gates with bacteriorhodopsin, DST, 2009-2011, Rs. 27.00 lakhs.

3.4.8 Has the university instituted any research awards? If yes, list the awards.

The Institute alongwith AADEIs has instituted research award (UGRA) for under graduate students to take up research projects in interdisciplinary areas. About 5 to 8 students are selected every year.

3.4.9 What are the incentives given to the faculty for receiving state, national and international recognition for research contributions?

DEI has adopted the UGC 2010 regulations for promotion of faculty under Career Advancement Scheme of UGC. The scheme is based on personal appraisal system where clear guidelines are given for research publications, presenting papers and chairing sessions in national and international conferences and for successful completion of major research projects etc. The scheme has provision for those who receive national and international recognition, get patents and write books. This incentive is quite powerful to encourage the teachers to strive hard for these awards.

3.5 Consultancy**3.5.1 What is the official policy of the university for structured consultancy? List a few important consultancies undertaken by the university during the last four years.**

D.E.I. has been encouraging industrial and technical consultancy by its faculty members since its inception. A set of rules have been passed by the Governing Body for acceptance of a consultancy project and for utilization of the funds generated giving a share to the faculty. The staff is instructed to accept only those projects which add to the academic growth and not for financial benefits as these projects consume time and energy of the faculty during duty hours.

Some of the interesting projects successfully completed recently are as follows:

1. Algorithm Optimization	Cadence	\$ 25,000
2. Solar Tracking System for PV modules	BHEL	Rs. 20 lacs
3. Development of Akash Deep	ADRDE	Rs. 20 lacs
4. ERP Software for Universities	MHRD	Rs. 100 lacs
5. E-content generation for vocational courses in Regional Languages	MHRD	Rs. 100 lacs
6. Software development for Trade mark Identification	CDAC	Rs. 70 lacs
7. Optical information processing with Bacteriorhodopsin	ADRDE	Rs. 9.90 lacs

In addition the Industry Institute Partnership Cell (IIPC) organizes training programs for the benefit of industries.

The Business Advisory Clinic gives free consultancy to Business firms and Industries facing difficulties. The faculty members along with students of Management, Engineering and Commerce take up real life case studies and offer solutions. More than 3,000 cases have been taken up and resolved satisfactorily.

3.5.2 Does the university have a university-industry cell? If yes, what is its scope and range of activities?

The Institute has an active Industry-Institute Partnership Cell (IIPC) which oversees interaction with industries and corporate establishments. The activities of this Cell are:

1. A large number of job-oriented courses are offered in cooperation with AADEIs for students and unemployed graduates.
2. Management Development Programs are organized for corporate houses.
3. A Liaison between the Institute and industry is established for consultancy.
4. Summer training of students is arranged.

3.5.3 What is the mode of publicizing the expertise of the university for consultancy services? Which are the departments from whom consultancy has been sought?

The Institute does not advertize its consultancy services except displaying on Notice Boards and on the Institute Web. The Open day is another occasion when people get to know of the facilities available. The news channels highlight the capabilities on the occasion of some activity like Seminars and workshops.

The IIPC and DEI-APAC (Alumni Placement Cell) are active in establishing contacts for consultancy projects. The following Departments have been offering consultancy in their respective fields.

1. Electrical Engineering
2. Mechanical Engineering
3. Physics and Computer Science
4. Mathematics
5. Management
6. Applied Business Economics
7. Accountancy and Law
8. Life Long Learning and Extension
9. Psychology

The policy of the Institute is to curb the tendency of some industries to hire the services of faculty for routine work. Faculty takes up only academically challenging projects. At present consultancy projects worth Rs.83 lacs are running.

3.5.4 How does the university utilize the expertise of its faculty with regard to consultancy services?

The Industry-Institute Partnership Cell IIPC of the Institute maintains close liaison with industrial sector and takes care of its needs with the expertise available in the Institute. The Business Advisory Clinic also provides free consultancy to ailing businesses. DEI-APAC also facilitates industrial contacts that result in consultancy services.

3.5.5 List the broad areas of consultancy services provided by the university and the revenue generated during the last four years.

An important area of consultancy offered by DEI faculty is through Business

Advisory Clinic. The faculty members of Management, Commerce and Engineering with students of respective faculties offer consultancy and guidance under the aegis of Business Advisory Clinic. 3000 cases of small scale industries and businesses have been successfully handled by this Clinic. No revenue has been generated as this is a free service. This activity provides real life exposure of practical problems to students.

The Department of Psychology provides counseling on a variety of psycho-social issues through a Counseling Cell.

The Education Faculty provides free consultancy to schools in Agra and has been instrumental in developing quality teaching-learning skills and curriculum.

The Textile section has also actively provided consultancy services to a number of companies and organizations.

The major revenue generating consultancy projects undertaken in the last four years are given in the table below:

Beneficiaries of Services	Area	Revenue generated (Rs. lakhs)
ADRDE, DRDO	Aerostat Design, Nano Materials etc.	29.86
ADRDE, DRDO	Arrester Barrier System Design	9.90
ADRDE, DRDO	Optical Information Processing	9.90
BHEL	Solar Power	5.00
Electrical Industry	Testing of Electrical Equipment	16.50
CADENCE	Computer Algorithm Minimization	12.50
Total		83.66

3.6 Institutional Social Responsibility (ISR) and Extension Activities

3.6.1 How does the university sensitize its faculty and students on its Institutional Social Responsibilities? List the social outreach programmes which have created an impact on students' campus experience during the last four years.

The Institute is well known for its healthy culture of social sensibilities and responsibilities. The new faculty and students imbibe this spirit as soon as they join. The compulsory core courses on Social Service, Rural Development and Agricultural Operations have a tremendous impact. Faculty and students actively participate in social service that involves agricultural work, non-formal education, cleanliness drives, free medical camps, NSS and other such activities.

The LLLE department conducts a wide range of courses for rural women, children and unemployed youth of the neighborhood. Institute organizes free **Medical camps** every fortnight throughout the year for the benefit of rural poor. The Saran Ashram Hospital gives the followup treatment (free of cost) to the patients visiting these camps. The '**Hole in the Wall**' program also runs simultaneously attracting school children and giving them a hands-on experience to play with computers.

The Institute has adopted several villages around the campus in Agra, and some villages in rural, backward and tribal regions outside Agra. DEI organizes NSS camps and conducts detailed surveys and maps out a road plan for all-round development of these regions. Two to three week camps were organized at Rajaborari (a tribal region in M.P.) in 2009 and 2012. A well- structured and action-based social outreach program has been initiated there. A survey was also conducted at MTV Puram (a rural backward region of Tamil Nadu near Tirunelveli) in 2010 and activity is in full swing there. In 2011, a series of workshops were organized at Agra, Mumbai, Pune, Secunderabad, Bangalore, Chennai and at MTV Puram on the theme, ‘Social Responsibilities of Learned Societies and Institutions’, with rich dividends in the discharge of institutional social responsibilities.

3.6.2 How does the university promote university-neighborhood network and student engagement, contributing to the holistic development of students and sustained community development?

The Institute actively promotes university-neighborhood network and student engagement that contributes towards holistic and sustained development of the community through the following :

1. **NSS Activities:** It conducts an extensive survey and carefully analyses the problems of neighboring villages, so that effective action-based steps were taken by the Institute for social upliftment of the region as follows:
 - Several capsule vocational training programs have been conducted in the neighboring villages by the Department of Life Long Learning and Extension and nearly 30 courses of one week to one month duration were run on themes like, (a) Making Soft Toys (b) Stitching Leather items like purses, bags (c) Making Footballs and (d) Making eatables like papad, pickles, fruit preservation etc. The department also runs a primary school especially for backward village children.
 - Medical camps are organized every fortnight in the villages around Dayalbagh with a team of 10 to 12 doctors from Ayurveda, Homoeopathy and allopathic branches of medicine besides acupressure therapy. Free treatment and free medical tests are conducted by specialists with financial support from Medical Relief Society of Dayalbagh. Free medical camps are also organized sometimes outside Agra.
 - **Hole in the Wall:** A program called ‘Hole in the Wall’ is conducted in these camps where school children of villages are allowed to use laptops and computers freely under supervision of Institute faculty and students to enable them to learn use of computers through computer games and lessons. This has become very popular with poor children of villages.
2. **Guidance in Rural Work:** The Institute has a rural technology park where items like ‘Smokeless Chulha’ and improved farm-tools developed by students in their projects are displayed for the benefit of villagers.
3. **Bio-fertilizers:** The Botany Department produces on a small scale Vermi fertilizer and offers it to local farmers.
4. **Medicinal Plant Cultivation :** The Botany Dept. also produces and provides SPIRULINA (the natural superfood) and EMI Solution (an anti-stench

liquid) and makes it available at a low cost. It helps in the cultivation of medicinal plants for use in Ayurvedic medicines and pharmaceutical products.

5. **Social Service** : Faculty, staff and students of DEI participate in the following voluntary social services throughout the year:

- **Agricultural Farms** : They participate in all activities on the Dayalbagh Agricultural farms on Sundays and holidays.
- **Cleanliness-Environmental protection Drives** : Students also collect polythene waste in the neighborhood and run awareness programs through street dramas. They also offer voluntary services to the Horticulture Section to maintain the flora and fauna and tree plantation in the neighborhood.
- **Assistance in Academic Activities:**
 - **Science Summer School** for High School Students : In a novel initiative, the Institute organizes a Science summer School for High School students of neighbourhood, exposing them to frontline research in the world, to inspire and encourage them to pursue a career in science.
 - **Dayalbagh Children's Science Centre** : The faculty and staff provide assistance and services in various activities of the Centre throughout the year. All the models were developed by DEI.
 - **Dayalbagh Dayboarding School:** Teachers and research scholars offer voluntary tutorial assistance in all subjects, to children (class VI to XII) from weaker sections of society at the in the morning and evening beyond Institute hours.
 - **Music Centre, Dayalbagh** :The faculty of the Department of Music offers voluntary services to manage and take classes for neighborhood children, in both vocal and instrumental music during Sundays.
 - **Recreation Centre** : The faculty offers voluntary services to manage and take recreation classes that involve indoor games for neighborhood pre school children during Sundays.
- **Dayalbagh Ashram** : Faculty and students actively contribute in various social services beyond Institute hours that involve assistance to large number of pilgrims visiting Dayalbagh from all over the world throughout the year, that includes managing the information centre, registration centre, conveyance and reservations and boarding and lodging. The faculty also provides voluntary consultancy services on various issues related to construction, electricity and water management, dairy and charitable societies of Dayalbagh town area.
- **Hostel Management** : Faculty offer voluntary services as honorary Wardens in Girls and Boys Hostels of DEI that are managed by Charitable Societies of Dayalbagh.
- **Adult and Continuing Education** : The department of Life long learning & Extension of DEI offers a wide range of vocational courses throughout the year to facilitate unemployed men and women from all sections to develop vocational skills to make them capable of earning for their livelihood.

These activities help the deprived lot of the villagers around the Institute and also develops a bond with the local population. It is also conducive to the holistic

development of the students. The program is being extended far and wide so as to help the deprived communities elsewhere.

3.6.3 How does the university promote the participation of the students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International programmes?

Membership to NCC is open to students of all faculties and our unit is considered one of the best in the State with the students winning a large number of prizes in the NCC Camps. The large number of activities carried out by NSS, as given in 3.6.2 above have been possible due to the enthusiastic participation of students and faculty members. In activities such as, 'Hole in the Wall', village students have been participating with much enthusiasm. Student volunteers sometimes also use their personal computers and laptops for imparting this training.

3.6.4 Give details of social surveys, research or extension work, if any, undertaken by the university to ensure social justice and empower the underprivileged and the most vulnerable sections of society?

DEI is committed to help the under-privileged sections of society for their upliftment. Some of the steps taken are:

- (a) **Adoption of Villages** in Agra and in other backward, rural and tribal regions in other parts all over India.
- (b) **Intense study of problems of inhabitants of adopted villages** is undertaken for taking strong action-based and sustained steps as described in 3.6.1. The Institute has identified nine areas for integrated development of the tribal belt of Rajaborari in M.P. and concrete steps have been taken there in the last 3 years.
- (c) Strenuous work has been done to achieve the goals expeditiously.

3.6.5 Does the university have a mechanism to track the students' involvement in various social movements / activities which promote citizenship roles?

Yes, the core course on Social Service not only is a mechanism to track the student's involvement in social activities, but also in their assessment. DEI students enthusiastically involve themselves in welfare activities concerning health, standard of living, *futility of dogmas and old customs* etc. through the following campaigns:

- (a) Pulse polio
- (b) Anti-polythene
- (c) Evil effect of drinking, smoking, drug addiction, dowry
- (d) Free medical camps in small villages by motivating registered philanthropic societies and associations
- (e) House-wise regular surveys of socio-economic conditions, standard of living of rural masses are undertaken for lifting them up through scientific, educational, social & ecological enhancement programs in rural, backward and tribal regions under NSS.

The Institute has been hailed for its vision of developing “A Complete Man” who is conscious of his duty, believes in discipline and puts in sustained hard work with social sensibilities and responsibility.

3.6.6 Bearing in mind the objectives and expected outcomes of the extension activities organized by the university, how did they complement students’ academic learning experience? Specify the values inculcated and skills learnt.

The healthy environment, culture and traditions of the Institute that involve a strong social commitment effectively complement students’ academic learning experience as follows.

Business Advisory Clinic: This program gives an opportunity to students of Management and Commerce to tackle real life problems under guidance of faculty *merging* their *academic learning experience* in practical application to solve difficulties posed by complex, fast and competitive environment in, agriculture, industries, cottage industries, trade and commerce.

Hole in the Wall program: DEI students disseminate required computer skills to students from weaker sections free of cost. This enables the city-bred students to come in touch with weaker sections and village children, which develops a close bond between the two groups.

Integrated Development Programs of the Institute provide immense opportunities to DEI students, under careful and affectionate. Students get highly motivated to do their best for the upliftment of the poor. Social sensibilities with values of dignity of labor, tolerance, self sacrifice, selfless service, fatherhood of God and brotherhood of man, economy are engendered in students. They learn skills of effective communication, management and practical working with one’s own hands that are necessary for resolving personal and social problems.

3.6.7 How does the university ensure the involvement of the community in its outreach activities and contribute to community development? Give details of the initiatives of the university, which have encouraged community participation in its activities.

The extensive contribution of the Institute to community development through a wide range of outreach activities described in section 3.6.2 (page 115), have established a strong bond with the community. The community has actively participated and wholeheartedly supported these activities.

3.6.8 Give details of awards received by the institution for extension activities and/contributions to social/community development during the last four years.

The greatest award received by the Institute is in the form of success stories of our graduates who have benefited from its extension activities, especially from weaker sections. The NSS unit of DEI has received National awards as the Best unit, Best NSS Co-ordinator and Best Volunteers. The committee constituted by MHRD to review the status of all deemed universities of our country in the year 2009 placed DEI at 8th rank among 128 deemed universities by awarding 39 out of 45 marks.

3.7 Collaboration

3.7.1 How has the university's collaboration with other agencies impacted the visibility, identity and diversity of activities on campus? To what extent has the university benefitted academically and financially because of collaborations?

The Institute's collaborations have made a tremendous impact in enhancing the visibility, identity and diversity of activities on campus. Renowned educationists, academicians, administrators and scientists have been impressed with not only with the unique educational policy of the Institute, but also its effective translation in terms of the design of its curriculum and its successful implementation. The Institute has carved a niche for itself due to its unique ethos.

Academic Benefits: Joint Courses with IITs, and US Universities. Joint Ph.D. guidance with IIT. Visits bothways by faculty and students with US Universities for research work. Post doctoral opportunities given on preference to DEI graduates.

Financial Benefits: Sanction of several International collaborative projects resulted due to DEI's Links, like, (i) DST-NSF Project between India & USA
(ii) DST-DFG Indo German Collaborative project

It is not possible to acquire and maintain all types of advanced research equipment by any Institute. These MoUs permit DEI to use such educational resources of other Institutes. DEI students have used facilities at ICGEB, JALMA, NPL, IITs and MSU.

3.7.2 Mention specific examples of how these linkages promote

- * Curriculum development
- * Internship
- * On-the-job training
- * Faculty exchange and development
- * Research
- * Publication
- * Consultancy
- * Extension
- * Student placement
- * Any other (please specify)

Examples:

(i) Curriculum Development: Under MoU with IIT Delhi, the faculty of both the Institutes jointly offer courses credited by students of both the Institutes. University of Maryland, College Park, USA, offers at least one course every semester through video conferencing. Courses on *Quantum and Nano-computing* have also been developed in collaboration with University of Waterloo and IIT Kanpur.

(ii) Internship: DEI students and faculty have been working at the advanced laboratories of Harvard University, University of Maryland, Michigan State University, University of Missouri, University of Waterloo and Christian Albrechts University, Kiel, Germany. This has helped students get prestigious post-doctoral fellowships and research assignments.

(iii) **On-the-job training:** Institute has initiated collaborative B.Tech. and MBA programs in which students have to compulsorily spend 5 to 7 months time in leading industrial, financial, trade and commerce establishments and take up a project there to be completed as their Final yr project back at DEI.

(iv) **Faculty exchange & development:** Faculty exchange with IITD, University of Maryland, USA, University of North Carolina, Wilmington, USA and Christian Albrecht Universitat, Kiel, Germany and faculty visits to many other prestigious Universities and Institutes in India and abroad has enhanced the quality of teaching and research. The Institute has been sanctioned DST-NSF Project with University of Maryland and DST-DFG Project with Christian Albrecht Universitat, Kiel, Germany.

(v) **Research:** DEI has signed MoUs with prestigious academic and research institutes and several joint research projects have been initiated.

(vi) **Publications:** Several research publications of high impact factor (above 3) have resulted from brilliant research work carried out in collaboration with these Institutes.

(vii) **Consultancy:** Consultancy Projects from Cadence, BHEL, ADRDE and MHRD have been taken up by DEI.

(viii) **Extension:** The Institute has taken up extensive development work with the co-operation of local population in the rural, backward and tribal regions of Madhya Pradesh and Tamil Nadu and around DEI campus in Agra.

(ix) **Student Placement:** Research scholars visiting Institutes of higher learning in India, USA, Germany and Canada have got lucrative assignments and post-doctoral jobs. Examples:

- a. Dr. Adesh Pratap Singh (Physics)-Post doctoral fellow in Germany
- b. Dr. Menaka Khoobchandani (Chemistry) – Joined Missouri State University, USA
- c. Mr. Apoorva Narain (Engineering) – Joined University of Waterloo for Ph.D.

(x) **Any other:** The students of DEI are recognized for their high moral values, sincerity, hard work and devotion to duty. High campus placement is a **unique achievement** of the Institute.

3.7.3 Has the university signed any MoUs with institutions of national/international importance/other universities/ industries/corporate houses etc.? If yes, how have they enhanced the research and development activities of the university?

The Institute has signed MoUs with several Institutes of higher learning, Research Labs, and Industries in India. A Coordinator is designated for each MoU, who keeps track of collaborative activities and acts as a facilitator. It is the policy of the Institute that MoUs should be followed up with intense activities for the academic benefit of both parties. The benefit accrued should not be one sided. The following table gives the details of the Universities/Organisations, the area of collaboration and the benefits accrued.

