

P.15 List and proof of faculty interaction with outside world

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* ~~Proofs of all the MOUs are available at DEI website~~
 " ~~[https://www.dei.ac.in/dei/files/NAAC/Final MOUs.pdf](https://www.dei.ac.in/dei/files/NAAC/Final%20MOUs.pdf)~~"

MOUs proofs attached

Smart city bulktarline .

Initiatives related to industry interaction

Industry interactions help the students to acquire the practical knowledge. In order to improve the technical abilities various industrial activities are carried out. The department has taken following initiatives for establishing and nurturing good relations with industry-

1. Entered in to MoUs with industries

To strengthen interaction with industries and to keep our students updated with the latest trends being followed in the industry, MoUs were signed with the following companies.

S#	Name of the Industry/Company	Date of MoU	Area of Research & Collaboration Scope of Activities & benefits accruing to DEI
1.	Indian Oil Corporation, Faridabad	10.10.2014	<i>Indian Oil Corporation (R&D Centre) Faridabad with Department of Chemistry</i> <ul style="list-style-type: none"> For scaling up solar hydrogen generation by photo-electrochemical splitting of water Scaling up of photoelectrode from 1x1 to 3x3 has been standardized while 6x6 is the final target
2.	Maruti Suzuki India Ltd.	20.04.2010	<i>Collaboration with Department of Automobile Engineering</i> <ul style="list-style-type: none"> Workshop set up Student Training Staff exchange
3.	Bharat Heavy Electricals Ltd.	12.08.2010	<i>Collaboration with Department of Electrical Engineering</i> <ul style="list-style-type: none"> Student Training
4.	India Yamaha Motor Pvt. Ltd.	22.10.2011 21.06.2015 09.06.2017	<i>Collaboration with Department of Automobile Engineering</i> <ul style="list-style-type: none"> A specialized Two-Wheeler Training Workshop was set up in Department of Automobile Engineering in which the students had undergone specialized training to enhance their employment opportunities and were also awarded Certificate of Proficiency by the Company
5.	Honda Motorcycle and Scooter India Pvt. Ltd., Maanesar, Gurgaon	4.12.2012	<ul style="list-style-type: none"> Provide training to trainees and mentors of Painting and Welding Course Provide practical teaching aids to these courses
6.	TVS Motor Company Ltd., Chennai	9.08.2013	<i>Collaboration with Department of Automobile Engineering</i> <ul style="list-style-type: none"> Student Stipend Training and Final Placement
7.	Dayal Motors Agra		<ul style="list-style-type: none"> Providing skill –based training to students who have enrolled for vocational training at various levels
8.	Mitsubishi Electric India Pvt. Ltd. Gurgaon, Haryana	17.03.2015	<ul style="list-style-type: none"> Student Training and Placement

9.	Oasis Fabrications, Yamuna Nagar, Haryana	3.09.2015	• Student Training and Placement
10.	Genpact India Pvt. Ltd. Hyderabad	10.06.2016	• Student Training and Placement

2. Offering training to industry personal

B.Tech. and M.Tech. in Part-time are being offered to personal from various industries which forms a link for close interaction with industry. Besides, training programmes were also conducted to industry personal on their behest. A suggestive list is provided hereunder

- Training to Cadence Design Systems, NOIDA. Have been delivering two/three-day training workshops on "Advanced Algorithms" at Cadence, NOIDA every year from 2004 – 08 (5 years) in the area of Advanced Algorithms.
- Training to Atrenta Communications Pvt. Ltd., NOIDA, 2010
- Training to Electrical Supply Department personnel in Dayalbagh in repair and maintenance of distribution system 2016, 2017, 2018

3. Undertaken combined research projects with industry

Besides the B.Tech. major projects that are conducted in continuation with six month coop training, followingsponsored research projects are done for and in collaboration with industry.

1. ADRDE consultancy Project **Modeling and Simulation of Stanchion system of Aircraft Arrester Barrier System** from July 2004 – Dec. 2004, Rs. 3.5 Lakhs, 6-months from ADRDE, Agra Cantt. (completed).
2. ADRDE Consultancy Project **Automatic controlled voltage source for Aerostat**, from March 2008 – Aug. 2008, **Rs. 9.95 Lakhs, 1yr from ADRDE, Agra Cantt.** (completed).
3. OCL India gave Consultancy Projects for Society on Human Energy Field from April 2014 to April 2015 Rs. 50.0 Lakhs.
4. Consultant on Regression Test Suite Optimization to Cadence Design Systems, NOIDA from March 1, 2011 to April 30, 2012, 25000\$.
5. **Design and Development of a Smart Micro Grid for Optimal Solar/Grid Power Synergy**, DST SERI project done by Department of Electrical Engineering in collaboration with BHEL, EDN, Bangalore. Project was successfully completed and a larger follow up project was granted under DST Mission Innovation in collaboration with IIT Roorkee, University of Tromso, Norway (Project grant of 3 Crore).

DST SERI Project proposal summary sheet

Nature of Proposal (Tick One)		A)	Enabling R&D for Solar Energy		
		B)	Technology Development, Demonstration & Application		
I	Title		Design and Development of a Smart Micro Grid for Optimal Solar/Grid Power Synergy		
II	Project cost (Amount in lakhs)		DST: Rs. 64,32,662.00		Collaborator (if any): Rs. 3,75,000.00
III	Duration (in months)		36		
III	PI Name Date of Birth		D. Bhagwan Das 16.01.1969		
IV	Co-PI Name Date of Birth		A. K. Saxena 24.01.1961		

V	Lead Organisation	DAYALBAGH EDUCATIONAL INSTITUTE
VI	Lead Organisation Status	Deemed University
VII	Collaborator(s), if any	BHEL Electronics Division, Bangalore
VIII	Collaborators' Status	
IX	Objectives	<p>Indigenous Design and development of a Smart Micro Grid for optimal utilization of 518.2 kWp Distributed Solar PV Electric Power Plants commissioned at Dayalbagh Educational Institute, involving the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Remote monitoring and control of Solar Inverters <input type="checkbox"/> Remote monitoring and control of load <input type="checkbox"/> Dual axis sun tracking <input type="checkbox"/> String Monitoring and Diagnosis <input type="checkbox"/> Smart Battery Storage System <input type="checkbox"/> Remote monitoring & Control of Water Pumping Motors <input type="checkbox"/> Decision Support System