S.No	Name of the University/Institute	Area of Research & Collaboration	Nature of Collaboration & benefits accruing to DEI .
International			
1.	University of Maryland, College Park, U.S.A.	1. Nano-structured materials for photo-electro-chemical splitting of water to generate hydrogen with Chemistry Dept & Physics. 2. Computer Science with Physics & Comp.Sc. & Elect.Engg. depts..	1.DST-NSF research grant, joint research & publications exchange visits. 2. One joint Course each semester from Univ. of Maryland in Comp. Sc.
2.	Michigan State University, USA	Biometrics with Phy & Comp.Sc.	Faculty visits and Research collaboration on UIDAI .
3.	University of Missouri, USA	Nano-biotechnology and Green Chemistry with Zoology & Chemistry Departments.	Research Collaboration. Initiation of research on natural products for cancer treatment
4.	University of Waterloo, Canada	Quantum Computing, Silicon Photonics with Mech. Engg., Elect. Engg. & Phy & Comp. Sc. Departments	Publication of books, utilization of experimental facilities, establishment of Centre for Quantum and Nano Computing
National			
5.	TIFR, Mumbai	Astro-particle physics, Nano-photonics with Phy. Comp.Sc. Department	R & D, Utilization of experimental facilities, joint expts. and publications
6.	International Centre for Genetic Engineering, New Delhi	Biotechnology - Chemistry, Zoology And Botany	Research expts., establishing PG Dip. in Environmental Biotechnology .
7.	IIT Delhi	Computer Science, Nano-science and Management – Phy & Comp. Sc., Elect. Engg. And Management	Ph.D. under joint supervision, and joint courses every sem. taught jointly by both and students at both ends.
8.	IIT Kanpur	Quantum and Nano Computing - Mech. Engg. & Phy & Comp. Sc.	Publication of books as joint authors. Organization of joint international Conferences.
9.	IIM Bangalore	Research in marketing, running a course on Marketing for IIM students – Management	Joint research and faculty exchange.
10.	CDAC	Algorithms for recognition of similar trademarks –Mech. Engg.	Technology transfer to CDAC for commercialization.
11. & 12.	Maruti Udyog & Yamaha	Testing facility for 2 and 4 wheelers – Automobile dept. (T.C.)	Automobile Engg. courses. A modern Workbench gifted to DEI by Yamaha.

DEI has established collaborative Research links only with top ranking Universities and Research Centers of India and abroad. This has brought it recognition in Academic circles of our country.

3.7.4 **Have the university-industry interactions resulted in the establishment/creation of highly specialized laboratories/facilities?**

The Institute-Industry interactions mainly through Consultancy projects have resulted in augmentation of specialized facilities and improvement of laboratories, namely, Mechanics of Structures Laboratory, Embedded Systems Laboratory, VLSI laboratory, CAD and Photonics Laboratories.

CEMEF, France has presented a sophisticated Finite element Analysis based Software package for the design of Machine elements to Mechanical Engg. Department.

Yamaha has established a modern work bench facility for 2-wheeler repair..

Maruti helped in modernizing the Car maintenance facilities in the Auto Workshop and also in the development of course material for 4-wheeler Course.

Links with IGCAR, Chennai helped in developing a squid based system facility for research in Quantum computing and Consciousness studies.

Any other information regarding Research, Consultancy and Extension, which the university would like to include.

The Institute has considerably enhanced its research output both in terms of quality and quantity.

The number of students pursuing research has doubled during the last 5 years, increasing at the rate of 20% annually.

It has received international and national recognition in frontline research areas, especially in Quantum Computing, Nano technology, Atmospheric studies, Solar Energy based research, Music, Applied Systems Engineering, etc.

The talents of the faculty is being used for Defence projects and for the Society. The Defence Research lab, ADRDE is helped by Prof K.Hans Raj in design and development of equipment like Aerostat, Arrestor Barrier Systems etc. The Agra administration has sought help of DEI in making the surroundings of Taj pollution free by means of solar installations.

The number of research publications in high impact factor journals and citations have also increased as mentioned elsewhere in this Report.

Funds for research have increased tremendously during this period. The amount sanctioned for on-going projects has increased from around Rs. 1 crore per year to Rs. 43 crores, bagging some Projects of National importance.

1. Evaluative observations made under Research, Consultancy and Extension in the previous assessment report and action taken

The observation and action taken are as follows:

Observation #1 : “The university may sign Memorandum of Understanding with national research centres and reputed universities overseas.”

Action Taken : The Institute has signed 12 MoUs with prestigious universities, Industries and national research centres. Out of these 4 are Universities of USA & Canada, 4 are Institutes of Higher learning of INDIA, 2 Research Centers of National importance and 2 Industries. The details are given in tabular form as reply to Question 3.7.3 on page 121 of this report.

The MoUs signed by DEI do not remain as simple decorative paper documents but active collaborative action takes place resulting in benefit to both Institutions. DEI believes that no collaboration succeeds if it is not beneficial to both parties, The above table shows the activities conducted with each of these Institutions.

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

4.1.1 How does the university plan and ensure adequate availability of physical infrastructure and ensure its optimal utilization?

- (i) DEI has a campus of 45 acres and another 600 acres has been earmarked and notified in the Master Plan of Agra Development Authority for future expansion.
- (ii) Classes are scheduled for optimal utilization of the available physical infrastructure.
- (iii) The sophisticated equipment available in the laboratories is not duplicated and availability is ensured by judicious time-sharing,
- (iv) Sharing of laboratory facilities is also encouraged between faculties. Apart from the central facilities like USIC, Computer Center, Central Library and Works Department, there are many laboratories that cater to students from other faculties.

4.1.2 Does the university have a policy for the creation and enhancement of infrastructure in order to promote a good teaching-learning environment ? If yes, mention a few recent initiatives.

Yes, the Institute continuously strives to create and enhance infrastructure both in terms of Buildings and other facilities to promote a good teaching-learning environment. 600 acres of land has been earmarked for future expansion of DEI. The following land has been transferred to DEI for new programs by Dayalbagh Societies in recent years.

S. No.	Acquisition of land & buildings	Purpose
1.	Old Tannery Building: Built-up area 1500 sq.m.	Leather Diploma and Civil Engineering
2.	R.E.I. Dairy Building and Cold Storage.	Diploma in Up-Vaidya, PG Diploma in Pharmaceutical Chemistry, Core Course on Agriculture, Bio-fertilizer Laboratory.
3.	Women's Polytechnic Building	Polytechnic Courses on Garment Technology, Interior Design and Decoration, Architectural Assistant Courses
4.	Textile Technology Laboratory	Courses in Textile Technology
5.	Model Industries Complex of 2,000 Sq.m.	Research and Technology Park
6.	Land in Madhuvan Bagh - 1.76 hectares and Building in Purushottam Bagh	Two New Girls' Hostels.
7.	Land opposite Radha Nagar - 0.76 hectares	International Faculty Hostel and Seminar Hall Complex

4.1.3 How does the University create a conducive physical ambience for the faculty in terms of adequate research laboratories, Computing facilities and allied services?

The Institute has created a conducive physical ambience for the faculty :

1. Peaceful and serene environment of the campus as it is located adjacent to the Dayalbagh Ashram alongside river 'Yamuna', far away from the crowd and noise of the city of Agra.
2. Housing different departments of the Faculty in the same building to facilitate closer interaction and sharing of laboratory and other resources.
3. Setting up advanced research facilities like, Research and Technology Park with Centres of Research in Multidisciplinary areas.
4. Eco-friendly Campus, uninterrupted power supply due to Solar Power generation plant and greenery all around the Campus.
5. Advanced computing facilities, like massive data storage and cluster computing facilities, multi-media lab., and e-class rooms in all faculties.
6. Networking of the entire campus
7. Efficient administrative support from all sections of the Central Administrative Office.

4.1.4 Has the university provided all departments with facilities like office room, common room and separate rest rooms for women students and staff?

- (a) All Faculties have respective offices that cater to the needs of all Departments in the Faculty.
- (b) Common rooms and separate rest rooms for women students and staff are provided in all Faculties
- (c) The Non-resident Student Centers for Girls and Boys provide toilet and rest room and Canteen facilities, especially for female staff and students.

4.1.4 How does the university ensure that the infrastructure facilities are disabled-friendly?

The Campus has almost all classes and laboratories on the ground floor. All the buildings are disabled friendly.

4.1.5 How does the university cater to the requirements of residential students? Give details of

- * **Capacity of the hostels and occupancy (to be given separately for men and women)**

There are 2 Boys Hostels with Capacities of 138 and 92 respectively.
There are 3 Girls Hostels with Capacities of 186, 290 and 44.

- * **Recreational facilities in hostels like gymnasium, yoga centre, etc.**

Recreational facilities: Gym, common room, reading room cum library.
Indoor games: Carrom, table tennis and chess. Yoga is taught as a hobby.
Outdoor games: Badminton & Volleyball courts.

*** Broadband connectivity / Wi-Fi facility in hostels.**

Entire Campus has a 1GB Fiber optic Network and Wi-Fi Connectivity. Institute has a 1 GB Internet Connectivity through the NKN. Hostels have separate computer room with internet, printing and photocopying facility.

4.1.7 Does the university offer medical facilities for its students and teaching and non-teaching staff living on campus?

Yes. The Saran Ashram Hospital is run by a Charitable Society of Dayalbagh. It is fully equipped and caters to all the Medical needs of staff and students with a spirit of service. There are no charges for medicines and for pathological tests. The doctors of Saran Ashram Hospital visit the Hostels regularly. All newly admitted boarders undergo a compulsory free Medical check up at this Hospital.

4.1.8 What special facilities are available on campus to promote students’ interest in sports and cultural events/activities?

Participation in Games & Sports is a compulsory component of Core-Courses. There are three large playgrounds with provision for multiple games such as Athletics, Cricket, Football, Hockey, Volleyball and Basketball. Another field caters to Lawn Tennis courts. Indoor and outdoor badminton courts and gymnasium are available. All faculties have well equipped Assembly Halls for organizing Annual functions and Cultural events. Besides, major cultural events are organized in the majestic Convocation Hall. Games, sports and competitions are organized regularly for students. Students are given special training for participation in Youth Festivals and other Cultural and sports events outside the campus.

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of the committee. What significant initiatives have been taken by the committee to render the library student/user friendly?

Library has an Advisory Committee for the Planning and Control of the Central as well as faculty libraries of the Institute. The committee consists of the following.

Senior most Dean	: Chairman
Faculty In-Charges	: Members
Librarian of Central Library	: Secretary

The committee reframed norms for issue of books, recovery of lost books and increase in timings. It recommended extension of the Library building and complete computerization of the Central Library to make it user friendly and facilitate easy access and issue of books.

4.2.2 Provide details of the following:

- * **Total area of the library (in Sq. Mts.)** - 765 Sq.mts
- * **Total seating capacity** - 150

- * **Working hours (on working days, on holidays, before examination, during examination, during vacation)**

Library is open from 8.30 am to 5.00 pm except Sundays and Holidays.

Library Timing is extended from 8.30 am to 9.00 pm in Examination months.

- * **Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)**

Library provides open access of stacks to all the users. The layout has separate sections for (i) current journals, (ii) Journal stack, (iii) Book stack, (iv) Space for relaxed reading and (v) IT zone.

- * **Clear and prominent display of floor plan; adequate sign boards; fire alarm; access to differently-abled users and mode of access to collection**

Library provides clear and prominent display of new library collections and provides adequate sign boards and Fire alarms. Audio recording facility provided for visually handicapped persons.

4.2.3 Give details of the library holdings:

- Print (books, back volumes and theses)** : 1,70,459 books, 180 Theses
- Average number of books added during the last three years.**

Year	Total number of added books
1.4.2011 to 31.3.2012	3114
1.4.2010 to 31.3.2011	1209
1.4.2009 to 31.3.2010	1678

- Non Print (Microfiche, AV)** : Nil

- Electronic (e-books, e-journals)** : 5000 e-journals + 5 databases (through INFLIBNET) and 4 databases of Engineering & Management purchased by DEI Library.

- Special collections (e.g. text books, reference books, standards, patents)**
 - Rare Books** : 194
 - Reference Books** : 9700

4.2.4 What tools does the library deploy to provide access to the collection?

- * **OPAC** : Yes
- * **Electronic Resource Management package for e-journals** : Yes
- * **Federated searching tools to search articles in multiple Databases** : Yes
- * **Library Website** : Yes
- * **In-house/remote access to e-publications** : Yes

4.2.5 To what extent is ICT deployed in the library? Give details with regard to

- **Library automation** : Yes. The library is fully automated with bar-code system
- * **Total number of computers for public access** : 20
- * **Total numbers of printers for public access** : 5
- * **Internet band width speed** : 1 Gbps

- * Institutional Repository : Under process
- * Content management system for e-learning : In Planning
- * Participation in resource sharing networks?: INFLIBNET&DELNET

4.2.6 Provide details (per month) with regard to

- * Average number of walk-ins : 10,000
- * Average number of books issued/returned : 7500
- * Ratio of library books to students enrolled : 49
- * Average number of books added during the last four Years : 2000 per yr.
- * Average number of login to OPAC : 3000
- * Average number of login to e-resources : 2345
- * Average number of e-resources downloaded/printed : 1758
- * Number of IT literacy trainings organized : 02

4.2.7 Give details of specialized services provided by the library with regard to

- * Manuscripts : No
- * Reference : Yes
- * Reprography : Yes
- * Inter-library Loan Service : Yes
- * Information Deployment and Notification : Yes
- * OPACS : Yes
- * Internet Access : Yes
- * Downloads : Yes
- * Printouts : Yes
- * Reading list/ Bibliography compilation : Yes
- * In-house/remote access to e-resources : Yes
- * User Orientation : Yes
- * Assistance in searching Databases : Yes
- * INFLIBNET/IUC facilities : Yes

4.2.8 Provide details of the annual library budget and the amount spent for purchasing new books and journals.

Amount spent for purchasing new books = Rs. 21,45,432.40
 Amount spent for purchasing new journals = Rs. 24,23,971.10

Total Amount (Spent in 4 years) = **Rs. 45,69,403.50**

4.2.9 What initiatives has the university taken to make the library a ‘happening place’ on campus?

Computerization of all libraries of DEI, Organization of book exhibitions, prominent display of all notices and new arrivals, providing online access of e-resources to the users and training users, and procuring new books.

4.2.10 What are the strategies used by the library to collect feedback from its users? How is the feedback analysed and used for the improvement of the library services?

Library follows the questionnaire method to collect feedback from its users. On the basis of the analysis of this feedback, improvements have been made in the library.

4.2.11 List the efforts made towards the infrastructural development of the library in the last four years.

- Full computerization of library
- Extension of 300 sq. m. for journal section
- Installation of cameras in the stack for security
- Providing full access of Internet, OPAC and e-journals.
- Availability of twenty computers with internet connection
- Reprographic, printing and scanning facility to the users
- Institutional Repository partly installed

4.3 IT Infrastructure

4.3.1 Does the university have a comprehensive IT policy with regard to

- **IT Service Management**
Yes. Institute prefers to develop and install software in-house and extensively uses open source software.
- **Information Security**
Data security ensured through Back-up.
- **Network Security**
Firewalls installed.
- **Risk Management**
Institute Computers are all insured and safety ensured.
- **Software Asset Management**
All software is centrally handled by Computer Center. Institute has installed its own Cloud Computer.
- **Open Source Resources**
Free access provided for Web based lessons.
- **Green Computing**
Institute has replaced all color and mono CRTs with LCD monitors in order to reduce E.M. radiation and power consumption. The Electrical power for the center is met from Solar Energy, making it a Green center.

4.3.2 Give details of the university’s computing facilities i.e., hardware and software.

- **Number of systems with individual configurations** : 570
- **Computer-student ratio** : 1:7
- **Dedicated computing facilities** : 9
- **LAN facility** : Campus wide Fiber-optic LAN installed.
- **Proprietary software** : Institute has a policy to use only licensed or open source software.
- **Number of nodes/ computers with internet facility** : 380
- **Any other (please specify)** : Cluster Computer using 264 pentium nodes . and 64 TB Storage server facility installed.

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

The Institute has always been at the forefront in the deployment of IT resources for education. The Computer Center upgrades its systems every 5 years. Older systems are also utilized for practice by beginners. The Multimedia Center is a hub of activity where recording of lessons and video editing are done by students. The policy of the Institute is to (a) provide state of the art facilities and (2) develop capability in students and staff to efficiently handle the software and hardware available.

4.3.4 Give details on access to on-line teaching and learning resources and other knowledge and information database/packages provided to the staff and students for quality teaching, learning and research.

The Institute subscribes to several On-line journals and other resources apart from 4000 e-journals through INFLIBNET. These resources are available through Wi-Fi connectivity to students anywhere in the campus. The Cluster computer and 138 TB Storage servers of the Computer Centre have been installed with Software packages like, SPSS, AutoCad, MATLAB, Microwave Studio etc., which are accessible to all departments through LAN.

4.3.5 How does the university address issues such as authenticity and copyright with regard to online resources that lie outside the university?

The student access to internet is through the Institute server, which is under the careful scrutiny of the Head, Computer Center. All unauthorized and undesirable resources are blocked. Authenticated access is given to users through LDAP and Iron port / Squid devices.

4.3.6 What are the new technologies deployed by the university in enhancing student learning and evaluation during the last four years and how do they meet new / future challenges?

In order to exploit the new I.T. technology for enhancing student learning, the following initiatives have been taken.

- (1) 25 Class rooms converted to e-class rooms.
- (2) Multimedia lab established with Polycom facility to cater to 1000 clients and simultaneous recording in 15 e-class rooms, all centrally controlled.
- (3) Web based lessons provided through the portal, 'VIDYAPRASAR'.
- (4) Video editing support provided at Multi media lab.
- (5) EDUSAT transmission of Lectures from DEI and Delhi to 57 centers.
- (6) Campus fully networked and WiFi enabled.
- (7) Computer facilities extended to all hostels.

4.3.7 What are the IT facilities available to individual teachers for effective teaching and quality research?

All departments are equipped with Computers connected to Institute server through LAN and faculty members are provided with Laptops and PCs.

4.3.8 Give details of ICT-enabled classrooms/learning spaces available within the university? How are they utilized for enhancing the quality of teaching and learning?

There are 25 e-class rooms where facilities for live recording are available. The teachers can get these lessons hosted on Institute web for reference by students.

4.3.9 How are the faculty assisted in preparing computer- aided teaching-learning materials? What are the facilities available in the university for such initiatives?

The Multi media lab of the Institute has state of the art equipment and software and trained manpower for guiding the teachers in developing course materials for e-learning. Students are also trained who help in video-editing of lessons and get paid.

4.3.10 How are the computers and their accessories maintained?

USIC has trained manpower and provides maintenance of all computers and peripherals.

4.3.11 Does the university avail of the National Knowledge Network connectivity? If so, what are the services availed of?

The Institute has 1 GBPS internet connectivity through NKN.

4.3.12 Does the university avail of web resources such as Wikipedia, dictionary and other education enhancing resources? What are its policies in this regard?

Wi-Fi connectivity and Fibre optic Network connectivity are available in the campus to facilitate use of e-resources by the students and staff. Access to 5000 e-journals is available through INFLIBNET and also by direct subscription.

4.3.13 Provide details on the provision made in the annual budget for the update, deployment and maintenance of computers in the university.

The Computer center is allocated Rs. 2.0 lacs per annum for maintenance of its Computer systems. The departments are allocated funds of about Rs. Two lacs each for the maintenance of their lab equipment and Computer systems. Additional maintenance funds are provided to the departments which spend their allocation. USIC provides maintenance support for Computers and electronic equipment.

4.3.14 What plans have been envisioned for the gradual transfer of teaching and learning from closed university information network to open environment?

A web site, “vidyaprasar.dei.ac.in” has been created where the video course material of several courses has been uploaded and is made freely available. Nearly 2000 class lessons have already been recorded and loaded.

The Institute has developed 5 Virtual laboratories for practical lessons which can be performed via internet at any time and from any location by the student. Students at remote places can learn handling costly and sophisticated equipment which cannot be provided at every location.

4.4 Maintenance of Campus Facilities

4.4.1 Does the university have an estate office / designated officer for overseeing the maintenance of buildings, class-rooms and laboratories? If yes, mention a few campus specific initiatives undertaken to improve the physical ambience.

Works Department is headed by a Superintendent with 4 Civil Engineers, one Electrical Engineer and 16 skilled staff to carry out repair & maintenance of buildings, furniture, electrical and water supply systems.

SPHEEHA, an NGO dedicated to preserve the Ecology and Heritage of Agra works with DEI and helps in maintaining the Campus green in a big way. Gardens have been developed throughout the campus and special cleanliness drives have been initiated.

4.4.2 How are the infrastructure facilities, services and equipments maintained? Give details.

The faculty and technical staff help in the maintenance of equipment in the Departmental laboratories. USIC has facilities for repair of electronic equipment, Air-conditioning systems, Computers and has mechanical engineering workshop facilities. The Works Department looks after the maintenance of infrastructure that includes civil, electrical and water issues.

Any other information regarding Infrastructure and Learning Resources which the university would like to include.

1. Evaluative observations made under Infrastructure and Learning Resources in the previous assessment report and action taken

The observations were the following:

Observation #1 : *“The university may consider acquiring the land earmarked for education in the Master Plan of the Dayalbagh Regulated Area for the expansion of the DEI Campus, as the University needs to have an integrated look.”*

Action Taken : The University has acquired 27.5 acres of land out of the area of 600 acres notified and reserved for future expansion of University. Besides this, a number of buildings have also been transferred to DEI.

Observation #2 : *“The college may approach the Ministry of Youth Affairs and Sports, Govt. of India for getting grants for construction of Sports Complex, Multipurpose Gymnasium Hall and proper maintenance of playgrounds. The help of the University Grants Commission could also be taken.”*

Action Taken : Land has been acquired for Play Ground. Applied to UGC for sanction of indoor stadium.

Observation #3 : *“The Library system needs to be upgraded. The libraries should be connected to outside libraries through the internet. The academic climate in the library could be improved by providing better furniture, better lighting system, good reading rooms, cubicles for the staff etc.”*

Action Taken : Central Library and all faculty library building spaces have been extended. Better lighting and furniture has been installed. 1GBPS Band-width Internet connectivity obtained through National Knowledge Network. Extensive e-journal facility has also been provided.

Observation #4 : *“Teachers must be encouraged to utilize multimedia and other latest pedagogical instruments for effective teaching. It will be appreciated if a central facility for various audio visual aids, teaching instruments teaching machines is made available so that teachers of different departments could make use of it.”*

Action Taken :

- 25 classrooms provided with e-classroom and Polycom facility for recording lectures at 15 places simultaneously.
- Full-fledged Central Multimedia Laboratory constructed, equipped and staff provided.
- EDUSAT connectivity obtained.
- Teachers have also been trained to use the facilities.

2. Other quality sustenance and enhancement measures undertaken by the institution since the previous Assessment and Accreditation with regard to Infrastructure and Learning Resources

The Institute had launched a six year mission program, ‘VISION-2011’ in the year 2005 to bring the Institute to be amongst the top twenty Universities of India by the year 2011. In an extensive review of 126 Deemed Universities undertaken by MHRD, DEI was placed at 8th rank with 39 out of 45 marks. Enormous work has been done with the cooperation of all stake holders. The details are given in the executive summary. Some of the accomplishments are,

- *Nearly 23 building related projects completed including Girls Hostel, International Faculty Hostel & Seminar Hall Complex and Research Park.*
- *Extensive State-of-the-art ICT facilities have been installed and operated successfully.*
- *Campus made eco-friendly by installing Solar Power Generating facility.*
- *Hostels have been provided with Solar Cooking and Hot Water facility.*
- *Campus made Wi-Fi compatible.*

CRITERION V:

STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Does the university have a system for student support and mentoring? If yes, what are its structural and functional characteristics?

Yes, the Institute has a well-structured system for student support and mentoring.

1. The **1:15 teacher-student ratio** and the continuous evaluation system ensure personal contact and close interaction of teachers with students.
2. The system of having **Class Committee** and Proctorial Committee meetings enables faculty to mentor students effectively.
3. The DEI-APAC arranges to provide **Mentors** for expert guidance to students of Engineering, Diploma and Management in their final year projects and in summer training.
4. The DEI-APAC has a well structured setup for **placement assistance** and works with the placement officers of DEI to arrange for Campus placements. The Alumni went round more than 150 industries in North, West and South India to make collaborative links for the Cooperative Education introduced in DEI for Engg. and Management students.

5.1.2 Apart from classroom interaction, what are the provisions available for academic mentoring?

Class and Proctorial Committees enable faculty to mentor students effectively.

To help the academically weak students, to catch up with their colleagues, a program titled '**Each one Teach one**' is introduced at under-graduate level very successfully. In this scheme, bright students of the same class or senior classes act as mentors to one of these weak students and help them to clear their doubts.

Remedial scheme of UGC is implemented offering academic help to the weak students of SC, ST, OBC minorities and also the weak students of general category. Under this scheme, Remedial coaching classes are arranged for the weak students.

5.1.3 Does the university have any personal enhancement and development schemes such as career counseling, soft skill development, career-path-identification, and orientation to well-being for its students? Give details of such schemes

The Institute ensures personal enhancement and development that includes career counseling, soft skill development of its students through its comprehensive and unique system of education.

1. Classes are conducted in the core course on Scientific Methodology, General Knowledge and Current Affairs, to apprise students of career options and prepare them to successfully compete in interviews and competitive tests.

2. The compulsory component of Seminar-cum-Group Discussion in each course helps students to enhance oral expression and presentation skills.
3. The Institute alongwith the Alumni Association (AADEIs) has set up a cell in the Institute that specially offers courses on Soft Skills, Computer Skills, English Speaking and organizes workshops on 'Career Counseling', 'How to face interviews' and 'Resume writing' from time to time for the benefit of all students.
4. Tutorial classes on individual courses and also for competitive exams such as Civil Services, NET and GATE provide students an opportunity for personal development.

5.1.4 Does the university publish its updated prospectus and handbook annually? If yes, what are the main issues / activities / information included / provided to students through these documents? Is there a provision for online access?

Every year the Institute brings out an updated prospectus cum handbook. The main information contains the Preamble, Administrative Structure, Members of Faculty and other staff, Courses offered, Distinctive features of the Innovative and Comprehensive program of studies, Fees of various courses, Rules of Registration and Discipline, Dates of Admission tests and Interviews and other important details.

5.1.5 Specify the type and number of university scholarships / freeships given to the students during the last four years. Was financial aid given to them on time? Give details (in a tabular form) for the following categories: UG/PG/M.Phil/Ph.D./Diploma/others (please specify).

The scholarship and fee share are paid by State Governments and UGC. The payment is some times given to all categories and sometimes to SC only by the State Government of U.P.

Year	Number of Students Benefitted					Amount (Rs.)
	UG	PG	Ph.D.	Dipl.	Ph.D.	
2011-12	431	207	5	7	2	35,16,696.00
2010-11	154	51	2	2	0	6,97,734.00
2009-10	119	53	1	0	0	10,78,000.00
2008-09	373	91	5	3	0	25,18,650.00

5.1.6 What percentage of students receive financial assistance from state government, central government and other national agencies(Kishore Vaigyanik Protsahan Yojana (KVPY), SN Bose Fellow, etc.)?

- All students with parents income less than Rs. 2.0 lac/yr. receive State Govt. scholarships. This caters to nearly 17% of the total, that is 431 out of 2532 students.
- 100% of M.Tech. students who qualify Gate test receive Gate scholarship. Overall, 63% of M.Tech. students receive scholarships.
- 100% Research scholars of SC category receive Rajiv Gandhi National Fellowship. There are 30 Research scholars in this category.
- 36 Research Scholars of General Category (15% of total) receive NET-JRF or

UGC fellowships.

The Institute fee structure has been kept low so that students are not overburdened. The fee charged per semester for Engineering and MBA programs is about Rs.6,000/- per semester only which is less than 20% of the fees of other Institutes. The Hostel room rent is also fixed at Rs. 10/- per month. Mess expenses are also controlled by Wardens whose payment is met by Charitable Societies running the Hostels.

5.1.6 Does the university have an International Student Cell to attract foreign students and cater to their needs?

No. There is only one NRI student enrolled in the University. However, the Institute has started two vocational courses in Sri Lanka on request of some residents there. A course on PG Diploma in Theology is offered in distance mode in USA.

5.1.7 What types of support services are available for

- * **Overseas students:** Courses offered in their own country.
- * **Physically challenged / differently-abled students:**
Peer coaching and recording facility made available for visually disabled. Obstruction free single storey structures available.
- * **SC/ST, OBC and economically weaker sections:**
Remedial coaching classes held. Scholarships provided through State Government and UGC.
- * **Health centre, health insurance etc.:**
Free medical help available at Saran Ashram Hospital.
- * **Skill development (spoken English, computer literacy, etc.) :**
AADEIs conducts courses regularly on the campus on Soft skills and Computer skills. Special classes are held on Spoken English for all students facing Interviews. Skill development is imbibed through Work based Training which is compulsory for all U.G. students.
- * **Performance enhancement for slow learners:**
Remedial coaching classes are held for slow learners. Special school run for spastic Children of neighbourhood.
- * **Exposure of students to other institutions of higher learning/ corporates/business houses, etc.:**
Students of Engineering Degree and diploma undergo **industrial training** in summers. Special feature of DEI is the availability of an **Alumni mentor** at each Center, so as to make them extract full benefit of the training.

Institute has launched a scheme of **Cooperative Education** where students spend part of their time in an Industry and part in the Institute and carry out meaningful projects of the Industry.

The **Business Advisory clinic** brings the problems of sick business

organizations to students as case studies giving exposure to real life problems.

Under **MoUs** students get an opportunity to credit **joint courses** with IITs, Jointly supervision and get to visit and work in the Laboratories of Institutes of higher learning both in India and abroad. Nearly eight Research scholars and two Engineering students got such an opportunity to work in Maryland, Missouri and Waterloo Universities.

Students are guided to credit **open courses** floated by Stanford and MIT and suitable facilities are provided.

Students are given training for participation in **National and International competitions**. Students participating in IEEE Extreme got 121th rank at the global level and 4th rank at the National level.

* **publication of student magazines:**

Institute brings out the following publications.

- DEI News:Every semester
- DEI Magazine:Annual
- Student technical News letter, ‘Pulse’, published twice every year.
- Wall magazine: Several times

5.1.8 Does the university provide guidance and/or conduct coaching classes for students appearing for Civil Services, Defense Services, NET/SET and any other competitive examinations? If yes, what is the outcome?

Coaching classes are held for Civil Service exams every Sunday. IAS officers, Professors and some invited experts deliver lectures. Six students had qualified in prelims in the last two years.

NET & SLET Coaching classes are held under UGC Remedial coaching scheme. 32 students cleared NET in 2011-12 session and 15 of them with JRF.

AADEIs offers short courses and job oriented training regularly to students of DEI. These courses are open to unemployed graduates, even if they are not students of DEI and help them get suitably employed.

These initiatives have led to increased awareness about these exams, increase in the number of students enrolled and better success rate.

5.1.9 Mention the policies of the university for enhancing student participation in sports and extracurricular activities through strategies/schemes such as

- * **Additional academic support and academic flexibility in examinations:** The Institute with its compulsory Core Courses and the continuous evaluation scheme integrates sports and extra-curricular activities as essential components for not only participation, but are also for assessment of students.
- * **Special dietary requirements:** Students get snacks after competitions. Chyavanprash made in Dayalbagh is provided at a subsidized price to students.

5.1.10 Does the university have a student grievance redressal cell? Give details of the nature of grievances reported. How were they redressed?

There is a Grievance Redressal Cell which takes care of the complaints of both staff and students. Normally, serious complaints are put up to this cell. For day-to-day problems the students approach their proctors or Heads of Departments. In case the proctor is unable to solve the problem, it is referred to the Chief Proctor and then to Director. In 2011-12 session one serious case was reported to the Grievance redressal cell. A girl accused a boy of poisoning her. This case has been investigated in detail and the evidence showed that the concerned boy was writing an examination in the Institute at the supposed time of offence. When the facts came to light, she accepted her mistake. Disciplinary action was taken against her.

5.1.11 Does the university promote a gender-sensitive environment by (i) conducting gender related programmes (ii) establishing a cell and mechanism to deal with issues related to sexual harassment? Give details.

A Counseling cell has been set up in the Psychology Department for student counseling. The NSS organizes several Gender related programs for the benefit of students as well as ladies of neighboring villages. A sexual harassment cell has been established as a part of Grievance redressal cell.

5.1.12 Is there an anti-ragging committee? How many instances,if any,have been reported during the last four years and what action has been taken in these cases?

The anti-ragging committee is headed by Chief proctor with proctors as its members. There is no ragging culture in the student community in DEI. In a rare case reported in August 2012, Institute Disciplinary committee investigated and identified the culprits and the extent of their involvement and punishment was given within 3 days. Anti-ragging squads are constituted who take rounds of the campus during the day and teams of faculty members also take rounds of Hostels in the nights in the first two months of the session.

5.1.13 How does the university elicit the cooperation of all its stakeholders to ensure the overall development of its students?

1. The rapid progress of DEI in the last few years has been possible due to the whole hearted cooperation of all stake holders. The cooperation of students in implementing this innovative program is obtained by explaining to them the importance of each activity at the time of Orientation.
2. Parents and well wishers are taken around the Core Course Center where the Educational policy of DEI and importance of our schemes are explained through an exhibition in detail.
3. The VISION-2011 mission program acted as a catalyst to channelize the help offered by alumni, parents, faculty and students in a big way. The realization that the Institute is working for the good of the Nation through its value based

Education motivated most of them to come forward and offer their help in all possible ways.

4. The Alumni Association (AADEIs) has provided unparalleled support. This association has established a permanent setup so that the Institute shall get the benefit of its services in future also in a dependable manner.
5. The Alumni residing in USA have also registered AAFDEI to help DEI on similar lines. AAFDEI receives DEI staff and students visiting USA for academic work and makes their stay comfortable.

5.1.18 How does the university ensure the participation of women students in intra- and inter-institutional sports competitions and cultural activities? Provide details of sports and cultural activities where such efforts were made.

As mentioned earlier, the System of compulsory additional Core courses with continuous evaluation make participation in sports and cultural activities mandatory for each student. Marks for participation and winning events at different levels provide tremendous incentive for students.

Sports and Games: Girls participate in all sports and games activities. Lady Sports Officer gives training to girls.

In **Softball Cricket**, DEI Students have won matches at District and State levels and participated in National Competitions also, where their team was runner-up. A Cash prize of Rs.30,000/- was awarded to Km. Bhavana Singh in Softball at State level.

Sports day is celebrated every year as a regular feature.

Yoga and Karate lessons are organized for girls.

Special coaching camps are organized to prepare the teams for competitions.

Girl students have played in State level matches of **Volley Ball** and in **National shooting Competitions**. Kanchan Jain of DEI won 2nd position at UP state Shooting Championship competition.

Cultural Activities: Solo and Group competitions in Indian and Western Music (Vocal and Instrumental), Folk Dance, Dramatics (Skit, Mime and Plays), English and Hindi Essay Writing, Rangoli, Poster, Collage and Cartoon Making, G.K. quiz (written and oral), English and Hindi Debates and Elocution competitions are held at Faculty and Inter-Faculty levels.

The Inter Faculty competitions are held every year in,

1. English One Act Play,
2. Bhakti Sangeet and
3. Hindi Drama.

Students are encouraged to participate in competitions outside the Institute. Staff members train them and accompany the student parties and students are never left to themselves.

5.2. Student Progression

5.2.1 What is the student strength of the university for the current academic year? Analyze the Programme-wise data and provide the trends for the last four years.

The following table gives the student strength of UG, PG, PGDiploma, M.Phil., Ph.D., Diploma and Certificate level courses in the last 4 years.

Level of Course	2008-09	2009-10	2010-11	2011-12
U.G.	2082	2086	2228	2712
P.G.	548	609	720	826
P.G.Diploma	55	63	83	88
M.Phil.	51	62	77	94
Ph.D.	216	237	293	269
Diploma	1056	1054	1019	1047
Certificate	1225	1475	1686	1786

Student Progression	%
UG to PG*	70%
PG to M.Phil.*	50%
PG to Ph.D.	20%
Ph.D. to Post-Doctoral	5%
Employed	
1. Campus selection	
B.Sc.Engg.	98%
MBA	75%
B.Ed.	5%
Diploma	80%
Others	30%
2. Other than campus recruitment (B.Ed.)	85%

5.2.2 What is the programme-wise completion rate during the time span stipulated by the University?

For all Professional courses, M.Tech., B.Sc.Engg., M.B.A., B.B.M., M.Ed., B.ED., M.Com., and B.Com. : 98% students who join in first year graduate in the stipulated time of each course.

For other courses 95% students complete in stipulated time.

5.2.3 What is the number and percentage of students who appeared/qualified in examinations like UGC-CSIR-NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central / State services, Defense, Civil Services, etc.?

UGC-CSIR-NET	2011-12	05	qualified
UGC-NET	2011-12	41	qualified (16 with JRF)
	2010-11	28	qualified (12 with JRF)
	2009-10	31	qualified (10 with JRF)
GATE-2011: Total 58 Students qualified with subject wise break-up as follows:			
(Mechanical)	28	(Electronics)	05
(Electrical)	24	(Computer Science)	01
GATE-2010		30	Qualified
GATE-2009		28	Qualified
GATE-2008		32	Qualified
IAS		1	Qualified in 2010-11

5.2.4 Provide category-wise details regarding the number of Ph.D./D.Litt./D.Sc. theses submitted/ accepted/ resubmitted/ rejected in the last four years.

DEI offers Ph.D. in all P.G. Departments and no higher degrees. Details of the number of Ph.D. theses submitted and accepted in the last four years.

Year	Submitted	Accepted	Resubmitted	Rejected
2008	33	33	0	0
2009	24	24	0	0
2010	34	34	0	0
2011	38	38	0	0

5.3 Student Participation and Activities

5.3.1 List the range of sports, cultural and extracurricular activities available to students. Furnish the programmecalendar and provide details of students' participation.

Students participate in Football, Hockey, Cricket, Volley ball, Basket Ball, Lawn Tennis, Table tennis, Badminton, and Kho-Kho and all sports like races, jumps and throws. Gymnastic facilities are available in Hostels. As these activities are part of compulsory core courses of the Institute, Slots are provided in Time Table for Games and Sports and for NSS, so that students compulsorily take part in these activities every week. Football practice starts in July and goes upto September. Cricket and Hockey practice is held from November to March. Volley Ball and Basket Ball are open throughout the year. Inter and Intra-faculty competitions are regularly organized in all games every year with prizes given on annual days of the faculties.

Sports competitions are held in Dec-February period. Basant Sports competitions are very popular with students as well as local community, with finals being held on Basant day every year with pomp and show.

Training for Cultural activities start from August every year. Students are trained for participation in various competitions at inter-university level. DEI has been getting prizes in Group song, and Elocution contests at Zonal and National Youth Festivals.

5.3.2 Give details of the achievements of students in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc.during the last four years.

Pupil-Teacher Hunt (Anveshan-2012): Students won 11 prizes in Essay writing in English and Hindi, Mono-acting, Elocution, Poster making, Lesson presentation, and DEI as Outstanding pupil-Teacher Institution held on 2nd March,2012 at Palwal.

National Inter-University Debate Competition organized by National Council for Cooperative Training, at Chennai held in December 2011, DEI got two I prizes (Km, Srashti Tyagi & Km Yashi Paliwal) and Best team Trophy in English section and Best team trophy in Hindi section (Km.Dipantika Bose & Km. Shreya Singh) apart from cash awards.

Km. Jubilee Raizada received ‘Lokratna Rashtriya Puraskar 2010’, for her Classical Dance by Kala Sahitya Sanskriti Academy at Wardha.

DEI Team Participated in the National Youth Festival held at Rohtak in Nov. 2010 and won prizes in Elocution competition.

For Excellent Performance in NCC, Km. Jyoti Chaturvedi got cash award by Sahara Group on 10th Feb., 2010.

Km. Pooja Gautam got the second best speaker award in Dec., 2009, at Inter University Debate competition held at Pune.

Engineering Faculty students have routinely been participating in a number of contests outside the Institute and never returned without a prize. The DEI team participated in the World wide programming contest IEEE Xtreme and got fourth rank among 674 teams from India. Anand Satsangi was winner of ‘Education Times Brain Strain Contest’.

5.3.3 Does the university have a mechanism to gather data and feedback from its graduates and employers and use them for the growth and development of the institution?

The Institute alongwith the Alumni Association of DEI conducts surveys of Employers and Graduates periodically and the Advisory Committee on Education of Dayalbagh Educational Institutions also assesses data and feedback to ensure proper timely measures to sustain the growth and development of the Institute.

5.3.4 Does the university conduct special drives/campaigns for its faculty and students to promote heritage consciousness?

To be aware of our National Culture and Heritage and imbibe its values is one of the objectives of the Education Policy of DEI. This is imparted through the compulsory Core course on Cultural Education. The Centre for Core Courses and the Centre for Consciousness Studies organize Workshops for the faculty and students to promote heritage consciousness.