X	Methodology	<p>The objectives are proposed to be achieved with the following methodology</p> <ol style="list-style-type: none"> Design and development of infrastructure for remote monitoring & Control of <ol style="list-style-type: none"> Solar Inverters Load and Control Switchgear Battery Charging Water pumps Development of MATLAB based Simulation Model <ul style="list-style-type: none"> Simulation of installed 170Wp, 24V solar panels Simulation of MPPT Buck converter charge controller Simulation of 6-pulse IGBT inverter with grid connection Validation of simulation models Design and development of a 5kWp system with dual axis sun-tracking and String Monitoring Development of Goal Programming based multi-criteria optimization for Decision Support System 	
XI	Deliverables	<ol style="list-style-type: none"> Existing 518.2kWp distributed SPV system would be upgraded to Smart Micro Grid A 5kWp prototype plant with dual axis sun tracking and string monitoring would be developed Software development for System Integration and Decision Support Systems Performance analysis including Scientific data generation, analysis and evaluation) Technological Capability including Human Resource Development 	
XII	Project Manpower	DST:	
		Research Associates (one)	Rs.7,77,600.00
		Project Assistants (one)	Rs.3,45,600.00
XIII	Equipment list and Total Cost	DST:	
		Fluke Scope Meter 500MHz, dual channel	: Rs. 5,85,000
		Multimeters	: Rs. 50,000
		Fluke 3-Φ Power quality analyzer	: Rs. 6,40,000
		Solar quality analyzer	: Rs. 4,75,000
		Electrical Contactors (quantity 36)	: Rs. 5,32,656
		MCCBs (quantity 18)	: Rs. 1,08,198
		Smart Meters (quantity 22)	: Rs. 1,39,898
		Mechanical Interlocks (quantity 18)	: Rs. 28,710
		Cables (4 core Al, 185 sqmm and 150 sq mm)	:Rs. 9,00,000
		Assorted lengths	: Rs. 6,50,000
		5kVA Solar Inverter, 48V,600Ah battery bank	:Rs. 1,50,000
		Microcontroller boards, Zigbee modules embedded electronics	:Rs. 3,75,000

		BHEL, Electronics Div. 5kWp SPV modules
XIV	Design, Engineering & Fabrication Cost of System*	Rs. 3,00,000
XV	Operation and Maintenance Cost per Annum*	NA
XVI	Nature of Contribution from Collaborators*	BHEL would provide SPV modules of 5kWp capacity for the development of a prototype of 5kWp SPV plant with dual axis sun tracking and string monitoring.

4. Inducted personnel from Industry in various bodies

Eminent Persons from industry are inducted in Academic council, Chairman and members of Board of Governors for TEQIP Project, Institute Innovation Council, Industry Consultation Committee, etc. for closure participation in shaping the academic and administrative activities.

5. Invited industry experts for interaction sessions with students

1. Motivational Lecture-cum-Interaction Session organized a on 28th November, 2017 on
“Career Opportunities for Engineering Students: is Entrepreneurship a Viable Option?”

Drs. Ajay Sharma, CEO at ASR Ventures & President Rotary International Hague, Netherlands

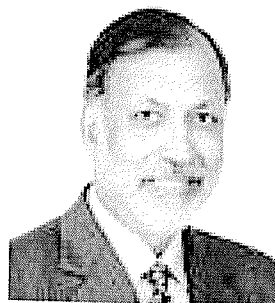
Ajay is accomplished Board member, international speaker, social entrepreneur, Impact investor and executive for business development in European, Asian and Middle-East markets. Before becoming independent investor and consultant, he worked in corporations like TechMahinda, Huawei, Alcatel-Lucent and Escotel. He studied Diploma in Electrical Engineering in 1993 in DEI. Ajay now holds Engineering, MBA and LLM and studied at universities like Harvard Business School, University-Liverpool, University-of-Bradford and DEI. Ajay speaks at multiple international forums and universities in technologies BLOCKCHAIN and Cyber security and entrepreneurship.



Ajay holds following positions and delivers values in world.

- CEO and Founder ASR Ventures – Invest in impact innovations
- Chief Regulatory and investments officer – TOBLOCKCHAIN (BLOCKCHAIN Powerhouse)
- President – Rotary Club The Hague Metropolitan (First English international club of Netherlands with 20 plus nationalities)
- Global Advisor and director – Sampoorana Global (Social enterprise- Augmenting menstrual hygiene for young girls)
- European Director – E2Labs – Critical Infrastructure Cyber-security Solutions. Partner – Exasun (Innovative Solar panels)

- Partner–BSS Holland (Defense Security Solutions) Mentor in World Startup Factory
- A Lecture-cum-Interaction Session was organized on 28th November, 2017 on “**Career Opportunities for Engineering Students: is Entrepreneurship a Viable Option?**”
- During the interaction, Mr. Ajay explained the importance of balanced outlook towards career opportunities that includes conventional Jobs as well as entrepreneurial opportunities. He cited his own experience and growth as an example to lay emphasis on the view that- jobs provide level growth but more security. On the other hand, entrepreneurial activities provide more growth opportunities although involve more risk factors.
- He explained that the best compromise of the two options has to be person specific and each individual must take his call on the basis of his comfort level. He also stressed on introducing guarded entrepreneurial opportunities in educational institutions to inculcate suitable mindset in the students without actually exposing them to the risk factors. Students were motivated by speaker and had fruitful interaction and an impromptu session on innovations that they want to convert into a Start-up.



2. Motivational lecture and Interaction Session organized on 8th December, 2017 on “Internship, Choices, Career”

Rajendra S Pawar, Chairman & Managing Director, NIIT Ltd.

Rajendra S Pawar is the Chairman and Co-Founder of NIIT Group that encompasses NIIT Limited, a leading Global Talent Development Corporation, and NIIT Technologies Limited, the software and

services arm. As a co-founder of the NIIT Group, Pawar has not only revolutionized the IT training industry, but is also recognized as a global technology thought leader.

As the Chairman of India's IT industry body- National Association of Software and Service Companies (NASSCOM), Pawar has led several ICT industry initiatives, giving voice to the sector's aspirations and goals. Earlier during 1990-92, as President of MAIT (Manufacturers' Association for Information Technology), Pawar integrated MAIT's activities with other leading industry associations in India.