5.3.5 How does the university involve and encourage its students to publish materials like catalogues, wall magazines, college magazine, and other material? List the

major publications/ materials brought out by the students during the last four academic sessions.

Students in all Faculties bring out Wall Magazines. They enthusiastically contribute in the DEI News, and DEI Magazine that is brought out biannually. Normally articles are invited in the Magazine on some selected theme. The Editorial board screens, edits and publishes the same. DEI News highlights the achievements of students and faculty every six months.

5.3.6 Does the university have a Student Council or any other similar body? Give details on its constitution, activities and funding.

The Institute has a system of Class and Proctorial Committees, which are constituted for all classes and the meetings of these committees are held at least once every semester. Senior staff members and Head of the Department attend these meetings. Students freely express their problems. Minutes of the meetings are prepared and corrective action is taken. No separate funding is available for this activity.

5.3.7 Give details of various academic and administrative bodies that have student representatives on them. Also provide details of their activities.

The Editorial Boards, Sports Committee, Cultural Committee, and all Hostel Committees have student representation. Students actively participate in all aspects of planning and organization of activities.

Any other information regarding Student Support and Progression, which the university would like to include.

1. Evaluative observations made under Student Support and Progression in the previous assessment report and action taken

No observations made in previous assessment.

2. Other quality sustenance and enhancement measures undertaken by the institution since the previous Assessment and Accreditation with regard to Student Support and Progression?

- *Introduction of Innovative Integrated programs*
- *Eco-friendly Campus with full Solar power*
- *Provision for Solar Hot Water facility in Hostel*
- *Better student amenities on the Campus*
- *Improvement in Canteen facilities*
- *Construction of New Girls Hostel*
- *Regular IQAC and AAAC meetings with students to get feedback on all aspects of academic experience that includes evaluation and curricular aspects*
- *Student Conferences and Summer Schools for High School Students*

CRITERION VI:

GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 State the vision and the mission of the university

The VISION statement of DEI can be put up simply as,

‘Education, more education, education made perfect’,

as stated by the August Founder of Dayalbagh, Revered Sir Anand Sarup Kt., as the only panacea for the ills and evils of our country.

The mission objective of the Institute is to evolve “**A Complete Man**”, that is, a well rounded person whose hallmarks are intellectual strength, emotional maturity, truthfulness, simple living, a person who discharges his obligations and duties, high moral character, scientific temper, general awareness, interdisciplinary outlook and understanding of the society.

A model of this novel Educational system, various elements and how these elements interact to meet these objectives has been depicted in an **Interpretive structural model** given in **Annexure-IV** (page 197) of this report. DEI has very successfully implemented this integrated system of value based education.

6.1.2 Does the mission statement define the institution’s distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, the institution’s tradition and value orientations, its vision for the future, etc.?

The mission statement clearly addresses the need of the modern society for the Development of ‘Complete Man’ through Value based Education. The three main objectives of this Mission Goal are,

Academic Excellence,
Moral and Spiritual Values and
Social sensibilities.

The Educational System and the Organizational policies of the Institute have been clearly identified and carefully implemented with success in DEI.

6.1.3 How is the leadership involved in ensuring the organization’s management system development, implementation and continuous improvement?

Continuous improvement and development of the Management system is a part of the TQM of the Institute. A conceptual model for the TQM framework through which DEI leadership endeavours to achieve **Quality in Higher Education** is given in **Annexure- V on page 200** of this report.

Continuous improvement in the Organization management is possible by perfecting the system with introspection and continuous feedback obtained at various levels. DEI gets the feedback of the status through physical inspection and meetings held in each section as given below.

* **in interacting with its stakeholders?**

The Institute alongwith the Alumni Association conducts surveys of Employers periodically. The parents meet the faculty members on Founder's day every year and have fruitful interaction. The Engineering Faculty and the Management Department hold their Alumni meets with much enthusiasm and invite Corporate Heads, Parents and other stakeholders. AADEIs celebrates their annual meet on 1st Jan. every year as '**Shiksha Diwas**', with participation of nearly 1000 Alumni and strong interaction. AAAC visits all departments and sections and holds meetings at various levels.

* **in reinforcing a culture of excellence?**

The culture of excellence in DEI is reinforced through Excellence in **Academics**, Excellence in **Research**, Excellence in **Administration** and **Discipline**. The Institute has a culture to hold its statutory body meetings with perfect regularity, and regularity in classes, tests and results.

The motto of DEI is '**Excellence with Relevance**'. Under the VISION-2011 program launched in 2005, the Institute has not only excelled in Academics and Research but also catered to the needs of the weaker sections, tribals and women by introducing nearly 17 vocational courses in the Campus and 9 such courses in 81 study centers all over India and offered a unique Blended mode Distance Education under conditions suitable to the poorest sections of our society.

* **in identifying organizational needs and striving to fulfill them?**

The Institute makes long term strategic plans after organizing a series of workshops at various levels. The organizational needs and educational system requirements are carefully chalked out and resources are arranged for implementation. The **VISION-2011** initiated in the year 2005 fully achieved its targets through increase in intake, new courses, and research contribution. Following this, an ambitious, bold and comprehensive '**VISION-2031**' action plan has been chalked out and put in place with milestones for each department after exhaustive deliberations, discussions and critical assessment through a series of workshops and interaction with eminent academicians.

6.1.4 Were any of the top leadership positions of the university vacant formore than a year? If so, state the reasons.

No. Top administrative positions have always been filled in time. Top academic positions are filled strictly as per guidelines of UGC. The seniormost teacher of a department becomes the Head of the Department. The Dean of the faculty has a 3 year term fixed by rotation among the Heads of the departments of the faculty.

6.1.5 Does the university ensure that all positions in its various statutory bodies are filled and meetings conducted regularly?

DEI is known for conducting all its statutory meetings with regularity. All positions of its statutory bodies are filled in time.

6.1.6 Does the university promote a culture of participative management? If yes, indicate the levels of participative management.

Yes, all faculty members contribute in the management of Institute affairs. The faculty members are associated with Class Committees, Board of Studies, NSS, Social Service, Co-curricular Activities and Sports Committees.

Senior Faculty members are members of the Faculty Board, the Research Degree Committees and the Academic Council.

Two Deans by rotation and One elected staff representative are members of the Governing Body.

There is staff representation in Finance and other statutory bodies as per rules enacted in the Byelaws.

6.1.7 Give details of the academic and administrative leadership provided by the university to its affiliated colleges and the support and encouragement given to them to become autonomous.

Not Applicable.

6.1.8 Have any provisions been incorporated / introduced in the University Act and Statutes to provide for conferment of degrees by autonomous colleges?

Not Applicable.

6.1.9 How does the university groom leadership at various levels? Give details.

An effective hierarchy starting from Non-teaching Staff, Teaching Staff, In-charges of Laboratories and sections, Head, Dean and Director exists. The faculty is assigned some responsibilities like organizing student activities, Seminars etc. The junior faculty members are associated with seniors and get trained in the process. The responsibilities increase as one grows from lower to higher levels in this hierarchical structure and gets trained to take up higher roles.

6.1.10 Has the university evolved a knowledge management strategy? If yes, give details.

The Institute has a policy to organize Syllabus workshops to chalk out any major modifications in the Syllabus or Course structure. The Faculty level reviews are done through major Workshops once every 10 years. The departmental workshops are more frequent. Though Board of studies meets annually, the course modifications are supposed to be stable for 3 years. New strategies like web based courses and facilities for access through Wi-fi connectivity etc. are generated in the campus to facilitate students learning at their own pace.

6.1.11 How are the following values reflected in the functioning of the university?

* **Contributing to national development:**

DEI has made significant contribution for the National Development by imparting value based quality education with special emphasis on weaker sections. The student strength has increased by nearly **3 times** in the last 5 years without any undue stress on the system, simultaneously improving the quality in all respects. Every effort is done to see that the financial burden on students does not increase. **64 new courses** have been started in this period. This includes a large number of vocational courses for weaker sections, professional courses for the talented and Research level M.Phil. programs. Research output has doubled in terms of number and level of projects, Ph.D.s produced, Patents and Publications. All these factors contribute to the national development. This Institute is now regarded as a **role model** for development in right direction.

* **Fostering global competencies among students:**

The MoUs with IITs, IIM, TIFR, American and Canadian Universities, Research links with American, German, British and Japanese Universities and consequent close interaction with these Institutions including mutual visits and joint research have fostered Global competencies among the students of DEI. These efforts have opened up exciting opportunities for students to pursue higher education in cutting edge research areas.

* **Inculcating a sound value system among students:**

DEI offers a unique value based Education which develops high moral values and a spirit of service in the students through its unique core courses and the spiritual ambience of Dayalbagh. In a recent survey conducted on the Alumni, DEI alumni were given the highest score of 4.5 (out of 5) on values in personal and professional lives.

* **Promoting use of technology:**

The Institute has promoted technology in a big way through the use of multimedia resources in teaching, e-classrooms, teleconferencing seminars and Group Discussions. It has provided access to internet and e-journals, computerized the administrative and central facilities and emerged as a top Research and Technology Center. The number of research scholars doubled and R&D funding increased 10 times in the last 5 years. A Research and Technology Park has been established to promote multidisciplinary research. It has set up a solar power grid on the campus to cater to the needs of the Institute. The Institute has made significant contributions in Research in Green Chemistry, Environmental Science, Computer Sc., Physics, Electronics, Mech. Engg. and Theology. The Campus has been made Green and eco-friendly as an example for others.

* **Quest for excellence:**

After successful implementation of its VISION-2011 program, the Institute has chalked out its VISION-2031 program with yearly targets to develop it into a model Institute of educational excellence. The quest for excellence of DEI is coupled with its commitment to help the weaker sections of our society.

6.2 Strategy Development and Deployment

6.2.1 Does the university have a perspective plan for development? If yes, what aspects are considered in the development of policies and strategies?

*** Vision and mission:**

Institute is developing rapidly as per its strategic plans like VISION-2011 and VISION-2031. The Institute is fully committed to its Educational Policy, which aims at all round development of the student, imbibing moral and spiritual values and developing social sensibilities in addition to academic excellence.

*** Teaching and learning:**

The Institute strives to develop a conducive environment and curriculum to provide an enlightening teaching-learning experience. It strives to continuously enhance the quality and competence of its faculty, staff and students.

It continuously keeps improving its academic programmes by introducing new ones of contemporary relevance as well as modifying the contents of existing programmes to include recent developments.

It has effectively employed the use of ICT to supplement and enhance classroom teaching.

There is strong emphasis to develop a habit of lifelong learning amongst students so as to enable them to face the future global challenges boldly.

*** Research and development:**

The Institute has established research programmes in emerging multi-disciplinary areas and has developed linkages with prestigious universities, institutes and research laboratories in India and abroad.

It has established a research culture by exposing UG students to state of the art developments.

Institute is now recognised for its excellence in research and is sought for consultancy by organisations of repute like BHEL, CADENCE and DEFENCE LABs.

The Institute R&D program is poised for a big leap in the coming decade. The strategic plan of DEI has reserved a 2000 sqm covered space for a Research and Technology Park committed to encourage Research and Development in challenging emerging multidisciplinary areas of Research.

*** Community engagement:**

It is the social responsibility of Academicians and Scientists, to offer scientific solutions to the problems of the Society. DEI has adopted several villages around Dayalbagh, and some rural tribal and backward regions and is working for their upliftment. The strategy adopted is to hold camps in those regions and understand their problems in depth and offer scientific solutions for integrated development comprising of Education, Agriculture, Technical development, Employment and to restore the Heritage of the region. The methodology is to involve the local population to take up the task in a cooperative effort. Assistance from Government and Private Agencies have also been arranged for the implementation of these programs.

* **Human resource planning and development:**

Human resource is the most important factor that influences success in any major project. DEI is able to meet this need by a multipronged approach that involves the following:

1. It takes care to select and recruit highly talented young faculty.
2. Schemes such as, Professor Emeritus, Adjunct and Visiting Professors are used to attract highly talented persons to join the faculty.
3. Collaborations under MoUs help in human resource development.
4. Staff training arranged within and outside the Institute

* **Industry interaction:**

In order to be in the forefront of Technological development, DEI maintains strong links with Industry and plans to strengthen further as given below.

1. Advanced technological consultancy projects have been taken up with Industries like, CADENCE, BHEL, ADRDE etc.
2. Standard Test and Calibration facilities have been provided to manufacturers of Generators, Pumping sets, Electronic instruments. The material testing facility is provided by Mech. Engg. Department.
3. Business Consultancy Cell provides expert guidance to entrepreneurs and failing business and Industrial Units.
4. Man power needs of Industry, starting from technicians (Vocational courses) to Engineers (Diploma, Degree and PG level) are met.
5. Training programs and Management Development Programs offered to Industry personnel.
6. The innovative Cooperative Education program has been introduced in Management and Engineering.

* **Internationalisation:**

DEI is actively entering international arena through linkages and MoUs on equal footing. These Research links, in each case, are designed to be beneficial to both parties and are not one sided.

6.2.2 Describe the university's internal organizational structure and decision making processes and their effectiveness.

Organizational structure of DEI consists of Director assisted by Registrar and Treasurer for administrative and financial issues. The President of the Institute is the highest statutory authority. There are 3 Assistant Registrars for Examinations, Administration and Finance who are assisted by lower staff. On the Academic front,

Director is assisted by Deans of Faculties and Principals followed by Heads of Departments. Departmental decisions are taken by Heads of Departments and approvals where necessary are obtained from the Dean and the Director.

6.2.3 Does the university have a formal policy to ensure quality? How is it designed, driven, deployed and reviewed?

The Educational policy of DEI is designed to ensure excellence in all spheres of its functioning. The Institute has put in place a TQM system with four themes, Excellence, Initiative, Creativity and Innovation. An elaborate scheme to achieve these objectives has been functioning since the inception of this University and is depicted in **Annexure-V**, page 201 of this report. The system is designed to ensure Efficiency and productivity and utmost economy and is tuned to meet the societal needs. IQAC, AAAC and ACE assist in planning and implementation of its policies.

6.2.4 Does the university encourage its academic departments to function independently and autonomously and how does it ensure accountability?

Full freedom is given to each department to function independently on all academic matters with due approval of Board of Studies and Academic Council.

6.2.5 During the last four years, have there been any instances of court cases filed by and against the institute? What were the critical issues and verdicts of the courts on these issues?

No Court Cases were filed. Cases under RTI act were considered by the Commission at Lucknow and Delhi and the contention of DEI has been upheld in all cases.

6.2.6 How does the university ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder-relationship?

The grievances are referred to Grievance Redressal Committee, which promptly takes up these cases. The committee analyzes these cases and submits a report to the Director.

6.2.7 Does the university have a mechanism for analyzing student feedback on institutional performance? If yes, what was the institutional response?

There are three different channels of student feedback, consisting of Class committees, Suggestion Boxes and AAAC meetings. The AAAC feedback is obtained through discussions with students by the committee. Some of the decisions of DEI resulted from the difficulties expressed by students at these meetings; like construction of an extension counter of the Canteen at the Arts Faculty and improvement of student amenities, need for additional Girls Hostel.

6.2.8 Does the university conduct performance audit of the various departments?

The AAAC of the Institute conducts the performance audit of all departments and centers twice each year and submits a critical report to Director.

6.2.9 What mechanisms have been evolved by the university to identify the developmental needs of its affiliated institutions?

Not Applicable.

6.2.10 Does the university have a vibrant College Development Council (CDC) / Board of College and University Development (BCUD)? If yes, detail its structure, functions and achievements.

Not Applicable.

6.3 Faculty Empowerment Strategies**6.3.1 What efforts have been made to enhance the professional development of teaching and non-teaching staff?**

Institute organizes short courses for staff training and sponsors staff to training programs where necessary. DEI also encourages teaching staff to participate in National and International conferences and meets the travel and registration costs under UGC guidelines. Several International and National conferences and workshops were organized in DEI with active participation of the faculty members.

6.3.2 What is the outcome of the review of various appraisal methods used by the university? List the important decisions.

Staff appraisal is obtained through feedback from students taken at the end of Semester by Deans of faculties and also by the concerned staff member. There are cases where staff confirmation is delayed or cancelled on bad appraisals. Sometimes a letter of warning is issued. In some cases, the promotion is withheld due to bad reports.

6.3.3 What are the welfare schemes available for teaching and non-teaching staff? What percentage of staff have benefitted from these schemes in the last four years? Give details.

The Institute maintains a staff welfare fund and a Thrift fund. Both these funds are used to help teaching and non-teaching staff members in conditions of medical or Educational needs. About 2% staff got the benefit of these schemes every year.

6.3.4 What are the measures taken by the University for attracting and retaining eminent faculty?

Whenever a vacancy is advertised the Heads of Departments scout for talented persons and motivate them to apply for faculty positions. This process proved successful in attracting persons of eminence like Prof. Sanjeev Swami, Prof. V.P.Pyara, Prof. Surat Kumar and several other faculty members.

6.3.5 Has the university conducted a gender audit during the last four years? If yes, mention a few salient findings.

The ratio of female students is 68% and that of female staff is 33% in the Institute. There are 520 seats in the 3 girls Hostels which fully meets the demand. The AAAC has been meeting the girl students of each faculty separately and getting the necessary feedback.

6.3.6 Does the university conduct any gender sensitization programmes for its faculty?

Yes. The Counseling cell of the department of Psychology conducts gender sensitization and counseling programs for the benefit of staff and students.

6.3.7 What is the impact of the University's Academic Staff College Programmes in enhancing the competencies of the university faculty?

Faculty members have participated in the Orientation and Refresher courses run by Academic staff colleges at JNU, AMU etc. The faculty is benefitted by these programs as they are exposed to new teaching methods.

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism available to monitor the effective and efficient use of financial resources?

Utilization of various grants/funds are monitored at various levels.

- (1) By Departmental Heads, Deans of faculties and Library Committee.
- (2) By Treasurer and Director
- (3) By Academic & Planning Board
- (4) By Project Review Committees
- (5) By AAAC
- (6) By Finance Committee
- (7) By Governing body

6.4.2 Does the university have a mechanism for internal and external audit?

DEI accounts are audited in the following manner.

The work done by one staff is checked by another before it is processed. Internal Audit is done by Assistant Registrar and Treasurer.

External Audit is carried out by

- (i) Chartered Accountant, M/s R.S.Mehta & Co.
- (ii) Local fund Audit Department of U.P.Govt.
- (iii) A.G.(UP), Allahabad.

6.4.3 Have the accounts been audited regularly? What were the audit objections, if any, and how were they complied with?

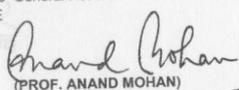
Accounts are audited regularly. The accounts of the year 2011-12 have been audited by A.G.(UP) in July, 2012. There have been no major audit objections. One audit objection regarding purchase procedures was made that the procedures of DEI are not aligned with the Central Government. The necessary correction of procedure was made and the Bye-laws of the Institute have been amended accordingly.

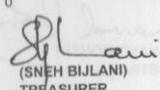
6.4.4 Provide the audited income and expenditure statement of academic and administrative activities of the last four years.

Copies of audited Income and Expenditure are shown below:

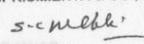
DAYALBAGH EDUCATIONAL INSTITUTE (DEEMED UNIVERSITY) DAYALBAGH, AGRA
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 2008-2009

	Schedule	Current year	(Amount-Rs.) Previous year
INCOME			
Income from Sales/Services	12	4462991	4288478
Grants/Subsidies	13	165929017	146592218
Fees/Subscriptions	14	7999835	2782260
Income from Investments	15	23168073	12408070
Income from Royalty, Publication etc.	16	3100	1014
Interest Earned	17	274764	208882
Other Income	18	1248543	1955702
Increase/(decrease) in stock of Finished goods and works in progress	19	0	0
TOTAL (A)		203086322	168236623
EXPENDITURE			
Establishment Expenses	20	157632784	139534337
Other Administrative Expenses etc.	21	15791083	14350037
Expenditure on Grants, Subsidies etc.	22	0	9108220
Interest	23	61021	0
Depreciation (Net Total at the year-end-corresponding to Schedule 8)		7055893	4847441
TOTAL (B)		180540781	167840035
Balance being excess of Income over Expenditure (A-B)		22545541	396588
Transfer to Corpus		22531000	0
Transfer to General Reserve		14541	396588
BALANCE		0	0


 (PROF. ANAND MOHAN)
 REGISTRAR


 (SNEH BIJLANI)
 TREASURER

As per our report of even date attached
 For R.S.MEHTA & CO., Chartered Accountants

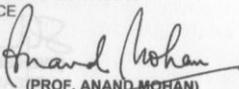

 (S.C.MEHTA)
 PARTNER
 M.No.71075



DAYALBAGH, AGRA
 Dated: 8-9-2009

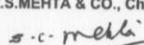
DAYALBAGH EDUCATIONAL INSTITUTE (DEEMED UNIVERSITY) DAYALBAGH, AGRA
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 2009-2010

	Schedule	Current year	(Amount in Rupees) Previous year
INCOME			
Income from Sales/Services	12	60,38,575	44,62,991
Grants/Subsidies	13	2,18,40,94,11	16,59,29,017
Fees/Subscriptions	14	1,35,46,758	79,99,835
Income from Investments	15	2,36,16,977	2,31,68,073
Income from Royalty, Publication etc.	16	2,340	3,100
Interest Earned	17	3,14,270	2,74,764
Other Income	18	42,20,987	12,48,543
Increase/(decrease) in stock of Finished goods and works in progress	19	0	0
TOTAL (A)		26,61,49,318	20,30,86,322
EXPENDITURE			
Establishment Expenses	20	20,71,20,195	15,76,32,784
Other Administrative Expenses etc.	21	2,25,63,199	1,57,91,083
Expenditure on Grants, Subsidies etc.	22	0	0
Interest	23	0	61,021
Depreciation (Net Total at the year-end-corresponding to Schedule 8)		89,00,427	70,55,893
TOTAL (B)		23,85,83,821	18,05,40,781
Balance being excess of Income over Expenditure (A-B)		2,75,65,497	2,25,45,541
Transfer to Corpus		2,59,00,000	2,25,31,000
Transfer to General Reserve		16,65,497	14,541
BALANCE		0	0


 (PROF. ANAND MOHAN)
 REGISTRAR


 (SNEH BIJLANI)
 TREASURER

As per our report of even date attached
 For R.S.MEHTA & CO., Chartered Accountants


 (S.C.MEHTA)
 PARTNER
 M.No.71075
 PAN. AEYPM 2125 A



DAYALBAGH, AGRA
 Dated: 29.09.10

DAYALBAGH EDUCATIONAL INSTITUTE (DEEMED UNIVERSITY) DAYALBAGH, AGRA
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 2011-2012

	Schedule	Current year	Previous year
(Rupees in lacs)			
INCOME			
Income from Sales/Services	12	2.33	12.21
Grants/Subsidies	13	3126.37	2960.63
Fees/Subscriptions	14	202.20	192.90
Income from Investments	15	413.93	249.86
Income from Royalty, Publication etc.	16	0.00	0.43
Interest Earned	17	19.01	15.90
Other Income	18	27.87	14.90
Increase/(decrease) in stock of Finished goods and works in progress	19	0.00	0.00
TOTAL (A)		3791.71	3446.83
EXPENDITURE			
Establishment Expenses	20	2835.75	2829.37
Other Administrative Expenses etc.	21	405.40	283.03
Expenditure on Grants, Subsidies etc.	22	0.00	0.00
Interest	23	0.00	0.00
Depreciation (Net Total at the year-end-corresponding to Schedule 8)		142.78	156.86
TOTAL (B)		3383.93	3269.26
Balance being excess of Income over Expenditure (A-B)		407.78	177.57
Transfer to Corpus		350.00	140.00
Transfer to General Reserve		57.78	37.57
BALANCE		0	0.00

As per our report of even date attached
 For R.S.MEHTA & CO., Chartered Accountants

(S.C.MEHTA)
 PARTNER
 M.No.71075
 PAN. AEYPM 2125 A

(S.C. MEHTA & CO.)
 Chartered Accountants
 3705, Prem Nagar
 Dayalbagh, Agra

DAYALBAGH, AGRA
 Dated: 18.09.12

DAYALBAGH EDUCATIONAL INSTITUTE (DEEMED UNIVERSITY) DAYALBAGH, AGRA
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 2010-2011

	Schedule	Current year	Previous year
(Amount in Rupees)			
INCOME			
Income from Sales/Services	12	12,21,125	60,38,575
Grants/Subsidies	13	29,60,63,241	21,84,09,412
Fees/Subscriptions	14	1,92,90,189	1,35,46,758
Income from Investments	15	2,49,85,776	2,36,16,977
Income from Royalty, Publication etc.	16	43,140	2,340
Interest Earned	17	15,90,333	3,14,270
Other Income	18	14,89,850	42,20,987
Increase/(decrease) in stock of Finished goods and works in progress	19		
TOTAL (A)		34,46,83,653	26,61,49,318
EXPENDITURE			
Establishment Expenses	20	28,29,36,554	20,71,20,195
Other Administrative Expenses etc.	21	2,83,03,490	2,25,63,199
Expenditure on Grants, Subsidies etc.	22		
Interest	23		
Depreciation (Net Total at the year-end-corresponding to Schedule 8)		1,56,86,265	89,00,427
TOTAL (B)		32,69,26,309	23,85,83,821
Balance being excess of Income over Expenditure (A-B)		1,77,57,344	2,75,65,497
Transfer to Corpus		1,40,00,000	2,59,00,000
Transfer to General Reserve		37,57,344	16,65,497
BALANCE		0	0

As per our report of even date attached
 For R.S.MEHTA & CO., Chartered Accountants

(S.C.MEHTA)
 PARTNER
 M.No.71075
 PAN. AEYPM 2125 A

(S.C. MEHTA & CO.)
 Chartered Accountants
 3705, Prem Nagar
 Dayalbagh, Agra

DAYALBAGH, AGRA
 Dated: 20.09.11

6.4.5 Narrate the efforts taken by the University for resource mobilization.

Resource mobilization is achieved by the following means:

1. Professional Consultancy Projects.
2. Research projects granted by Govt. Agencies.
3. Reliable and known Charitable Trusts/Societies.
4. AADEIs and AAFDEI, the Alumni Associations of DEI.

6.4.6 Is there any provision for the university to create a corpus fund? If yes, give details.

University Corpus fund was created in 1981 at the time of formation of DEI with a few lacs of rupees only. The Institute is building up the Corpus gradually and has reached a figure of Rs. 30.0 Crores, mostly from donations from Charitable societies connected with Dayalbagh and interest accrued from corpus.

6.5 Internal Quality Assurance System**6.5.1 Does the university conduct an academic audit of its departments? If yes, give details.**

Yes. The Academic audit is conducted annually by AAAC of DEI, which is chaired by a former Professor of Education of Delhi University and Professors of IITs and all Deans as its members. The committee visits all departments and meets students, teaching and non-teaching staff separately at least once every semester and submits a detailed report to the Director and a copy is also sent to UGC.

6.5.2 Based on the recommendations of the academic audit, what specific measures have been taken by the university to improve teaching, learning and evaluation?

The reports of AAAC of DEI have proven to be very valuable in getting a feedback of the status of the Institute and its shortcomings. The administration of the Institute has been taking corrective actions promptly based on these reports. Some of the steps taken up earlier are as follows.

1. The introduction of M.Phil. in 21 streams,
2. Adoption of UGC regulations 2009 for research,
3. Improvement of student's facilities,
4. extending the Library timings,
5. Improvement in the services offered by computer center etc.

6.5.3 Is there a central body within the university to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

The AAAC of DEI plays a dual role in DEI. First is to visit all departments and submits an Academic Assessment & Audit report annually, a copy of which is sent to UGC also. The second role of this body is to review the teaching-learning process closely. This committee takes at least two or more rounds of all departments every year and meets UG and PG Students, Teaching and non-teaching staff and submits a

critical report covering all aspects of student development.

The **Advisory Committee on Education** is an advisory body consisting of elite academicians chaired by Revered Prof. P S. Satsangi, former Director of DEI, a System Scientist and a Spiritual leader. This committee oversees the learning environment of the Institute. This is an independent body and gives guidance only on advisory capacity. All major decisions of the Institute connected with Teaching, Learning and Evaluation have emanated from this committee.

The **IQAC** has setup collection boxes to enable students to directly and secretly give their views and complaints.

6.5.4 How has IQAC contributed to institutionalizing quality assurance strategies and processes?

IQAC of the Institute constituted in 2001 is the watchdog of the quality of all aspects of functioning of this Institute. The concept of Total Quality Management has been introduced by IQAC and is implemented. The elements which have to be taken into consideration for effective implementation of TQM is quite large as depicted in a circular chart shown in Annexure-V (p.200).

The Institute staff is developing an ERP system for Indian Universities under a project sanctioned by MHRD to DEI. This software has been installed partially in DEI and is already giving dividends in terms of efficiency and quality.

6.5.5 How many decisions of the IQAC have been placed before the statutory authorities of the University for implementation?

All the decisions of IQAC which require approval of Statutory bodies are first processed through the concerned sections and put up for approval of Statutory bodies and then implemented. Some of the proposals of IQAC which were duly approved and implemented in recent years are as follows.

1. To permit students to get their books issued on all working days from the Central Library instead of the earlier practice of fixing the week days for each class.
2. To improve toilet and Drinking water facilities for staff and students in Arts, Science, Commerce and Social Science faculties.
3. To enforce maintenance of Course Diaries by teachers.
4. To provide Computer and Photo-copying facilities for students in all hostels.
5. To remove any limit on print facilities provided by Computer Center.
6. To utilize e-waste in the campus efficiently and ecologically.
7. To organize classes on the days of sports, cultural competitions, registration and fee payment etc. by time staggering so as to avoid loss of teaching days.

6.5.6 Does the IQAC have external members on its committees? If so, mention any significant contribution made by such members.

There is one external member in the IQAC, who has suggested that suggestion boxes be placed at critical locations in the campus to provide the students a channel to convey their problems and suggestions to authorities.

6.5.7 Has the IQAC conducted any study on the incremental academic growth of students from disadvantaged sections of society?

The study on the academic growth of SC and ST students across the Institute has been conducted by the AAAC in cooperation with IQAC in the Institute. The Institute has a policy not to highlight their Caste in dealing with the students, though all the benefits due to them are provided. This had resulted in a general improvement in the disadvantaged groups. The measure of this upliftment can be observed in the placement scenario where private companies are recruiting them in the same proportion as others. There are some cases where SC students have excelled in getting multiple jobs and post-doctoral fellowship offers from prestigious universities abroad.

6.5.8 What policies are in place for the periodic review of administrative and academic departments, subject areas, research centers, etc.?

Periodic review of all academic and administrative departments and other sections is carried out extensively by the AAAC committee at least once every semester. The committee holds department wise meetings with students, teaching and non-teaching staff, visits all laboratories and class rooms etc. and submits an extensive report to the Director and a copy is sent to UGC every year.

Any other information regarding Governance, Leadership and Management which the university would like to include.

1. Evaluative observations made under Organisation and Management in the previous assessment report and action taken

The observation was the following:

Observation #1 : *“The University may review its policy to generate funds for its development.”*

Action Taken : *Adequate steps have been taken for fund mobilization through Charitable organizations such as, MCREI, Women’s Training College Society and Engg. College (Society) and the Alumni Associations : AADEIs and AAFDEI. These are now permanent channels of support.*

2. Other quality sustenance and enhancement measures undertaken by the institution since the previous Assessment and Accreditation with regard to Organisation and Management

The following steps were taken for quality sustenance:

1. *Accrual System introduced in Accounts.*
2. *Computerization of Library, Accounts and Administration (This is done by our own staff with alumni support).*
3. *Strengthening feedback mechanism from all stake holders.*
4. *Resource mobilization (only from reliable and like mind organizations).*
5. *Officer on Special Duty: One Professor Emeritus is designated as OSD (A, B, C) for improvement of Amenities, Beautification and Core Courses who looks after their quality and sustenance.*
6. *Appointment of Deans UG and PG Studies.*
7. *Appointment of Deans, IT Centre Delhi, Rajaborari (M.P.) and MTV Puram, Tirunelveli.*
8. *Formulation of comprehensive Vision-2031 plan and starting its implementation program.*

CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Does the university conduct a Green Audit of its campus?

The University is committed to make the campus green. The Electrical Power consumption and fossil fuel usage are carefully monitored and steps taken to reduce their consumption. DEI works closely with an NGO, SPHEEHA, which is a Society working for Presevation of Health, Environment, Ecology and Heritage of Agra.

7.1.2 What are the initiatives taken by the university to make the campus eco-friendly?

- * **Energy conservation**

There is no culture of installing ACs in the Office rooms. The buildings are designed to be airy and cool to reduce the need for Air conditioning. Energy efficient lighting is used every where including Hostels. Cycling is preferred in the campus. Seven Solar power Generation plants of total capacity of 515 KWp have been installed meeting the entire needs of the campus, thus making DEI to be a Green Campus. Solar Cooking and Solar Hot water facilities have been provided in the Hostels.

- * **Use of renewable energy**

Institute has a policy to make the campus eco-friendly and accordingly installed Solar Power Plants and Solar cooking to avoid dependence on fossil fuels. Students have designed and built a Solar van which is used for commuting of staff. Institute Mechanical Engineering Dept is engaged in Research on Biodiesel. Chemistry Dept of DEI is chosen as a member of Solar Energy mission of Government of India.

- * **Water harvesting**

Extensive water harvesting facilities have been installed in the campus. The Institute bore wells get water at 100 to 120 ft depth while general levels in Agra lie between 200 to 250 ft.

- * **Check dam construction**

DEI is involved in the design of a Check dam system in the backward region of Rajaborari in M.P. The Institute Engineer, Sri Prem Dayal has conducted an extensive survey of mountainous jungles of this area and has designed an efficient check dam system which is awaiting clearance.

- * **Efforts for Carbon neutrality**

Campus has drastically reduced Carbon emissions. The waste leaves are not burnt but are converted into organic fertilizer. The solar photo voltaic panels used in the Solar power plant of DEI, Solar Hot water and cooking in Hostels, Development of Bio-fertilizers, Bio-fuels, Solar driven vehicles, Research on Hydrogen fuels are some of the contributions of this academic Institution to teach the public methods to attain Carbon neutrality at the national level.

* **Plantation**

Campus is made Green by extensive plantation by NSS volunteers. Institute works in collaboration with the NGO, “SPHEEHA” which is committed to preserve the Ecology and Heritage of Agra region. DEI is collaborating with ‘SPHEEHA’ on projects aimed at preserving the water table in Agra. SPHEEHA also helps in planting Trees in DEI Campus.

* **Hazardous waste management**

Care is taken through Departmental Heads in handling Hazardous materials. The Physics and Computer Science Dept. offers a laboratory course on Nuclear Physics and radiation levels are monitored and kept within permitted levels.

* **e-waste management**

There is a committee which devises methods for recycling e-waste so as to avoid harm to eco-system. Some success has been obtained in converting e-waste into beautiful art pieces and exhibited as pieces of art.

* **any other (please specify)**

The Institute Research programs in Science and Engineering faculties have been stressing heavily on environmental aspects and are recognized for their contribution. Prof. K.Maharaj Kumari and Dr. Anita lakhani have been honoured as Distinguished Environmentalists by NEDA.

7.2 Innovations

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the university.

1. **Innovative Integrated programs:** The Institute has introduced a number of Integrated programs in which bright students get an option to earn additional credits of a higher program in the final year and summer of an undergraduate program and optimize his studies by choosing projects which can be extended in the higher course, thus reducing the total time required without any academic dilution. At present there are nine such programs available as given below.

- a) Integrated B.Com.(Hons.)-MBA
- b) Integrated B.B.M.-MBA
- c) Integrated B.Sc.Engg.-MBA

- d) Integrated B.Sc.Engg.-M.Tech
 - e) Integrated M.A.(English)-B.Ed.
 - f) Integrated M.Com.-B.Ed.
 - g) Integrated PGDBE-M.A.(Economics)-M.Phil.
 - h) Integrated PGDT-M.A.-M.Phil. in Theology
 - i) Integrated B.Sc.(Hons.)-M.Sc.-M.Tech. in Comp.Sc.
2. **Usage of Modern Teaching Aids:** The Institute has provided extensive Multi-media facilities, e-class rooms, projection equipment and support of the multimedia lab to for Video editing and Web based publishing to help teachers in the teaching–learning process.
 3. **Blended mode distance education program:** DEI distance education program has some unique features. They are as follows.
 - b. Classes held 3 hrs. per day, 6 days per week regularly.
 - c. Mostly vocational or job oriented courses targeted towards weaker sections and women.
 - d. Qualified Mentors and fully equipped labs and Workshops.
 - e. Pre-recorded lessons shown on TV and explained by mentors. Then students do practical work in the workshops.
 - f. Printed text on IGNOU pattern of each lesson provided.
 - g. Continuous evaluation adopted on DEI pattern.
 - h. No franchise given, All courses run by DEI itself.
 - i. 100% Campus Placement for vocational courses.
 - j. All the innovative features of Educational policy of DEI have been adopted
 - k. Very low fees. Rs. 1500/- per semester only & no other charges.
 4. **Research & Technology Park:** In order to facilitate inter disciplinary research in chosen themes, DEI has established a Research & Technology Park and opened Centres for Quantum and Nano computing, Consciousness Studies, Bio-inspired Systems and Core courses.
 5. **MoUs & Research Collaborations:** DEI has entered into MoUs and pacts of collaboration with some Universities, Research Centers and Industries in India and abroad. All the MoUs are keenly followed and links are strengthened through research interactions, which help in bringing up the academic level of DEI.
 6. **Out-reach Programs:** DEI considers that it is its social responsibility to help the weaker sections to catch up with others. These programs are carried out not only in the villages around Dayalbagh but at other rural, tribal and backward regions of our country. Some of the outreach programs are,
 - **Hole in the Wall:** In this program, village children are allowed to play with a computer and learn in a natural way. A mentor will be available for guidance. This program has become very popular in villages.
 - **Free Medical Camps:** DEI under its NSS program holds free medical camps every fortnight for the benefit of villagers with the help of Dayalbagh Medical Relief Society which provides medicines free. About 10 doctors with different specialities including Homoeopathy, Ayurveda and

Acupressure provide free treatment. All pathological tests and Medicines are provided free of cost through the generosity of Dayalbagh Medical Relief Society.

- **Integrated Development of Tribal and Backward regions:** DEI has been organizing camps in tribal and backward regions and a plan for integrated development of those regions is prepared. The people there were organized to form self help groups and work for the upliftment of their region in a cooperative fashion. Extensive work has been undertaken in the tribal region of Rajaborari with the help of Dayalbagh societies. Similar activity has been undertaken in some rural regions of Tamil Nadu and Bihar also.
7. **Cooperative Management and Engineering Courses:** DEI has introduced a Cooperative MBA program in which the student joins an Industry for one semester and returns to DEI for the next. At the Industry he studies some courses in Video conferencing mode and takes up some project of the Industry. He continues to work on that project after returning to DEI. This forms the major project of the student who works on it under the able guidance of the teachers at DEI. The student benefits by working on a real life problem and the industry by the expertise available in DEI. This innovative program is highly appreciated by the Industry circles.
 8. **Green eco-friendly Campus:** DEI has become an eco-University by full solar power and other eco-friendly acts which avoid pollution in all its forms.
 9. **Innovative e-waste management:** The Institute has come up with several ideas to utilize e-waste by converting it into some Art objects.
 10. **e-DEI-de program:** DEI has introduced some modular on-line courses for knowledge upgradation of employed persons. These are short duration courses of 1 or 2 credit weightage available on web. The candidate credits one module at a time. On successful completion he earns the credits for that module. A certificate is awarded when the total earned credits match the requirement.
 11. **Letter Grading:** DEI has converted all its evaluation to Letter grading as per the UGC guidelines.

7.3 Best Practices

- 7.3.1 Give details of any two best practices which have contributed to better academic and administrative functioning of the university.

Best Practice – 1

1. **Title of the Practice: Work-based Training**

2. **Goal**

What are the objectives / intended outcomes of this “best practice” and what are the underlying principles or concepts of this practice (in about 100 words)?