A Fellow member of the Computer Society of India (CSI) and the Institution of Electronic and Telecommunication Engineers (IETE), Pawar was awarded an Honorary Doctoral Degree by Rajiv Gandhi Technical University (MP) in 2005.

Awards and Accomplishments

- Acknowledging his contribution to the IT industry in India, Pawar has been awarded the
- country's prestigious civilian honour, Padma Bhushan by the President of India in 2011
- Pawar is a member of the Prime Minister's National Council on Skill Development and has

served the Prime Minister's National Task Force (1998) commissioned to develop India into an IT Superpower

- ☐ An advisor to the Hunan Province of China, he has also been a member of PIAC (Presidential International Advisory Council) of the Government of South Africa for IT
- ☐ As a founding member of the International Business Council of the World Economic Forum, Pawar is deeply engaged in addressing issues of global significance
- Global Business Intelligence firm, Ernst & Young conferred Pawar with its prestigious "Master Entrepreneur of the Year" award, in 1999. He has also been named as the "IT Man of the Year" by IT industry journal, Dataquest
- Pawar has been awarded 'The Global India Splendor Award' on the occasion of the 60th
- ☐ year of Indian independence, for his work in developing human resource potential
- He has received 'Distinguished Alumnus Award' from IIT Delhi in 1995 and 'Madhav Award' from The Scindia School
- Pawar has also been honoured with the prestigious 'Nayudamma Award' in 2012, for his
- ☐ continued contribution to the IT industry in India

Mr. Pawar referred to historical developments in human society and how they resulted in agrarian, scientific, industrial and information revolutions. He said that the current century is the period of knowledge revolution. The industrial revolution was driven by innovations that reduce, and if possible remove, human intervention, whereas the knowledge revolution is driven by products having human being as the centre of the theme. This resulted in decline of conventional job careers and germination of altogether new paradigms of jobs, entrepreneurial objectives and innovations.

He also explained that the current generation professionals has better opportunities to explore and take risks as their typical career is spanned over 70 – 80 years. He urged the students to take a plunge in whatever endeavor they deem suitable without worry as they have ample time to switch. The session ended with a prolonged interaction with students. The impromptu session was highly appreciated and enjoyed by the students.

6. Regularly conducting Alumnimeet

The 'Alumni Association of Dayalbagh Educational Institutions (AADEIs)' closely works with DEI and provides dedicated support in all activities of DEI. It has contributed significantly through financial and non-financial means during the last five years:

1. Installation of EDUSAT facilities at a number of Study Centers, establishment of ICT Centres at Delhi, Timarni and Bangalore and also upgradation of the Multimedia lab and e-class rooms at DEI.
2. Seed funds for initiating Research in the area of Astroparticle Physics, which eventually matured into an MoU with TIFR, Mumbai. It has created a chair of excellence in the Music Department.
3. Under Graduate Research Awards (UGRA) to encourage undergraduate students to take up research projects.
4. Development of Instruction books for vocational courses for Open and Distance Learning.
5. 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. Special coaching for NET, GATE and civil services examinations.
7. Sponsored International Conferences conducted by DEI.
8. Sponsored faculty and students to participate in International Conferences abroad.
9. DEI Alumni Placement Assistance Cell (DEI-APAC), a wing of AADEIs helps in placement of DEI graduates.
10. Summer training and Co-op-Internship of students. It arranges to oversee the training by assigning this duty to an alumnus working in that Organization.
11. Unique mentorship program by assigning expert alumni to guide the final year engineering students in their projects in distance mode.
12. Campus development
13. The Alumni living in USA have registered a separate Association 'AAFDEI', to help DEI in its overseas activities: financing visits of eminent scientists from USA, assistance to DEI faculty and students in USA for research and establishment of Distance Education Study Center at Colombo.
14. Active members of various academic and administrative bodies of the Institute.
15. Conduct surveys to take feedback from all stakeholders and suggest improvements.
16. Deliver invited talks, guest lectures and seminars.
17. Provide counseling to students for employment.
18. Active members of IQAC.
19. Act as judges in cultural and sports competitions.
20. Actively help in organization and management of extensive outreach activities of the Institute.
21. Provide sponsorship and support for printing of magazines, conference proceedings, and brochures.
22. Offer services as mentors of DEI distance education programmes in India and abroad.
23. Offer honorary services to teach, guide research and help in establishing ICT centres in India and abroad.
24. Serve as role models for students through distinguished services in different fields of service.
25. Helped in organizing Alumni Reunion events.

Number of Alumni Association / Chapters meetings held year wise during the last five years

2013-14	2014-15	2015-16	2016-17	2017-18
3	3	5	4	2

7. Increased stay of students at industry for internship

Relevant exposure of industry environment to students is given through internship in summer terms of I & II years and through Six month Cooperative Education Programme for students. Some salient points of Coop training programme are presented hereunder-

Cooperative Education Programme

➤ BHEL	➤ DVVNL
➤ Schneider	➤ UPPCL
➤ PGCIL	➤ Cognizant
➤ Siemens	➤ DMRC
➤ Torrent Power	➤ SunSure
➤ ESSAR Steels	➤ Crompton Grievies
➤ Cadence	➤ Keysight
➤ NXP	➤ HCL
➤ Zia Semiconductors	➤ IITs
➤ Analog Devices	➤ DEI
➤ Texas Instruments	➤ NBCC
➤ TCS	➤ Phillips India
➤ Schlumberger	➤ Airport Authority of India
➤ JSW	➤ STMicro Electronics
➤ MITACS (Indo-Canada)	➤ Microsoft
➤ IITs	➤ DVVNL/UPPCL

2017 Batch Status

- Students continue to pursue Final Year Major Project on industry problems identified during Coop Programme. **NINE** students of the present batch are working on problems acquired from SunSure, Essar Steel (paid through consultancy)
- **TEN** pre-placement offers already confirmed in Essar Steel, Zia Semiconductors, Cognizant Technologies, Cadence. More are expected.
- **TWO** students received Rs. 25000/- cash award each at Essar Steel for excellent performance.
- Best Trainee award at Cadence

From 2018 onwards, students will get stipend through TEQIP project sanctioned to the Faculty.

Sample training certificates are attached in Annexure Training Certificates.