The objective of introducing Work-based training in all U. G. Courses across the Institute is to give vocational job oriented knowledge to the student without sacrificing academic content so that student learns to apply the theory in practical life and is fit to earn a living. This permits the student to migrate seamlessly between vocational and academic streams.

3. The Context

What were the contextual features or challenging issues that needed to be addressed in designing and implementing this practice (in about 150 words)?

The practice based work experience courses need expertise in certain vocational areas and the teachers had to be given industry oriented training for developing these courses. The student has to put in extra effort as the program does not dilute the academic content.

4. The Practice

Describe the practice and its uniqueness in the context of India higher education. What were the constraints / limitations, if any, faced (in about 400 words)?

Every Under-graduate student has to credit in all the four semesters a work based training course in an area related to one of the major subjects credited by him. The student is required to spend 4 periods per week for this course and it carries a weightage of 2 credits in each semester. Each department offers a number of work experience courses, and more than 100 work experience courses have been developed. In the third year, advance level work based training is available which is optional and these credits are not added to the student's honours program. The student only gets a certificate of successful completion with Grades. A sample of the work experience courses running in the Institute with the names of departments offering them is listed below.

English	: Secretarial skills/Journalism & Mass Communication
Hindi	: Patrakarita/Creative writing
Music	: Musical Instrument Repair/Applied Music
Drawing	: Commercial Art/Batic Painting/Clay Modelling/ Textile Designing & Fabric Painting
Economics	: Banking Methods/Financial Applications
Pol. Science	: Local self Government
Psychology	: Psych. treatment/ Fabrication of Psych. Equipment
Sociology	: Upliftment of weaker sections
Commerce	: Book Keeping
Home Sc.	: Food preservation/Artificial flowers/Doll making

The above list is only partial. The program is unique and students are highly benefitted due to the self reliance and confidence built up. The student gets vocational training while progressing in the chosen academic field.

5. Evidence of Success

Provide evidence of success such as performance against targets and benchmarks, review results. What do these results indicate? Describe in about 200 words.

The vocational degree scheme introduced by the Ministry earlier had failed as it had diluted the academic content, making the graduate unfit to progress further in higher studies. The scheme of DEI got tremendous success because the work experience course did not dilute the academic content. In fact, the work experience had a multiplying effect on the Academic program, as the student sees the application of the theory in practice.

6. **Problems Encountered and Resources Required**

Please identify the problems encountered and resources required to implement the practice in about 150 words.

Development of more than 100 work experience courses across the Institute is a tremendous job undertaken by the faculty with herculean efforts and huge expenditure in setting up the laboratories. Looking at the importance of the scheme in academic buildup of the Graduates, resources were made available by Dayalbagh management and also by UGC, making this a role model.

7. **Notes**

Optional. Please add any other information that you deem important to the reader such as changes that may have been introduced after the establishment of IQAC in about 150 words.

The National Vocational Education Development Framework proposed by AICTE in May 2012, aims at integrating the Vocational training with the Academic programs permitting the student to conveniently migrate between academic and vocational streams starting from school level going up to graduate and post-graduate levels correcting the earlier experiment of the MHRD. This program is already in place in DEI tested and implemented successfully and fully developed with more than 100 work experience courses in full operation, since the last 30 years. AICTE has recognized DEI as a Vocational Education Provider (VEP) and the Center for Advanced Rual Technology (CART) as Skill Knowledge Provider (SKP).

Best Practice – 2

1. **Title of the Practice:**

Compulsory Core courses for Value based Education.

2. **Goal**

What are the objectives / intended outcomes of this “best practice” and what are the underlying principles or concepts of this practice (in about 100 words)?

The mission Objective of the Educational Policy of DEI is to give Value based Education to evolve a ‘Complete Man’, who blends the academic excellence with high moral and spiritual values and Social sensibilities. In the present day scenario where our country is threatened by huge corruption and a steep fall in

morals, the need is to educate our youth to follow the path of Truth. A set of Core courses have been identified by DEI to solve this problem. These courses imbibe the moral and spiritual values and instill a sense of pride about the rich heritage of our country.

3. The Context

What were the contextual features or challenging issues that needed to be addressed in designing and implementing this practice?

As the world shrinks to a global village with rapid advancement of science and technology, the disturbing trend of falling moral values is a cause of worry. DEI addresses this problem with a unique and innovative Educational system. In this system, the Core Courses are considered to be a very important factor in instilling the desired qualities in our graduates.

4. The Practice

Describe the practice and its uniqueness in the context of Indian higher education. What were the constraints / limitations, if any, faced (in about 400 words)?

The compulsory core courses and the qualities expected to be imbibed by the student are as follows.

1. *Cultural Education: To take pride in the National ethos, so that one may not lose his moorings.*
2. *Comparative study of religion: To ingrain an attitude of tolerance and a sense of National integration and inculcate moral and spiritual values.*
3. *Scientific Methodology, G.K. and Current affairs: To nurture a scientific temper and be aware of contemporary developments.*
4. *Rural Development: To foster a fuller understanding of the rural life and to appreciate the polity and economy of our country and social forces.*
5. *Agricultural Operations: Exposure to rural realities.*
6. *Social Service: To engender a spirit of brotherhood of man and to create a casteless and classless society.*
7. *Co-curricular activities: for all-round development of personality.*

The core courses are compulsory and are spread over the first four semesters of all the first degree courses of DEI. These courses enable the students to imbibe the basic human values, develop a spirit of tolerance and prepare them for the service of mankind with a sense of devotion and dedication. This program has been highly appreciated by academicians including Noble laureates.

5. Evidence of Success

Provide evidence of success such as performance against targets and benchmarks, review results. What do these results indicate? Describe in about 200 words.

The impact of the core courses on the values of the graduates of DEI is well recognized by the employers, parents and even general public. Prof. H. S. Soch, former Vice Chancellor, Guru Nanak Dev University of Amritsar, who assessed DEI as Chairman, of NAAC peer team in 2005 sent a team from Khalsa College, Amritsar to study the Educational system and emulate DEI so as to instill values in their students also.

The Institute has recently conducted a survey of the rating of 450 graduates of DEI by their employers on various factors related to their qualities. The ratings obtained on a scale of 5 on factors related to their values are as follows.

Hard work	: 4.5
Integrity	: 4.4
Self-reliance	: 4.4
Selfless service	: 4.4
Cooperation	: 4.5
Honesty	: 4.5
Sincerity	: 4.6
Dignity of labour	: 4.7
Honesty	: 4.4
Overall Average	: 4.5

The overall average score obtained on various values of DEI graduates was 4.5, this figure being much higher than normal. The same sentiment is expressed by several corporates who have been regularly recruiting DEI graduates, like Tata Motors, TELCO, Neilsons, etc.

6. Problems Encountered and Resources Required

Please identify the problems encountered and resources required to implement the practice in about 150 words.

The entire nation is seeking suitable methods for inculcating high moral values in students. It is not sufficient to give lectures and sermons. A system which works without corruption at any level, where the teachers and other staff members lead a life of principles with sincerity and hard work and an ambience of purity is essential. DEI is blessed with such faculty and ambience and the core courses sow the seeds of high moral values in the minds of young students.

7. Please add any other information that you deem important to the reader such as changes that may have been introduced after the establishment of IQAC in about 150 words.

The Core courses being the base on which the edifice of high moral values is built, DEI has established a Core Course center in a spacious Hall in the recently established Research and Technology Park. This center acts as a support base for running the core courses in all faculties of the Institute effectively and for further development and improvement of these courses.

Any other information regarding Innovations and Best Practices, which the university would like to include.

Some of the best practices of the Institute that have a positive impact are as follows:

- 1. Morning Prayer: The day starts with a prayer in all faculties*
- 2. Dress Code for students: The students have to follow a dress code.*

3. *Strict Academic Calendar: The Institute announces its academic Calendar at the beginning of the session, which is strictly followed without any academic loss.*
 4. *Six Days a Week Schedule : The Institute follows a six days a week schedule to fulfill its multifarious objectives and develop a culture of hard work.*
 5. *Timely announcement of Results: The results of each semester are declared within one month of the end of end semester examinations without fail.*
 6. *No Campus Unrest : DEI is proud to have had no campus unrest since its inception.*
 7. *Cost-effective Education: The tuition fee charged by DEI is very low, facilitating bright needy students to meet the cost of education. The fees charged for Engineering and Management courses is only 15% of that charged by some other Institutions and the quality of education being the best, DEI attracts brilliant students whose performance at GATE and NET examinations is extremely good. Efficiency management of financial resources help meet the desired objectives.*
 8. *Women Education: Due to safety and security considerations, parents prefer DEI, especially for girls. Thus there are 68% female students enrolled in DEI.*
 9. *Highly qualified and dedicated Faculty: DEI has been recruiting academically bright, preferably Doctoral degree holders. DEI also retains former distinguished Professors as Emeritus Professors. The overall Teacher to student ratio is 1:16 that enhances the teaching-learning experience.*
 10. *Support to disadvantaged groups and weaker sections: A number of vocational courses have been introduced in regular as well as in distance mode at 76 study centers only to help the poor and needy to get job oriented education at minimal cost.*
 11. *Thrust on advanced Research: DEI has placed a high emphasis on collaborative research in multidisciplinary areas and has already received received national and international recognition. It has nearly tripled the number of scholars and has increased the project grants by a factor of 10 in the last 5 years.*
 12. *Planned Development: DEI follows a planned development program with fixed targets. Careful planning of its Vision plans after extensive consultations with all stakeholders and dedicated efforts thereafter to realize the objectives have paid rich dividends. After the successful realization of its VISION-2011 program launched in September 2005, DEI has prepared and started implementing its VISION-2031 action plan that comprises comprehensive five year targets with milestones, to achieve excellence in all spheres.*
- 1. Evaluative observations made under Inovations and Best Practices in the previous assessment report and action taken**

No observation was made in earlier assessment under this head.

PUBLISHED IN THE GAZETTE OF INDIA
PART I, SECTION I (No 24 dated 13th June, 1981)

No F 9-3/78-U-3

Government of India
Ministry of Education & Culture
(Department of Education)

New Delhi, the 16th May, 1981.

NOTIFICATION

In exercise of the powers conferred by Section 3 of the University Grants Commission Act, 1956 (3 of 1956), the Central Government, on the advice of the Commission, hereby declare that the Dayalbagh Educational Institute, Agra, comprising of DEI Women's Training College, DEI REI Degree College and DEI Engineering College, Dayalbagh, shall be deemed to be a University for the purpose of the aforesaid Act.

Sd/-

(M.R. KOLHATKAR)

Joint Secretary to the Govt. of India.

Copy forwarded for information to :-

1. The Secretary, University Grants Commission, New Delhi
2. The Director, Dayalbagh Educational Institute, Dayalbagh, Agra, UP.
3. All Ministries of the Government of India (including the President's Secretariat, the Prime Minister's Secretariat, the Cabinet Secretariat and the Planning Commission).
4. All State Governments and Union Territories.
5. All offices of the Ministry.
6. Registrars of all Universities.
7. Press Information Bureau, New Delhi.

Sd/-

S.K. Sen Gupta

Under Secretary to the Govt. of India

ANNEXURE-II(a)



All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)
7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

F.No. Northern/1-748018103/2012/EOA

Date: 10 May 2012

To,
The Principal Secretary (Tech. Edu.)
Govt. of Uttar Pradesh,
Sachiv Bhawan, Lucknow-226001,
12A, Navin Bhawan,
U.P. Lucknow-226001

Sub: Extension of approval for the academic year 2012-13

Ref: Application of the Institution for Extension of approval for the academic year 2012-13

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2010 notified by the Council vide notification number F-No.37-3/Legal/2010 dated 10/12/2010 and amendment vide notification number F-No.37-3/Legal/2011 dated 30/09/2011 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

Regional Office	Northern	Application Id	1-748018103
		Permanent Id	1-482451854
Name of the Institute	DAYALBAGH EDUCATIONAL INSTITUTE	Institute Address	DAYALBAGH, AGRA - 282110, UTTAR PRADESH, INDIA, AGRA, AGRA, Uttar Pradesh, 282110
Name of the Society/Trust	DAYALBAGH EDUCATIONAL INSTITUTE	Society/Trust Address	DAYALBAGH, AGRA,AGRA,AGRA,Uttar Pradesh,282110
Institute Type	Govt aided		

Opted for change from Women to Co-ed	No	Opted for change of name	No	Opted for change of site	No
Change from Women to Co-ed approved	Not Applicable	Change of name Approved	Not Applicable	Change of site Approved	Not Applicable

to conduct following courses with the intake indicated below for the academic year 2012-13

Application Number: 1-748018103*

Page 1 of 4

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Letter Printed On:18 May 2012.

Printed By : AE25551881



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(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

Application Id: 1-748018103			Course		Affiliating Body					
Program	Shift	Level		Full/Part Time		Intake 2011-12	Intake Approved for 12/13	NRI	PIC	Foreign Collaboration
ENGINEERING AND TECHNOLOGY	1st Shift	UNDERGRADUATE	ELECTRICAL ENGINEERING	FULL TIME	Dayalbagh Educational Institute, Agra	60	60	No	No	No
ENGINEERING AND TECHNOLOGY	1st Shift	UNDERGRADUATE	MECANICAL ENGINEERING	FULL TIME	Dayalbagh Educational Institute, Agra	60	60	No	No	No
ENGINEERING AND TECHNOLOGY	1st Shift	POSTGRADUATE	ELECTRICAL AND MECHANICAL ENGINEERING	PART TIME	Dayalbagh Educational Institute, Agra	13	13	No	No	No
ENGINEERING AND TECHNOLOGY	1st Shift	DOCTORAL	ELECTRICAL ENGINEERING	FULL TIME	Dayalbagh Educational Institute, Agra	22	22	No	No	No
ENGINEERING AND TECHNOLOGY	1st Shift	DOCTORAL	MECANICAL ENGINEERING	FULL TIME	Dayalbagh Educational Institute, Agra	31	31	No	No	No

Application Number: 1-748018103*

Page 2 of 4

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Letter Printed On: 18 May 2012.

Printed By : AE2551881



All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

Application Id: 1-748018103			Course	Full/Part Time	Affiliating Body	Intake 2011-12	Intake Approved for 12-13	AFC	P/O	Foreign Collaboration
Program	Shift	Level								
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	ELECTRICAL AND MECHANICAL ENGINEERING	FULL TIME	Dayalbagh Educational Institute, Agra	13	13	No	No	No

The above mentioned approval is subject to the condition that DAYALBAGH EDUCATIONAL INSTITUTE shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the institution along with the application submitted by the institution on portal.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

(Dr. K P Isaac)
Member Secretary, AICTE

Copy to:

1. The Regional Officer,
All India Council for Technical Education
Govt. Polytechnic Campus
Adjoining Directorate of Technical Education
Vikas Nagar, Kanpur-208 002, Uttar Pradesh
2. The Director Of Technical Education,
Uttar Pradesh
3. The Registrar,
Dayalbagh Educational Institute, Agra
4. The Principal / Director,
DAYALBAGH EDUCATIONAL INSTITUTE

Application Number: 1-748018103*

Page 3 of 4

Note: This is a Computer generated Extension of Approval Letter. No signature is required.

Letter Printed On: 18 May 2012.

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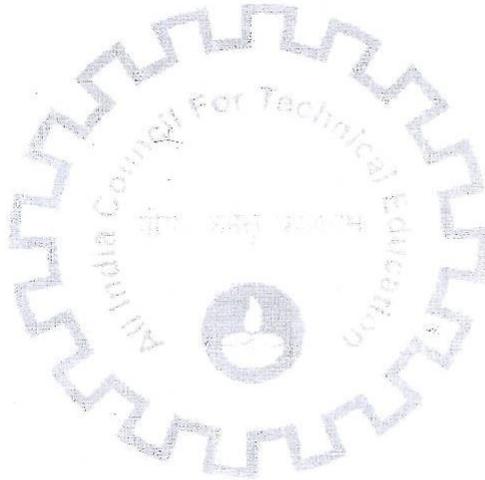


All India Council for Technical Education
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7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-india.org

DAYALBAGH, AGRA - 282110, UTTAR PRADESH, INDIA.,
AGRA,AGRA,
Uttar Pradesh,282110

5. **The Secretary / Chairman,**
DAYALBAGH EDUCATIONAL INSTITUTE
DAYALBAGH, AGRA,
AGRA,AGRA,
Uttar Pradesh,282110
6. **Guard File(AICTE)**



Application Number: 1-748018103*

Page 4 of 4

Note: This is a Computer generated Extension of Approval Letter. No signature is required.

Letter Printed On:18 May 2012.

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ANNEXURE-II(b)



All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

F.No. Northern/1-733031143/2012/EOA

Date: 10 May 2012

To,
The Principal Secretary (Tech. Edu.)
Govt. of Uttar Pradesh,
Sachiv Bhawan, Lucknow-226001,
12A, Navin Bhawan,
U.P. Lucknow-226001

Sub: Extension of approval for the academic year 2012-13

Ref: Application of the Institution for Extension of approval for the academic year 2012-13

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2010 notified by the Council vide notification number F-No.37-3/Legal/2010 dated 10/12/2010 and amendment vide notification number F-No.37-3/Legal/2011 dated 30/09/2011 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

Regional Office	Northern	Application Id	1-733031143
		Permanent Id	1-444215021
Name of the Institute	DAYALBAGH EDUCATIONAL INSTITUTE - DEPARTMENT OF MANAGEMENT	Institute Address	DAYALBAGH, AGRA 282110 UTTAR PRADESH, AGRA, AGRA, Uttar Pradesh, 282110
Name of the Society/Trust	DAYALBAGH EDUCATIONAL INSTITUTE	Society/Trust Address	DAYALBAGH, AGRA 282110 UTTAR PRADESH INDIA, AGRA, AGRA, Uttar Pradesh, 282110
Institute Type	Govt. aided		

Opted for change from Women to Co-ed	No	Opted for change of name	No	Opted for change of site	No
Change from Women to Co-ed approved	Not Applicable	Change of name Approved	Not Applicable	Change of site Approved	Not Applicable

to conduct following courses with the intake indicated below for the academic year 2012-13

Application Number: 1-733031143

Page 1 of 3



All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-india.org

Application Id: 1-733031143			Course	Full/Part Time	Affiliating Body	Intake 2011-12	Intake Approved for 12-13	NR	PIO	Foreign Collaboration
Program	Shift	Level								
MANAGEMENT	1st Shift	POST GRADUATE	MASTERS IN BUSINESS ADMINISTRATION	FULL TIME	Dayalbagh Educational Institute, Agra	30	30	No	No	No

The above mentioned approval is subject to the condition that DAYALBAGH EDUCATIONAL INSTITUTE - DEPARTMENT OF MANAGEMENT shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the institution along with the application submitted by the institution on portal.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

(Dr. K P Isaac)

Member Secretary, AICTE

Copy to:

- The Regional Officer,**
All India Council for Technical Education
Govt. Polytechnic Campus
Adjoining Directorate of Technical Education
Vikas Nagar, Kanpur-208 002, Uttar Pradesh
- The Director Of Technical Education,**
Uttar Pradesh
- The Registrar,**
Dayalbagh Educational Institute, Agra
- The Principal / Director,**
DAYALBAGH EDUCATIONAL INSTITUTE - DEPARTMENT OF MANAGEMENT
DAYALBAGH, AGRA
282110

Application Number: 1-733031143*

Page 2 of 3

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Letter Printed On 16 May 2012.