8. Undertaken industry projects as B.Tech. major projects with supervisors from institute as well as industry

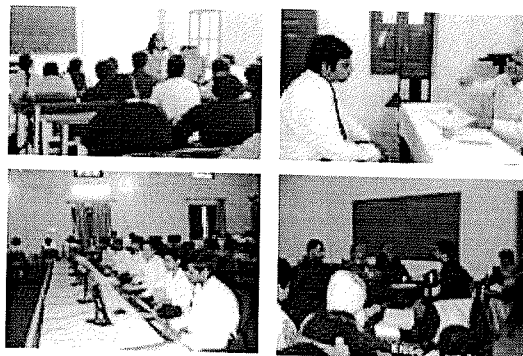
- Students continue to pursue Final Year Major Project on industry problems identified during Coop Programme. **NINE** students of the 2018 batch worked on problems acquired from SunSure, Essar Steel (paid through consultancy), with joint supervision from institute and industry.
- TEN pre-placement offers already confirmed in Essar Steel, Zia Semiconductors, Cognizant Technologies, Cadence. More are expected.
- TWO students received Rs. 25000/- cash award each at Essar Steel for excellent performance.
- Best Trainee award at Cadence

9. Preparing students for industry through various courses under the aegis of Industry-Institute Partnership Cell (IIPC).

Students are provided with ample support for enhancing their Industry Preparedness. Salient points are presented hereunder -

Industry Preparedness

- Resume Writing/checking (650 students)
- Aptitude Test Practice (246 students in 10 sessions)
- Group Discussion Sessions (206 students in 9 sessions)
- Mock Interviews, 97 students
- Career Guidance (B. Tech 6th semester 260 students)
- Guest Lectures on Expectations from the Co-Op Trainee while at Internship in the Industry, for 6th Sem., Personal Effectiveness 190 students
- Soft Skills (45 students)
- Spoken English (45 students)
- Basic IT (51 students)
- Students Projects (DE/TD, Rural Engineering and Major Projects)



Above efforts by the department to have good interaction with industry resulted in excellent placement of students. Details of the same are presented hereunder

Electrical Engineering

Campus/off campus Placements at

BHEL, Siemens, IOCL, FIAT,
Schneider, L&T, Kirloskar, PGCIL,
BARC, Torrent Power, UPPCL,
Crompton Grievies, DMRC, NPCIL,
GE, ABB, Phillips

Elect. Engg. with Specialization in Electronics

•Campus/off campus Placements at

CISCO, Cadence, Freescale, ST
Microelectronics, NXP, HCL,
Analog Devices, Qualcomm,
Huawei, LAVA, Freelancers

•Campus/off campus Placements at

Microsoft, Google, Cognizant,
Accenture, TCS, Adobe, LAVA,
Headstrong, Oracle, Keysight,

To strengthen interaction with industries and to keep our students updated with the latest trends being followed in the industry, MoUs were signed with the following companies. Industry interactions help the students to acquire the practical knowledge. So in order to improve the technical abilities various industrial activities are carried out.

Collaborations with Industries and Corporate Sectors and Institutions

a. International Collaborations

	Name of the University/Institute	Date of MoU	Area of Research & Collaboration and Scope of Activities & Benefits accruing to DEI
1.	University of Waterloo, Canada	17.7.2008	<p><i>Quantum Computing, Silicon Photonics with Departments of Mechanical Engineering, Electrical Engineering, Physics & Computer Science</i></p> <ul style="list-style-type: none"> • Publication of Books • Utilization of Experimental Facilities • Establishment of Centre for Quantum and Nano

			Computing
2.	University of Maryland, College Park, U.S.A.	3.12.2011	<p><i>Nano-structured materials for photo-electro-chemical splitting of water to generate Hydrogen with Department of Chemistry, Physics & Computer Science and Electrical Engineering</i></p> <ul style="list-style-type: none"> • DST-NSF Research grant • Joint Research Publications Exchange visits • One joint Course each Semester from University of Maryland in Computer Science
3.	Michigan State University, USA	14.2.2011	<p><i>International Agreement for Academic Cooperation with College of Engineering , College of Agriculture and Natural Resources, College of Education and Biometrics with Department of Physics & Computer Science</i></p> <ul style="list-style-type: none"> • Faculty Visits • Research Collaboration on UIDAI • Provisions for exchange of materials in education and research • Publications • Academic information • Exchange of Faculty and research scholars • Joint Research and meetings for education • Research and outreach • Technical assistance • Student exchanges • Joint curriculum development in support of K-12 education and joint development of innovative teaching methods
4.	University of Missouri, USA	3.11.2011	<ul style="list-style-type: none"> • Research Collaboration • Initiation of research on natural products for cancer treatment
5.	Consciousness Quotient Institute (CQ-i), Romania	2013	<ul style="list-style-type: none"> • Joint Publications • Collaborative Project (CQ-i) • Travel Grant awarded by CQ-i to CQ-i related research at TSC 2015 held in Finland • One of the faculty member (Education) is member of CQ-i team (since 2014) and one of the alumni of Faculty of Education is also member of CQ-I team
6.	Simon Fraser University, Vancouver	2017	<ul style="list-style-type: none"> • Visit of faculty for PDF
7.	HAN University of Applied Sciences, Netherland	17.10.2014	<ul style="list-style-type: none"> • Production and Operations Management, Lean Manufacturing
8.	Vocational Training Authority of Sri Lanka, Colombo, Sri Lanka	20.10.2014	
9.	Irwin and John Jacob School of Engineering, University of California, San Diego	31.12.2014	
10.	Oakland University, Rochester, Michigan, USA	16.04.2015	<ul style="list-style-type: none"> • Jointly organized two conferences: ICAM 2014 at Oakland University and ICAM 2015 at KNIT