Printed By : ai:001966



राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद
विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
An Autonomous Institution of the University Grants Commission

Certificate of Accreditation

*The Executive Committee of the
National Assessment and Accreditation Council
on the recommendation of the duly appointed
Peer Team is pleased to declare the
Dayalbagh Educational Institute
(Deemed University)
Dayalbagh, Agra, Uttar Pradesh as
Accredited
at the **B^{**}** level.*

Date : February 02, 2006



Director

o This certification is valid for a period of Five years with effect from February 02, 2006
o An institutional score (%) in the range of 55-60 denotes C grade, 60-65-C grade, 65-70-C⁺⁺ grade,
70-75- B grade, 75-80- B⁺ grade, 80-85-B⁺⁺ grade, 85-90- A grade, 90-95-A⁺ grade, 95-100-A⁺⁺ grade
(upper limits exclusive)

Quality Profile

Name of the Institution : Dayalbagh Educational Institute (Deemed University)
Place : Dayalbagh, Agra, Uttar Pradesh

Criterion	Criterion Score (C _i)	Weightage (W _i)	Criterion X Weightage (C _i x W _i)
I. Curricular Aspects	84	15	1260
II. Teaching-learning and Evaluation	86	25	2150
III. Research, Consultancy and Extension	84	15	1260
IV. Infrastructure and Learning Resources	80	15	1200
V. Student Support and Progression	83	10	830
VI. Organisation and Management	84	10	840
VII. Healthy Practices	85	10	850
		100	ΣC _i W _i = 8390

$$\text{Institutional Score} = \frac{\sum C_i W_i}{\sum W_i} = \frac{8390}{100} = 83.90$$

Unacad
Director

EC/38/081

*REPORT
ON THE INSTITUTIONAL
ACCREDITATION OF
DAYALBAGH EDUCATIONAL INSTITUTE
(DEEMED UNIVERSITY),
AGRA*

DATES OF VISIT
OCTOBER 3-5, 2005

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
BANGALORE

REPORT ON THE INSTITUTIONAL
ACCREDITATION OF
DAYALBAGH EDUCATIONAL INSTITUTE
(DEEMED UNIVERSITY),
AGRA

Section I : INTRODUCTION

Dayalbagh Educational Institute (Deemed University), Agra was established as a Deemed University under Section 3 of the University Grants Commission Act from the session 1981-82 by merging three educational institutions, viz. D.E.I. R.E.I. Degree College, D.E.I. Women's Training College and D.E.I. Engineering College. This institution has also been accorded the membership of Association of Indian Universities, New Delhi. This is a multi-faculty university comprising of the Faculties of Arts, Science, Commerce, Education, Engineering and Social Sciences.

It was way back in 1917 that the Radhasoami Satsang Sabha established its co-educational Middle School. This was essentially in pursuance of the realization that the best investment in making an individual 'complete man' lies in educating him. Within next six months it became a High School. The degree college stood established in 1947. A Technical School was established in 1927 offering Automobile, Electrical and Mechanical Engineering Diploma Courses duly recognized by the Board of Technical Education, Uttar Pradesh. Prem Vidyalaya was established to propagate women education in 1930 which is now an intermediate college. The Women's Training College was established in 1947 to prepare women for receiving B.A. and B.Ed. M.Ed. classes were subsequently added in 1958. The B.Sc. Engineering degree was offered in 1950 in the Engineering College. It is thus creditable to note that a small co-educational Middle School, which stood established in 1917, today has blossomed into a Deemed to be University in this country.

J.S. Singh

This campus is spread over 35 acres of land. It is proposed to be extended to 600 acres, the Master Plan of which is ready. It is located in Urban area, however it has separate Nagar Panchayat. Prior to 1981, it was recognized by the University Grants Commission under 2(f) and 12B. The unit cost of education is Rs. 34,261/- including salary component.

Presently in the University, 2688 students are receiving education out of whom 1908 are women students. Thus around 70% of the women students receive education here fulfilling the wishes of the society to provide more facilities for women education and women empowerment. It was also noticed that 577 students were studying at the post graduate level which accounted for roughly 16% of the total enrolment.

Dayalbagh Educational Institute came forward to get itself assessed by the National Assessment and Accreditation Council. It prepared its Self-Study Report for submission to the National Assessment and Accreditation Council. The National Assessment and Accreditation Council constituted an Expert Committee to visit the institution and validate its report. The Peer Team comprises of Dr. H.S. Soch, Former Vice-Chancellor, Guru Nanak Dev University, Amritsar as Chairman and Prof. G Raghurama, Dean, Faculty Division II, Birla Institute of Technology and Science Pilani, Prof. N.V. Narasimham, Director, School of Management Studies, IGNOU, New Delhi, Prof. K.K. Mishra, Deptt. of Chemistry, Rani Durgavathi Visvavidyalaya, Jabalpur, as Members. The Peer Team visited the institution for three days from 3rd to 5th October, 2005. Dr. K.N. Madhusudanan Pillai, Academic Consultant, NAAC coordinated the visit of the Peer Team successfully.

The Peer Team carefully perused and analyzed the self-study report submitted by the university. During the actual visit, Peer Team went through the relevant documents, visited the departments and interacted with the various constituents of the institution. The academic, co-curricular, extra-curricular, sports and other activities of the institution were looked into. The Peer Team interacted at length with the Director and had useful meetings with the Members of the Managing

Dr. K.N. Madhusudanan Pillai

Body, Heads of the Departments, non-teaching staff, the faculty members, students, parents and the alumni of the institution. Based on the above exercise and keeping in mind the criteria identified by the National Assessment and Accreditation Council, the Peer Team prepared the report for the purpose of institutional accreditation.

Section II : CRITERION-WISE ANALYSIS :

Criterion-I : CURRICULAR ASPECTS

The main objective of the University is to evolve a complete man, imparting quality education having relevance to the modern times to nurture scientific temper; to promote cultural heritage and to have pride in the national ethos; to understand the different beliefs and faiths; to promote national unity, etc.

The major considerations addressed by the goals and objectives are to provide comprehensive value-based education aiming at evolving a complete man who has virtues of dignity of labour, simple living and high thinking, inculcate scientific temper and a spirit of Brotherhood of Man and Fatherhood of God to help in the formation of a classless and casteless society. It thus trains a person in practical science and technology and further make him suited to the increasingly technology-oriented society and generate in him a spirit of self-reliance. The Institute is open to all irrespective of caste, creed, race, religion, economic position or social status.

In order to achieve these objectives, the Dayalbagh Educational Institute was authorized to make plans and line of action accordingly. It is this sacred objective that has been kept in view by the academic bodies of the university while deciding the course curriculum. The general policy is that every candidate for undergraduate study will have to learn two major subjects of the faculty for the First degree and one from the other faculty for two semesters for graduation with Honours. Secondly, they would also take two interdisciplinary and ancillary elective one

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semester each from their own faculty and one from a different faculty. Thirdly, the students also must undergo work-based training for two semesters. Lastly, in addition to this course, there are compulsory core courses, like Cultural Education in the 1st semester, Comparative Study of Religion, General Knowledge and Current Affairs spread-over four semesters, Rural Development, Agricultural Operations, Social Services and Co-Curricular Activities during their programme. It is thus a matter of joy that the whole programme is essentially meeting the commitment to achieve the mission objective.

The University is running 28 undergraduate courses, 17 postgraduate courses and 20 Ph.D. programmes. The Institute is also offering Certificate Courses, Diploma Courses and PG Diploma Courses. At the undergraduate level, in Arts Faculty it provides Honours programme in English, Hindi, Sanskrit, Home Science, Music, Drawing and Painting. In the Science Faculty, it provides Hons. courses in B.Sc. Botany, Chemistry, Mathematics, Physics, Zoology. Likewise, in the Commerce Faculty, it is providing B.Com. Honours in Accountancy and Law, in Applied Business Economics, in Business Administration. In the Faculty of Social Sciences, it provides Honours in Economics, Political Science, Psychology and Sociology. It also provides simple B.A., B.Sc., B.Com., B.B.M. and B.Sc. Home Science. The degree of B.Sc. is offered in the Faculty of Engineering in disciplines of Electrical and Mechanical Engineering. It is also providing P.G. courses in all the above mentioned subjects. It is also running B.Ed. and M.Ed. under the Faculty of Education. The Ph.D. programme is available in all the above-mentioned subjects and Electrical and Mechanical Engineering.

The courses are designed keeping in view the inter-disciplinary approach, including adding innovative core courses and PG and Honours in emerging areas.

The institution revises and updates the curriculum every year through regular meetings of the Boards of Studies, wherein experts from different universities are also made members. The teachers of the university departments play active role in recommending the changes in the curriculum to the Boards of Studies and other

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academic bodies, i.e. Faculty Board and the Academic Council. The University is also able to start any course it may conceptualize within a span of six months.

The University has established a Quality Improvement Programme Cell that looks to the academic standards of the institution. There is an Advisory Committee on Education in Dayalbagh comprising of academic, administrative and industry experts from all over the country and Heads of Dayalbagh Institutions periodically reviews the progress of the Institute and makes valuable recommendations for quality improvement. There is also an Academic Audit and Assessment Committee having two external experts and to visit the University every year, interact with the teaching faculty and the students, visit central facilities so as to help improvement in the standards of teaching and learning. It is creditable to see that the university has been implementing the recommendations of the UGC from time to time. The system of continuous internal evaluation, Credit System and Semester System have been successfully implemented right from the inception of the university. It strictly follows the academic calendar. It was noticed that the admission to Arts Faculty was exclusively reserved for women candidates. However, the Advanced Post Graduate Diploma in Theology was also open to men candidates. Likewise, in Engineering Degree programme, only men students are admitted. A beginning has been made by introducing courses in engineering for women.

Criterion II : TEACHING, LEARNING AND EVALUATION

The admissions to this University are made strictly on merit. It is open to all irrespective of caste, creed, race, religion, financial status or social status. The criteria for admission is based on Entrance Test, interview and academic record. The reservation policy for admission is followed as approved by the university and the State Government of Uttar Pradesh. Preference for admission to the sports persons is given where there is a significant accomplishment by the sports persons. Likewise, credit for admission is also given to such candidates who excel in various co-curricular activities.

J. S. Singh

Conventional lecture method continues to dominate the teaching environment. The blackboard continues to be used in preference to other various pedagogical teaching aids. The seminars and group discussions, however, are integral part of the curriculum. Most of the post-graduate programmes and Degree programme in the Faculty of Engineering require a project report to be written by the candidates in their final semester. Industrial training is mandatory for professional programmes in Management and Engineering. The university provides bridge and remedial courses to the educationally disadvantaged students at the undergraduate level. The advanced learners are identified at the commencement of the session. They are encouraged to take active part in group discussions and seminars. They are also allotted course work in advance topics. They are also motivated to appear in NET / GATE examination for which special lectures are arranged.

The university has been able to maintain an excellent academic climate right from its inception. It was gratifying to see that the university has more than 280 working days and more than 200 teaching days consistently.

The university follows continuous internal evaluation system coupled with Final semester examination system since its inception, i.e. 1981. The method of evaluation has continued to be same. Only once some changes were made in the different components of continuous assessment. The institute has prepared its own Question Bank in all the five units of the course programme. Presently the weight age of 75% is accorded to continuous internal evaluation whereas only 25% is reserved for external evaluation which is appreciable. There is a limited choice in the question paper so that the knowledge of the student gained in the subject is well-assessed. The University has its own boards of studies which appoint paper setters, examiners, etc. The evaluation of Ph.D. thesis is done through a list of experts recommended by the Research Degree Committee. It was interesting to see that the university does not moderate the results. The marking is done strictly as per university guidelines. Total confidentiality is kept. The results are always

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declared within 4-5 weeks of the last semester examination. This practice has been followed in the last 24 years.

The faculty comprises of 179 teachers out of whom 149 are holding the degree of Ph.D. Basically, there are no part-time teachers and the work is done by the full-time faculty. The ratio of the teaching staff to the non-teaching staff is 3:4. The recruitment of the teachers is made strictly on merit. The posts are normally advertised in the month of February / March and the appointment letters are released around last month of the year. The teachers are encouraged to update their knowledge and, accordingly, attend Orientation and Refresher Courses, national and international seminars, conferences, etc. The University also encourages the use of various pedagogical techniques for making teaching-learning interactive and enjoyable. Uninterrupted power supply during working hours has soothened the teaching-learning climate. In the last two years, average 100 teachers have participated in the various seminars, conferences, workshops, etc. Around 30 teachers acted as resource persons.

The self-appraisal method for the evaluation of output of the teachers is working satisfactorily. The self-appraisal reports are analyzed and scrutinized by the Screening Committee when the faculty members, especially, apply for next promotion under Career Advancement Scheme and / or grant of senior scale / selection grade. These reports are also scrutinized by the Director of the Institution, who would normally provide necessary feed back to the faculty. The faculty members also maintain course diaries where they record their academic progress during the year.

Some of the faculty members have developed national and international linkage for teaching and research with institutions, like I.I.T.- Delhi, I.I.T.- Kanpur, I.I.T.-Chennai, T.I.F.R. Mumbai, B.P.C.L., Agra, D.S.T., Delhi, Institute of Home Economics, New Delhi, D.R.D.O., New Delhi, etc.

The institute has adopted some measures to get feed back from external examiners in each course regarding the performance of the students, the standards

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of question banks, curriculum, etc. It also gets a detailed analysis by Academic Audit and Assessment Committee that meets every year.

The teaching-learning climate in the university deserves commendation.

Criterion III : RESEARCH, CONSULTANCY AND EXTENSION :

The Institute is fully sensitized to promoting research activity on its campus. Almost 80% of the faculty is actively involved in research through guiding Ph.D. research scholars, operating projects and publishing their research work in refereed journals of repute. The university provides quite significant major research facilities which are available on the campus by setting up 22 research laboratories like Biochemical Genetic Laboratory, Biomedical Laboratory, Chemical Instrumentation Laboratory, CAD Laboratory, Neural Networks, Entomology and Limnology Laboratory, Cytogenetical Screening Labs., Parasitological Laboratory, Toxicology, Photonics, Microbiology, Plant Tissue Culture, Radio Chemical Laboratories etc. Some of the science and engineering departments have been identified under FIST and SAP programme of Department of Science and Technology and UGC respectively.

Some of the teachers have won Awards for their achievements. 22 teachers have got the research awards while 8 teachers got the Visiting Fellowships. 31 research papers got the best paper award. Many of its teachers got the Young Scientist Awards. The performance of the faculty in the area of research has been commendable. The total outlay of the research projects with the university as on today is Rs. 43.15 Million.

There are 128 full-time research students registered for Ph.D., 18 candidates are registered for part-time research programme. Two students are working as Post-Doctoral fellows. Two students are carrying on with the post-doctoral fellowship. There is a Research Degree Committee which approves the research



proposal; and has two external experts. Every research candidate is required to submit 6 monthly progress reports for evaluation by the Director.

It is noteworthy that the university has successfully initiated consultancy services. Last year, they were able to manage almost 12.00 lakh of rupees from consultancy services. The consultancy services are provided in different areas, such as Commercial Type Testing, Calibration of Electrical and Mechanical Appliances, Designing Mooring System for Aerostat and Arrester Barrier System for Aircraft etc. The university has constituted a Business Advisory Clinic, wherein free consultancy is provided to such persons from Dayalbagh Town area as were keen to open small business. The students and Faculty of Management Studies work together on these live projects.

The institution has a beautiful programme of extension activities. It has received Indira Gandhi NSS Award for 1997-98 for being the best university in the country for exemplary community services. The D.E.I. Technical College was awarded a Gold Star Award in the field of rural appropriate technology by the International Business Council and International Institute of Education and Management. It organizes activities, like Community Development, Health and Hygiene Awareness, Adult Education, Literacy, Medical Camps, Environment Awareness, etc. These activities are basically organized through National Service Scheme of Adult and Continuing Education and Extension programme of the Faculty of Education and the Department of Home Science.

Some of the NSS activities held during January-June, 2005 include Special Shramdan by all the NSS volunteers in preparation of Republic Day celebrations in the Institute; International Women's Day celebration (March 8) in the Faculty of Arts by organizing a speech competition on "Women Liberation" in which NSS volunteers from different faculties and students from Prem Vidyalaya participated, participation of nearly 800 students (600 girls and 200 boys) in the Pulse Polio programme on February 27, 2005 by providing services at all the 36 booths allotted to DEI by the CMO, Agra in which nearly 5400 children were immunized,

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participation of selected NSS volunteers in a special literacy drive of the Radhasoami Satsang Sabha, Dayalbagh to train the illiterate pilgrims visiting Dayalbagh in February-April, 2005 to write their names and put their signatures and in controlling traffic in congregational ceremonies during this period.

The NSS volunteers of DEI have earned a name for the Institute for their consistently good record of special activities. UP State Award for Best NSS Wing, Coordinator, Programme Officer and Unit were awarded to DEI Cell in 1995-96. For its Exemplary Community Service, the Indra Gandhi NSS Award for 1997-98 and Best NSS Coordinator were bestowed upon DEI. In 2004, the NSS Cell of DEI was selected by the Ministry of Youth Affairs and Sports, Government of India, for the "University Talks Aids (UTA)" Phase II with a special grant of Rs. 12,000 to organize events related to AIDS awareness.

Criterion IV : INFRASTRUCTURE AND LEARNING RESOURCES

The University has a well laid out campus with sprawling buildings spread over 35 acres with a built up area of 22,540 sq. mts. All six faculties have an Assembly Hall, adequate lecture rooms and laboratories. It has a majestic Convocation Hall, a two-storied Central Administrative Office complex, separate buildings for each of the faculties, Central Library; Faculty of Engineering Library; Computer Centre; University Science Instrumentation Centre; two Boys Hostels with separate Staff quarters, and a Girls' Hostel; separate non-residential Students' Centre; Multimedia Facility, Adult and Continuing Education and Extension Department building and two non-formal schools in adjoining villages; offices for Works Department and Building Committee; Guest House with two suite; Generator Room; Technical College buildings with Workshops, Lecture theatres and fully-equipped laboratories for Automobile, Electrical and Mechanical Engineering; DEI Prem Vidyalyaya Girls' Intermediate College building; Dairy Farm building; separate rooms for NSS, garages for bus and tractor and six servant quarters in DEI Senior Boys' Hostel. In addition, the university has Agricultural Land, a Hybrid Seed

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Multiplication Farm; and a Herbal Farm in the Dairy complex; and a Botanical Garden.

The Central Library has 1,04,547 books. In addition, the Faculties of Engineering, Education and Commerce have excellent independent Libraries where the students of these faculties have easy access to reference books, to their departmental books and also to Internet facility. The central Library subscribes to 100 national and 16 overseas journals. Last year 4000 books were added to the Library. The internet facility available here provides access to more than 4000 journals through INFLIBNET. In addition, the Faculty of Science has independent well-equipped Library with Book Bank with a fine and large collection of text-books and reference books. The computerization of the library is under progress. The facility of Reprography, Micro-Filming are available in the central as well as in the Libraries of the Faculty of Engineering, Education and Commerce.

The Computer Centre of the University is providing computing services to the campus. It has 45 PCs and two servers. The LAN facility with Fibre-Optics backbone runs from the Engineering Faculty in the North to the academic campus. The working hours of the Computer Centre are from 9:00 a.m. to 6:00 p.m. It has well-equipped Computing facilities in the Faculty of Engineering, Faculty of Science, Multimedia Lab. and DEI Technical College. Many sophisticated licensed softwares are also available at this centre.

In addition to the central facility, there are 63 computers in various laboratories in the Faculty of Engineering and 29 PCs in the Faculty of Science. The Cluster Computing Facility has nine X206 P4 machines, twelve P4 and workstations machines. The Department of Mathematics has also a Computing Laboratory with 12 fully networked Pentium IV PCs. In addition to this, all Departments and offices in the university have computers with accessories such as scanners, printers, UPS etc.

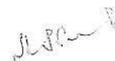
The Institute has a University Science Instrumentation Centre (USIC) with Glass Blowing Laboratory, Electronics Laboratory and Virtual Instrumentation Laboratory. In addition, it has a cooling equipment workshop and a Printed Circuit Board (PCB) fabrication shop. This facility is extensively used for repair, maintenance, fabrication and upgradation jobs. The Centre also conducts work experience courses and projects for Faculty of Education and Engineering and DEI Technical College. It also organizes from time to time, short courses for the students and staff. During the last year, a Virtual Instrumentation Laboratory has been set up with the UGC Tenth Plan grant. This will help in PC based instrumentation and automation of various experiments.

To meet the increasing demand for electricity, the UGC had sanctioned one-time grant of Rs. 30.00 lakh for building 33 KV Sub-Station on its campus. Accordingly, the necessary equipment was procured and the building of the Sub-Station has been completed and it is operational.

Last year, more than 18 equipments were purchased in different departments at a cost of Rs. 4.6 million approximately. This relates only to that equipment which costs more than Rs. 1.00 lakh.

The Multi-Media Laboratory has been established in the Institute with the facilities of video-recording, cameras, editing workstations, high speed network storage, recording, sound editing, etc. It also plans to provide a complete set of recording of lectures to students who can review earlier lectures delivered in the class. These lectures will be stored on a high speed disk storage system. The use of this laboratory is being made to extend distance education in Motor Mechanic Course at 3 centres namely Melathiruvengadanathapuram (Tamil Nadu), Ludhiana (Punjab) and Timarni (Madhya Pradesh). The beneficiaries belong to the downtrodden section of the society.

The university provides coaching in Football, Volleyball, Hockey, Cricket and Kho-Kho. It organizes various sports events every year where different faculties



compete with one another. The University participates in different events organized at different levels. 65 of its students participated in the national level events. The players who accomplish are given credit in seeking admission to undergraduate classes. They are also given scholarships, track suits and other facilities.

The university was twice winner at national level in the Youth Parliament competition organized by the concerned Ministry.

Recently, it has started a project on the cultivation of Medicinal plants such as Ashvagandha, Guggal, Safaid Musali, Akalkara, Sitawar etc. This is all the more important as there is an assured market available throughout the country. This cultivation would essentially motivate the rural students also who can, in addition to their professional career, start cultivation of these medicinal plants in their fields located in the rural areas.

Saran Ashram Hospital run by a registered Society in Dayalbagh has extended the medical facilities to the university employees and students. It also has 13 beds with 11 regular doctors. The general medical check up for the students and teachers and other staff members is compulsory. The university doctor visits the hostel every alternate day. Free medicines are given on prescription by the doctor.

The University has one hostel each for Men and Women students. Another additional hostel of Managing Council, R.E.I. is being used by Men students. The total facility is available to approximately 400 students.

The university organizes a number of cultural activities. Its students have participated in different cultural competitions at different levels at the district, state as well as national level. It is very active in organizing the Spic Macay cultural programmes.

APR 9

Criterion V : STUDENTS' SUPPORT AND PROGRESSION

The university has created a good system of Students Support and Progression. It publishes Prospectus every year which is also updated. It contains information about the rules and regulations of the admission to the Institute and the hostel, the details of the fee structure, the academic calendar of the year, the various services available, the availability of scholarships, code of conduct. It is a quite comprehensive document elaborating the preamble, administrative structure, distinctive feature of innovation, comprehensive programmes of study and proctorial system in the University.

The details of financial aid and concessions available as per rules of the Central Government and State Government are also mentioned. There are many kinds of financial aids and scholarships available to the students. More than 200 students get these different kinds of financial helps. National scholarships are available to the Scheduled Castes, Scheduled Tribes and Backward classes students. Merit scholarships to the Engineering students are also available. Different agencies like Indian Oil Corporation, Engineers India Ltd.; and some State Governments have also come up to provide scholarship. The institution also provides concessions in tuition fee and students' aid.

The academic calendar is strictly followed from 1st July to 21st May. The results are declared within four weeks. The Convocation is held every year. For recreation and leisure the university has established indoor and outdoor games facilities, hobby clubs, reading rooms in the hostels etc.

Most of the students joining this University hail from the same state of Uttar Pradesh and only 16% students hail from other states. The dropout rate is 12-13%. However, it is creditable to see that the pass percentage of the students goes to the extent of 98 to 99%, most of them in the First Division.

J. D. C. S.

The students are given the academic and career counseling by the teachers. Training and placement services are also available in all the faculties. Placement lectures are organized from time to time by the senior executives of the industry. Special courses are also organized by the university from time to time where the students are prepared to face interviews, improve their communication skills, write their Resume, etc.

The Institute has a Training and Placement Office supported by the Faculty. As encouraged by the cell, 5% of the students go to the extent of seeking self-employment every year. 47 out of 60 Engineering students got placements through Institute's Placement service. In addition, 21 M.B.A. students also got jobs through campus placements. A Cell for guiding and mentoring students for national tests like GATE/NET/SLET/IAS, etc. is also functional.

The University has Alumni Association. The Alumni Association of Engineering students and Management students organizes their annual meetings. The Management students hold their annual meeting called 'Milan' to facilitate interaction between present and past students. The Alumni Association takes a very active role in the growth and development of the University. There is a DEI Alumni Placement Assistance Cell (DEI APAC), consisting of an Alumni network, that helps in arranging Training and Placements for the university students.

The institution has made arrangement for collecting teaching and campus environment feed back from the students. The feed back is used to bring changes in the curriculum and style of teaching. Informal feed back is also obtained from the Alumni when they come for convocation. A major Alumni feed back survey was conducted in 2003 which has suggested to bring improvement in the placement activities. It has since then been upgraded. The confidential feed back is also taken by the students, which includes evaluation of teachers. The Academic Assessment and Audit Committee also conducts annual close door meetings with the students to take their feed back.

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The University has a Grievance Redressal Committee for staff and students. The institution has an elaborate proctorial system. Each class has its own Proctor who is in contact with them. Regular teachers are also appointed as Wardens in the hostels. There is an active participation in the management and organization of the hostel by the students. Till date, there have been no strikes on the campus which indicate a cordial relation between the administration, the students and the faculty.

Criterion VI : ORGANIZATION AND MANAGEMENT

The University has a well-made programme of organization and management. Dayalbagh Educational Institute is the nomenclature of the Society. There are seven members of the Board of Governors of the institutions. All the seven members are men of reputation, integrity and are persons of exceptional abilities in their areas. They hail from different organizations.

The Governing Body of the Institute comprises of 15 members where Director is the Chairman of this body. He is the principal executive and academic officer of the University who looks after the overall functioning of the University and presides over the meetings of the Governing Body, Academic Council, Finance Committee and Managing Council. The Registrar is the ex-officio Secretary of all Statutory Bodies and whole time officer to take care of the general administration of the University. The Treasurer is to provide general supervision and control over the funds of the University.

To improve the functioning and management of the organization, meetings of all the statutory bodies are held regularly; rules, byelaws and procedures are followed uniformly; and the administrative officers are sent for short term orientation courses on financial and administrative management.

Confidential reports of the administrative staff are maintained and remedial steps are taken, wherever necessary. Though the University had a policy to

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sponsor the administrative staff for short-term training programmes, the actual number of candidates sponsored during the past three years is negligible.

Out of the seven court cases related to administrative matters filed against the university, four cases have gone in favour of the university and three are still pending judgment. The University also filed court cases related to administrative matters but the judgments were not favourable to University.

The University follows a systematic procedure for purchase of major items. The accounts are audited by an independent auditor annually but there is no internal audit mechanism. There were no major comments raised by the auditors in the last year audit and minor factual comments were duly clarified.

Criterion VII : HEALTHY PRACTICES

The faculty in the university is striving towards realizing the goal of imparting higher education; and for which many healthy practices have been established.

- ❖ Efforts of the university in promoting value-based education, in promoting the Indian culture, in promoting national integration and a secular society is appreciable.
- ❖ The co-curricular activities are integrated in the curriculum thereby inculcating the value of dignity of labour, discipline, dedication, national integration etc.
- ❖ The institute has adopted the semester system and continuous internal evaluation right from its inception.
- ❖ The organization of training to the faculty and students for repairing, fabricating and developing instruments through USIC is commendable.
- ❖ The organization of extension lectures in different departments from time to time on subjects of national and individual and societal importance, in addition to specialized areas deserves a mention.

J. S. R.

- ❖ The adoption of rural areas and slum areas for organizing extension activities through NSS is remarkable. Through CART, the institute is promoting appropriate technology for rural development.
- ❖ The teaching of Karate to women students for self-defence, in addition to their physical fitness is good.
- ❖ The university brings out in-house publications, viz. DEI News, DEI Magazine, Journal of Science and Engineering Research, and PULSE, a Science and Technology Newsletter for enhancing the general knowledge of the university fraternity.
- ❖ The effort of the university in developing a Seed Farm, cultivation of Medicinal plants etc. as part of co-curricular activities is appreciable.
- ❖ The morning assembly for prayer and common uniform for students is commendable.
- ❖ DEI has created a corpus fund where savings made will be put in every year for the development of the University.

Section III : OVERALL ANALYSIS

Radhasoami Satsang Sabha, which had established Model School way back in 1917, today can legitimately take the pride that the educational complex is blossoming into a Deemed University.

It is very creditable that on the campus, right from Nursery to Postgraduate classes, the quality education is available. The institution has set up facilities such as Computer Centre, Libraries, Laboratories etc. for undertaking research right up to the doctoral and post-doctoral level.

The university has a main objective, viz. to develop a 'Complete Man' This perception of the objective enabled the institute to develop a holistic programme of education. It is a unique example of its own kind that the three important and sensitive offices, viz. that of the Director, Treasurer and the Registrar, are all

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honorary. This exemplary commitment is a permanent source of inspiration to the entire faculty and the students.

It is a very well managed and organized university. It is a delight to see the campus free from any kind of strike or disturbance. The fact that the teaching days are more than 200 or around 200 speaks volumes of the smooth teaching work going on the campus. The efforts of the university in improving the challenges of modernity in 21st century vis-a-vis retaining the spiritual glory and value system of Indian culture intact needs to be emulated.

The planning of the university in expanding its complex to 600 acres of land and looking forward to developing independent complex for each and every discipline is praiseworthy.

The university updates the curriculum every year and also improving the same on the basis of the feed back obtained from the students, Alumni and Academic Assessment and Audit Committee. The system of examination is praiseworthy. Timely conduct of examination and following academic calendar, declaring results in time, completing the admission strictly as per schedule - all go a long way in keeping the academic climate smooth. The research work done by the faculty, the progress of the on-going research projects, publication of research work in refereed journals is fairly satisfactory. The extension activities by the university is an indicator of its commitment to be a part of the society. Its adopting the villages and slum areas for improving their way of life and their approach to life is appreciated. The extension programme carried out by the university is an example that needs to be emulated by one and all.

In a nutshell, it is easy to conclude that the university is trying its best not only to sustain quality assurance but also helping the student to become a complete person who will prove to be an asset to the Indian society.



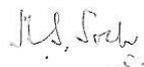
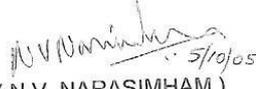
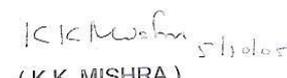
RECOMMENDATIONS

1. The University may consider acquiring the land earmarked for education in the Master Plan of the Dayalbagh Regulated Area for the expansion of the D.E.I. Campus, as the University needs to have an integrated look.
2. The college may approach the Ministry of Youth Affairs and Sports, Govt. of India for getting grants for construction of Sports Complex, Multipurpose Gymnasium hall and proper maintenance of playgrounds. The help of the University Grants Commission could also be taken.
3. The library system needs to be upgraded. The libraries should be connected to outside libraries through the internet. The academic climate in the library could be improved by providing better furniture, better lighting system, good reading rooms, cubicles for the staff etc.
4. Teachers must be encouraged to utilize multi-media and other latest pedagogical instruments for effective teaching. It will be appreciated if a central facility for various audio visual aids, teaching instruments, teaching machines is made available so that teachers of different departments could make use of it.
5. Equal access to all without gender bias / restrictions in Engineering and Arts programme in admission may be made.
6. The university is suggested to add more disciplines in Engineering and Masters Degree programme in Social Sciences.
7. The university may sign Memorandum of Understanding with national research centres and reputed universities overseas.
8. The university may review its policy of awarding graduate degree after two years.

J. A. Singh

9. The university may review its policy to generate funds for its development which is required on priority.

Names and Signatures of the Peer Team

- | | | | |
|----|------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------|
| 1. | 
(H.S. SOCH)
Chairman | 2. | 
(G. RAGHURAMA)
Member |
| 3. | 
(N.V. NARASIMHAM)
Member | 4. | 
(K.K. MISHRA)
Member |

I agree with the observations and recommendations made by the Peer Team in this report.


(Prof. S.S. Bhojwani)
Director

Interpretive Structural Model for DEI

Revered Professor P.S. Satsangi Sahab, during His tenure as the Director of DEI, utilized the concepts of Applied Systems Engineering to elucidate the relationship between the Aims and Objects of DEI's Education Policy, the Educational System and its Organisational elements that lead to the development of a '**COMPLETE MAN**'.

He identified 93 elements that constitute this structure as,

- (i) **Aims and Objects** (30 elements),
- (ii) **Educational System Features** (33 elements) &
- (iii) **Organisational Policies** (30 elements)

and developed a hierarchical model depicting these elements in the form of an Interpretive Structural Model (ISM) shown in the next page.

The Mission Objective, "**Development of a Complete Man**", is at the top of the structure as shown in the Figure. The Organisational elements such as Student Participation, Remedial Teaching, Interface for Learning, Access to Field Experience, Training and Motivation of Staff etc. are shown at the grass root level in the Figure. The Educational System that has been designed to achieve the development of the Complete Man is shown in the middle layer.

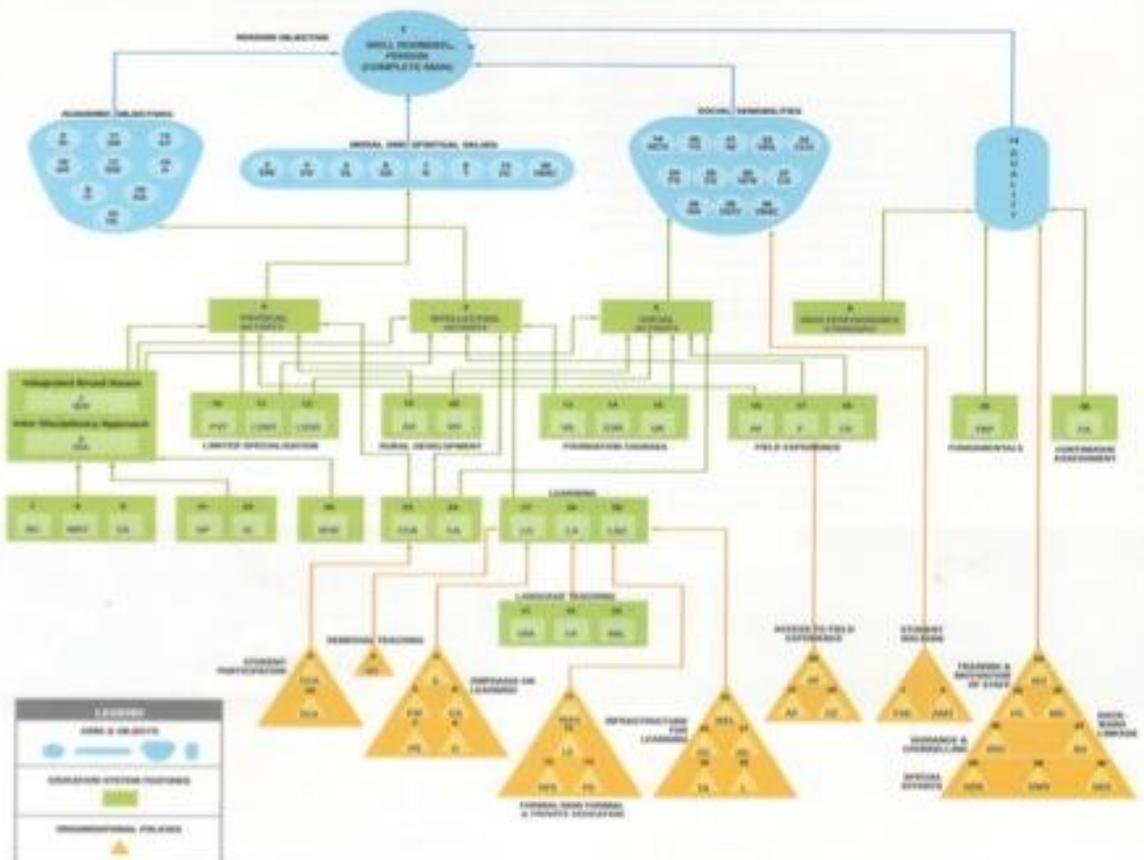
Any student who joins the under graduate programme in DEI has to perform not only Intellectual activities but also take part in Physical and Social Activities through Foundation Courses, Social service, Rural Development, Field Experience(Work Experience), and Specialisation.

Different educational activities lead not only to Academic Objectives but also inculcate Moral and Spiritual Values and develop Social Sensibilities among the students. High Performance Standards, Fundamentals and Continuous Assessment in the System lead to '**Perfect Education**'.

The model thus depicts how organisational policy elements in DEI are put together to create an educational system that leads to the attainment of the Aims and Objects and finally results in the holistic development of a Complete Person.

Interpretive Structural Model for D.E.I.

Mission Objective: Development of a Complete Man



Legend

I AIMS AND OBJECTS

1. Well-rounded Person
2. Intellectual Strength
3. Emotional Maturity
4. Ethical Values
5. Simple Living
6. Selfless Service
7. Humility
8. Truthfulness
9. Independent Thinking
10. Reasoning Ability
11. General Knowledge
12. Habit of Learning
13. Scientific Temper
14. Quality of Education
15. Dignity of Labour
16. Self Reliance
17. Inter Disciplinary Exposure
18. National Culture & Heritage
19. Aptitude
20. Tolerance for Diversity
21. National Integration
22. Understanding Rural Life
23. Class-less and Caste-less Society
24. Political System
25. Economic System
26. Social Forces & Needs
27. Civic Sense
28. A Respect for Rights
29. Duties & Discharge of Obligations
30. High Moral Character

II EDUCATIONAL SYSTEM

1. Integrated & Broad Based
2. Inter Disciplinary Approach
3. Physical Activities
4. Intellectual Activities
5. Social Activities
6. High Performance Standard
7. Breadth of Coverage
8. Most Recent Trends of Thought
9. Concentrates of Academics
10. Primarily Vocational and Technical
11. Limited Specialisation in Natural Sciences
12. Limited Specialisation in Social Sciences
13. Foundation Courses and Value System
14. Foundation Courses like Comparative Study of Religion
15. Foundation Courses like General Knowledge
16. Field Experience (Work Experience) in Farms
17. Field Experience (Work Experience) in Factories
18. Field Experience (Work Experience) in Commercial Establishments
19. Agricultural Operations
20. Village Developments Programs
21. Democratic Processes in Student Activities
22. Indian Constitution and Other Forms of Government
23. Co-Curricular Activities
24. Cultural Activities
25. Fundamental and Basic Principles
26. Interlinkage between the Educational System and Environment
27. Learning by Observation
28. Learning by Analysis
29. Learning by Acquisition of Knowledge
30. Continuous Assessment
31. Hindi as the Medium of Instruction
32. Competence in English
33. One other Modern Indian Language

III ORGANISATION

1. Free / Affordable Education
2. Assistance through Means Test
3. Remedial Teaching
4. Learning through Seminars
5. Learning through Experimental Work
6. Learning through Group Activities
7. Learning through Paper Reading Sessions
8. Learning through Discussions
9. Students Participation in Management & Organisation of Co-Curricular Activities
10. Students Participation in Management & Organisation of Extra-Curricular Activities
11. Major Academic Subjects
12. Lateral Entry
13. Non-Formal Education
14. Private Education
15. Well Equipped Workshop / Laboratories
16. Science Centre
17. Hobby Centre
18. Teaching Aids
19. Library
20. Agricultural Farms for Field Experience
21. Small Scale Industries for Field Experience
22. Commercial and Service Establishments for Field Experience
23. In-Service Training Programmes & Orientation Courses
24. Adequate Physical Conditions for Motivating the Teachers
25. Adequate Mental Climate for Motivating the Teachers
26. Vocational Guidance and Counselling of the Students
27. Attachment of the School to a University Level College
28. Special Efforts to Overcome Handicaps of Weaker Sections
29. Special Efforts to Overcome Handicaps of Disadvantaged Background
30. Special Care to the Gifted Students

TOTAL QUALITY MANAGEMENT IN HIGHER EDUCATION

DEI has put in place a Total Quality Management System (TQM) in pursuit of its quest for excellence in higher education. Four cardinal objectives of this system are,

- INNOVATION
- CREATIVITY
- INITIATIVE
- EXCELLENCE

A conceptual model of various elements which contribute in achievement of these objectives and their integration for the realization of the Quality of Higher Education are shown in this quality circle.