			Sultanpur and now are in the process of organizing a third conference ICAM 2017 at IIT BHU Varanasi in December 2017.
11.	Nano Characterization Unit, National Institute for Materials Science, Japan	16.5.2016	<p><i>Express the understanding of the parties to strengthen and promote research collaboration between the parties based upon the principles of equality, reciprocity, mutual respect, best effort and frequent interactions to</i></p> <ul style="list-style-type: none"> • Strengthen and promote institutional exchange of personnel • Promote institutional exchange of scientific and technical information • Organize symposia, Conferences and workshops • Encourage joint research activities and other activities in the field of Materials Science
12.	Christian Albrecht University of Kiel (CAU), Germany (Letter of Intent)	17.2.2015 13.12. 2016	<ul style="list-style-type: none"> • Joint Projects • Joint Lecture Series • Exchange Visits • Joint Publications • Joint Ph.D. Supervision • Shared Curricula and Courses
13.	University of Arkansas	27.4.17	<ul style="list-style-type: none"> • Exchange of Information • Exchange of Students and Faculty • Collaborative Programmes, Research and Seminars

. b. Collaboration with National Universities and Institutes

	Name of the University/Institute	Date of MoU	Area of Research & Collaboration Scope of Activities & benefits accruing to DEI
1.	Indian Institute of Technology, Delhi	17.09.2007	<p><i>Computer Science, Nano-science and Management with Departments of Physics and Computer Science Electrical Engineering Management</i></p> <ul style="list-style-type: none"> • Ph.D. under joint supervision • Joint courses every Semester taught jointly by both
2.	TIFR, Mumbai	13.10.2007	<p><i>Astro-particle Physics, Nano-photonics with Department of Physics and Computer Science</i></p> <ul style="list-style-type: none"> • R & D • Utilization of Experimental Facilities • Joint Experiments • Joint Publications
3.	Indian Institute of Technology, Kanpur		<p><i>Quantum and Nano Computing with Departments of Mechanical Engineering Physics and Computer Science</i></p> <ul style="list-style-type: none"> • Publication of books as joint authors • Organization of Joint International Conferences
4.	International Centre for Genetic Engineering (ICGEB), New Delhi	27.4.2012	<p><i>Biotechnology with Departments of Chemistry Zoology, Botany</i></p> <ul style="list-style-type: none"> • Research Experiments • Establishing Post Graduate Diploma in

			Environmental Biotechnology
5.	Indian Institute of Management, Bangalore	24.5.2014	<i>Supply Chain Management Center, IIM Bangalore with Department of Management</i> <ul style="list-style-type: none"> • Joint research papers in Supply Chain Management Programme • Faculty Exchange • Faculty Visits
6.	Centre for Development of Advanced Computing (CDAC), Pune		<i>Algorithms for recognition of similar trademarks with Department of Mechanical Engineering</i> <ul style="list-style-type: none"> • Technology transfer to CDAC for Commercialization
7.	Tata Institute of Social Sciences, Mumbai	24.05.2015	<i>Collaboration in the areas of Management, Sociology and Political Science</i> <ul style="list-style-type: none"> • Joint Curriculum Workshop • Joint research supervision • Faculty Exchange • Faculty Visits
8.	Mahatma Gandhi Chitrakoot Gramoudhyog Vishavidyalaya, Chitrakoot, Satna, M.P	4.09.2015	
9.	ICAR- National Dairy Research Institute Karnal, Haryana	3.10.2015	<ul style="list-style-type: none"> • Visit and Special Lectures by experts • Student Internship
10.	Indian Institute of Technology, New Delhi	07.09.2016	<i>Collaboration with Management, Physics and Computer Science and Electrical Engineering</i> <ul style="list-style-type: none"> • Joint Courses • Joint supervision
11.	Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan	16.02.2016	<i>Major emphasis on faculty development, remote sensing, nanotechnology, biotechnology, natural products development, analysis of food and natural products, solar energy utilization, student exchange under sandwich programmes and development of a model farm near Nainatikkar by DEI</i> <ul style="list-style-type: none"> • Research in the areas of mutual interest in areas of (1) Horticulture (2) Value-based agriculture and food processing, (3) Cultivation of medicinal Plants, (4) Floriculture, and (5) Remote sensing • Joint programmes of study through video conferencing and other multimedia facilities. • Promote collaborations between individual scientists in terms of research and project undertakings. • Providing opportunities to the academic staff to collaborate for the purposes of research, teaching and other outreach activities.
12.	Jain Irrigation Systems Ltd. Jalgaon, Maharastra	31.03.2017	
13.	School of Planning and Architecture, Delhi	May, 2017	<i>Collaboration in the Fields of Architecture, Urban Planning and Civil Engineering</i> <ul style="list-style-type: none"> • Exchange Programs • Joint Courses • Curriculum Workshops

14.	Telecom Sector Skill Council		<i>Introducing Skill Based Training (Additional) in all the Colleges and Institutions of DEI as a part of Curricula of various Post Graduate (PG) and Under Graduate (UG) Courses/Programs</i>
15.	BeejSheetal Research Pvt. Ltd. Jalna, Maharastra	5.5.2017	<ul style="list-style-type: none"> • Training of students of UG in B.Voc Agricultural technology and Water sanitation & solid waste management Stream and other students of DEI • Joint supervision of Dissertation Project • Provide knowledge for capacity building and human resource development • Deliver Lectures/Invited Talks
16.	National University Education Planning and Administration		• Mutual Experts , Resource Persons
17.	NCERT		• Mutual Experts , Resource Persons
18.	University of Allahabad Kurushetra University Central Institute of Education Aligarh Muslim University		• Mutual Experts , Resource Persons, Examiners
19.	National Council for Technical Education, NCTE		• Members Peer Group Verification Teams

c. Collaborations with Ministries and National Missions

	Name	Date of MoU	Area of Research & Collaboration Scope of Activities & benefits accruing to DEI
1.	Madhya Pradesh Bamboo Mission, Bhopal Centre for Green Mission Building Material and Technology, Bengaluru	02.03.2014	<i>9-week modular course offered in the six Study Centres of M. P. including Timarni, Rajaborari Study Centres in the tribal belt of Harda district of M.P.</i> <ul style="list-style-type: none"> • Start a modular course in Bamboo Application Technology • Over 100 artisans were sponsored by MPSBM and they successfully completed the course during the 2014-15 session
2.	UP Skill Development Society	13.08.2015	
3.	Ministry of Micro, Small and Medium Enterprises, New Delhi	23.09.2015	• Student Training
4.	The Ministry of Textiles (*MOT*), R.K.Puram, New Delhi	19.05.2017	<i>Link with Department of Drawing and Painting</i> <ul style="list-style-type: none"> • Upgrading and Imparting skills in different trade of Handicrafts • Provide an opportunity for the artisans to upgrade their skills, interact with other craftsmen • Create livelihood opportunity

d. Collaborations with Industries and Corporate Sectors

	Name of the Industry/Company	Date of MoU	Area of Research & Collaboration Scope of Activities & benefits accruing to DEI
1.	Indian Oil Corporation, Faridabad	10.10.2014	<i>Indian Oil Corporation (R&D Centre) Faridabad with Department of Chemistry</i>

			<ul style="list-style-type: none"> • For scaling up solar hydrogen generation by photo-electrochemical splitting of water • Scaling up of photoelectrode from 1x1 to 3x3 has been standardized while 6x6 is the final target
2.	Maruti Suzuki India Ltd.	20.04.2010	<i>Collaboration with Department of Automobile Engineering</i> <ul style="list-style-type: none"> • Workshop set up • Student Training • Staff exchange
3.	Bharat Heavy Electricals Ltd.	12.08.2010	<i>Collaboration with Department of Electrical Engineering</i> <ul style="list-style-type: none"> • Student Training
4.	India Yamaha Motor Pvt. Ltd.	22.10.2011 21.06.2015 09.06.2017	<i>Collaboration with Department of Automobile Engineering</i> <ul style="list-style-type: none"> • A specialized Two-Wheeler Training Workshop was set up in Department of Automobile Engineering in which the students had undergone specialized training to enhance their employment opportunities and were also awarded Certificate of Proficiency by the Company
5.	Honda Motorcycle and Scooter India Pvt. Ltd., Maanesar, Gurgaon	4.12.2012	<ul style="list-style-type: none"> • Provide training to trainees and mentors of Painting and Welding Course • Provide practical teaching aids to these courses
6.	TVS Motor Company Ltd., Chennai	9.08.2013	<i>Collaboration with Department of Automobile Engineering</i> <ul style="list-style-type: none"> • Student Stipend • Training and Final Placement
7.	Dayal Motors Agra		<ul style="list-style-type: none"> • Providing skill –based training to students who have enrolled for vocational training at various levels
8.	Mitsubishi Electric India Pvt. Ltd. Gurgaon, Haryana	17.03.2015	<ul style="list-style-type: none"> • Student Training and Placement
9.	Oasis Fabrications, Yamuna Nagar, Haryana	3.09.2015	<ul style="list-style-type: none"> • Student Training and Placement
10.	Genpact India Pvt. Ltd. Hyderabad	10.06.2016	<ul style="list-style-type: none"> • Student Training and Placement
	Swami Sivananda Memorial Institute, New Delhi		<ul style="list-style-type: none"> •

e. Collaborations with Medical Research Centres and Hospitals

	Name of the Center	Date of MoU	Area of Research & Collaboration Scope of Activities & benefits accruing to DEI
1.	Dr. Kamlesh Tandon Hospital and Test Tube Baby Centre, Agra	10.5.2016	<i>Collaboration in the field of Paramedical</i> For Student Training and Placement
2.	Lotus Super Speciality Hospital, Agra	10.5.2016	

3.	Purushottamdas Savitri devi Cancer Care and Research Centre, Agra	10.5.2016	
4.	Asopa Hospital and Research Centre, Agra	10.5.2016	

Industrial Visits:

Industrial Visits for three days are organised every academic year and this activity has a 1 credit. Students of First year are divided in batches and visit industries for three days in and around Agra and within a range of 50 Km radius. Second year students also visit industries within a radius of 250 Km. Each batch is associated with teacher mentors. After the visit the students are asked to submit a visit report and then an internal viva by a group of teachers is conducted followed by an End semester external viva by an external examiner. A tentative list of the industries/Establishments visited by the students is given below:

S. No.	Industry
1	M/s. Atul Generators Pvt. Limited, Agra
2	M/s. Kotsons Transformers, Agra
3	M/s. Marsons Transformers, Agra
4	M/s. Raj Pattern Works, Agra
5	M/s. Basant Industries, Agra
6	220 kV Substation, UPPCL, Agra
7	400 kV Substation, UPPCL, Agra
8	Diesel Loco Shed, Indian Railways, Agra
9	U P Roadways Maintenance Depo, Agra
10	M/s. Prakash Agriculture Industries, Agra
11	Amar Ujala Press, Agra
12	Creambell Industry, Mathura
13	Pepsi, Mathura
14	Mathura Refinery, Mathura
15	Bhole Baba Dairy, Mathura
16	Havells India, Neemrana, Rajasthan
17	ACE, Faridabad
18	Moeserbaer, G Noida
19	YAMAHA Motors, Surajpur, G Noida
20	Maruti Suzuki, Manesar, Gurgaon
21	HVDC Power Plant, PGCIL, Dadri

Initiatives related to industry internship/summer training

(Mention the initiatives, implementation details and impact analysis)

Industrial Internship

Marks awarded by Internship Coordinator & HOD/HOD Nominee based on the Progress of the project evaluated periodically (2 times) – 30 Marks + 20 Marks Consolidated marks list is signed by the industrial Internship Coordinator. Final Marks are entered by Industrial internship coordinator. Internship Coordinator & HOD/HOD Nominee will conduct the Examination.

Internships: The students are encouraged to take up intern ship programs during their semester break. Faculty members give their guidelines, suggestions and scope and contact details of an internship. They also help the students by interacting with the industrial experts, provide the students recommendation letters and other necessary supports. The alumni coordinator constantly interacts with alumni those who are working in the industries and request them to provide necessary guide lines and supports for their junior's internship.

- i. Summer training is a compulsory credit course to be completed in the summers after I and II years. The duration after I year is 30 days and the duration after II year is 40 days.
- ii. Some of the industries / Institutes where the students regularly go for summer training include but are not limited to BHEL, Torrent Power, UPPCL, IIT Delhi, ADRDE, Kirloskar, DEI USIC etc.
- iii. After the Third Year, the students go for a 5 month Co-op Internship to various Industries. The duration is long enough for them to be given some live project work and most industries do take advantage. Many students also get some monetary incentives for the training period going upto Rs 25,000 per month. Some industries offer free boarding and / or lodging.
- iv. Some of the industries where the students regularly go for co-op internship include Analog Devices, Texas Instruments, Essar Steel, Maruti, IIT Delhi, Cadence Design Systems, start-ups in Bangalore / NOIDA etc.

Implementation details:

- i. The Department has a strong Alumni Network across the country. The Alumni not only help arranging for the Co-op Internships but also mentor the students in their internship. The Placement cell coordinates this effort and ensures that every student gets the summer training / co-op internship opportunity in some industry / educational / R&D Institution.
- ii. Training sessions are conducted in DEI by the Alumni before the students go for their Internship on the dos and donts during the Internship. iii. The Alumni mentors also mentor the students during the Internship so that they get the maximum benefit by working on live projects.
- iv. Faculty members are assigned students that they have to evaluate according to the geographical spread of the industries. The industries are clustered into clusters based on the geographical location and one cluster is assigned to one Faculty member. Faculty members coordinate with the Industry personnel mentoring the students in their internship and get feedback on their performance through telephone / email interaction on a regular basis. This enables mid-course correction in case some student has some performance issues. They may also visit the industries where the students are in their internship and get first hand feedback.
- v. Students are required to submit a report of the work done during their Summer training / co-op internship when they come back to the Institute after the completion of these endeavours. They need to make a presentation to a Departmental committee that is set up for the purpose and face a Viva examination.
- vi. There is an external end semester examination also where the external examiner who is typically an Industry person evaluates their performance. These evaluations ensure that the training / copop Internships are taken up very seriously by the students.

Impact Analysis

- i. The industry exposure helps a lot in personality development of the students. For many students it is their first experience of staying away from home on their own. They learn to do manage. They are also exposed to industry culture and learnt to communicate with their industry mentors and perform tasks assigned within the given time frame in an industrial setting. The change in their personality is evident when they come back from the industry. They are more confident and more articulate.
- ii. Many students, who perform well, get Placement offers from the industry where they do their coop internship. In some cases there is a request that the student be allowed to join the industry earlier than the May of next year when they complete their graduation. Requisite arrangements are made in such cases to enable the student to complete the remaining credits through online mode and come to the Department for appearing in the tests / exams. In some cases these are arranged in the DEI local centres in the city where the student works.
- iii. One big advantage that the industry gets in offering the co-op training is that they get to observe the student for a considerable period i.e. 5 months and can evaluate their strengths / weaknesses better. In casse they offer placement they can also ask the student to work on the weaknesses identified in their Final Year so that they are ready to be productive from day one when they join the industry after Graduation. This has been a very successful model in many cases.
- iv. Some students get their Final Year Major project ideas from their co-op training. They continue to be in touch with their industry mentor and many work on the project under their joint supervision. This is permitted by the Department.
- v. Some students work on projects that are industry sponsored and get paid for the work done in the Final Year major project. These incentives help raise the quality of the work done.

Training, counselling and placement is offered to every graduating student for her to be confident and competitive in her choice of career and for inculcating entrepreneurial skills.

Students of the institution are employed in Financial Institutions, educational institutions, IT companies, automobile industries, central and state government services, textiles industries and core engineering industries. During their course of study a five month Cooperative Education programme is made compulsory. Co-operative education is a structured method of combining classroom-based education with practical work experience in the industry. It entails cooperation between Institute and Industry to produce trained professionals. DEI is collaborating with University of Waterloo (a global leader in the Co-op education model) and has launched its own Co-op model in 2013, suitably adapted to Indian conditions. The model aims at development of 'employability skills' through the introduction of a 6 month industry stint as part of the course requirement.

Indian Industry has lately been very concerned with the lack of requisite technical and soft skills of students entering industry. The recent 'National Employability report' claims that 47% of graduates across India are unemployable for any job¹. The time and cost of training students after

education is becoming a major challenge for industry. Three key reasons why DEI has launched the Co-op model are:

- Global practices
- Need expressed by industry in various interactions and forums in the past
- Need for reducing high rates of attrition amongst fresh graduates due to mismatch in culture and expectations

The Co-op model was launched by DEI in 2013 for its Engineering and MBA programmes. 100% of the students were placed within 5 months of the launch of the programme. The feedback from the first set of returning students has been excellent. 80% of companies paid stipend or provided some non-financial support.

While the cost of recruiting, training and developing a fresh graduate can be upwards of one year's salary, most fresh graduates leave the organisation within 2 years due to non-fitment with culture and working environment. The Co-op model allows organisations to observe the candidate closely for an extended period of time thus allowing a deeper understanding of the competencies and fit of the student. The students bring fresh ideas and perspectives to the organisation and they can be assigned routine duties or special projects. Students on the other hand gain immensely through an extended on-the-job understanding of how academic principles are applied in real situations and an opportunity to test the skills learnt in the classroom. The interaction and feedback from re-turning students and participating organisations allows the University to enhance and improve its curriculum. With a deeper understanding of the industry, which grows with each passing year, the faculty are able to relate practice to theory better.

Summer Training process is of a short duration and primarily aimed towards exposing students to industry practices. By the time students learn about the organisation and its processes, the training period is close to completion. Co-op model on the other hand is a partnership between the industry and the institute. Assignments (routine as well as special) are given with a view to let the student face real situations with intensive supervision by the project guide and supported by the faculty of the institute. The longer period also allows the organisation to understand the personality and motivation of the student and use this information at the time of recruitment. The stipend or some other non-financial support provided by the organisation helps motivate the trainee to deliver his or her best performance and industry also gets involved in overseeing the trainee's work. A request letter in the following format is sent to the industries for training.

Collaborative Work between DEI and Kiel University, Germany

Collaborative research work between Faculty members from DEI and Kiel has been going on for several years now. This has been made possible due to the many visits undertaken from each side by several Faculty members in the past decade or so.

Faculty members from DEI who have visited Kiel University on academic visits are as follows.

S.No.	Name	Year of visit
1	Prof C Patvardhan	2001, 2008, 2009, 2010, 2012, 2013, 2014
2	Prof K Hans Raj	2005, 2006, 2008, 2011, 2014
3	Prof Surat Kumar	2008
4	Prof K Maharaj Kumari	2006, 2014
5	Dr C Vasantha Lakshmi	2013, 2014
6	Dr Ashish Mani	2011
7	Dr Bani Dayal Dhir	2012
8	Mr Arsh Dhir	2012
9	Prof Gursaran	2014
10	Prof GP Jandial	2014

Faculty members and Doctoral / Post Doctoral Students who have visited DEI from University from Kiel are as follows.

S.No.	Name	Year of visit
1	Prof Anand Srivastav	Every year from 2008 at least one visit
2	Prof Anna Horatchek	2013, 2014, 2015, 2017
3	Prof Jens Heber	2012
4	Prof J Zimmerman	2014, 2015
5	Dr Lasse Kliemann	2011, 2013, 2014
6	Dr Mourad El Quali	2013
7	Mr Christian Giessen	2013
8	Dr Volkmar Sauerland	2014

There are some active collaborations in place. A consolidated report of these collaborations is given below.

(A) Collaboration between the groups of Prof A Srivastav, Kiel and Prof C Patvardhan & Prof. K. Hans Raj, DEI

The two groups have been collaborating for several years now with visits from both sides fortifying the collaboration. The general area of common interest has been Combinatorial Optimization and Parameter Estimation problems in "The Future Ocean" project being pursued at Kiel University. The output from these collaborative efforts is summarized below. The efforts are continuing within the work being pursued through the joint PhDs being supervised at DEI and at Kiel and otherwise.

- **Joint Indo – German (DST – DFG) Project** "Quantum-inspired Evolutionary Algorithms for hard Combinatorial Optimization Problems", April 2012 – April 2014.
Status: Successfully Completed.
- **Joint PhDs in Progress** (with Prof A Srivastav and Prof C Patvardhan as Supervisors) in the area of Combinatorial Optimization

- (i) Sulabh Bansal
- (ii) V Prem Prakash (both registered at DEI)
- (iii) Mayank (registered at Kiel)

- **Talks delivered at CAU, Kiel**

(Talks by Prof C Patvardhan)

1. June 11, 2008, "Evolutionary and Quantum Evolutionary Algorithms for Search and Optimization", Computer Science Department, Kiel University.
2. June 2009, "Evolutionary and Quantum Evolutionary Algorithms for Engineering Optimization", Department of Electrical Engineering, Kiel.
3. May 27, 2010, "Quantum Evolutionary Algorithms for Search and Optimization", Department of Computer Science, CAU, Kiel,
4. June, 2012, "Quantum-inspired Evolutionary Algorithms for Engineering Applications", Mathematische Seminar, CAU, Kiel.
5. June 18, 2013, Invited Talk, "Quantum-inspired Evolutionary Algorithms" Mathematische Seminar, Kiel.
6. April 4, 2014, "On the development of Robust QIEAs", Mathematische Seminar, Kiel University.

(Talks by Prof. K. Hans Raj)

1. Application of Genetic Algorithms for Hypergraph coloring Problem, 2005.
2. Evolutionary Algorithms for Optimization of Manufacturing Processes, 2006.
3. Agile Manufacturing and Computer Aided Design, 2008.
4. Genetic Evolutionary Simulated Annealing for Constrained Optimization, 2011.
5. Agile Manufacturing, Agile Software Development and Quantum Inspired Evolutionary Algorithms, 2014.

(Talks by Prof. K. Maharaj Kumari)

Prof . K Maharaj Kumari visited Kiel University in June 2014. She delivered an Invited talk on "Aerosol Chemical Characterization: An Indian perspective".

(Talks by Dr C Vasantha Lakshmi)

1. June 18, 2013, Invited Talk, "Feature Selection for OCR of Indian Scripts using Genetic Algorithms" Mathematische Seminar, Kiel.
2. April 4, 2014, "Towards Optimal Feature Selection", Mathematische Seminar, Kiel University.

• **Book Chapter**

- (i) L Kliemann, O Kliemann, C Patvardhan, V Sauerland and A Srivastav, A New QEA Computing Near-Optimal Low-Discrepancy Colorings in the Hypergraph of Arithmetic Progressions, Experimental Algorithms, Proceedings 12th International Symposium, SEA 2013, Rome, Italy, June 5-7, 2013, Series: Lecture Notes in Computer Science, Vol. 7933.

• **Joint Publications**

S.No.	Names of all the authors as appear in the Paper	Title of the paper	Name of the Journal / Proceedings, Volume, year and page
1.	J. Rückelt, V. Sauerland, T. Slawig, A. Srivastav, B. Ward and C. Patvardhan	Parameter optimization and uncertainty analysis in a model of oceanic CO ₂ uptake using a hybrid algorithm and algorithmic differentiation	International Journal on Nonlinear Analysis: Real World Applications, Volume 11, Issue 5, October 2010, Pages 3993-4009.
2.	C. Patvardhan, V. Prem Prakash A. Srivastav	Novel Quantum-inspired Evolutionary Algorithms for the Quadratic Knapsack Problem	<i>International Journal of Mathematics in Operations Research</i> , Inderscience Publications ISSN (Online): 1757-5869 - ISSN (Print): 1757-5850 , Vol. 4-2, 2012, pp 114 – 127.
3.	C Patvardhan Sulabh Bansal Anand Srivastav	Solution of 'hard' knapsack instances using Quantum Inspired Evolutionary Algorithm	International Journal of Applied Evolutionary Computation (IJAEC), 2014.
4.	C Patvardhan Sulabh Bansal Anand Srivastav	Quantum-Inspired Evolutionary Algorithm for Difficult Knapsack Problems	International Journal on Memetic Computing (Under revision)
5.	C Patvardhan Sulabh Bansal Anand Srivastav	Solving the 0-1 Quadratic Knapsack Problem with a competitive Quantum Inspired Evolutionary Algorithm	Journal of Computational and Applied Mathematics, 2015.

6.	C Patvardhan Sulabh Bansal Anand Srivastav	Towards right amount of randomness in Quantum-inspired Evolutionary Algorithms	Soft Computing (Under second revision)
7.	Lasse Kliemann Ole Kliemann C Patvardhan V Sauerland A Srivastav	A New Quantum-Inspired Evolutionary Algorithm Computing Near-Optimal Low-Discrepancy Colorings for Arithmetic Progressions	Evolutionary Computing (Communicated)
8.	C. Patvardhan, Sulabh Bansal, Anand Srivastav	Balanced Quantum-Inspired Evolutionary Algorithm for Multiple Knapsack Problem	International Journal of Intelligent Systems and Applications (IJISA) (Accepted) ISSN: 2074-904X (Print), ISSN: 2074-9058 (Online) (IF 0.10)
9.	C Patvardhan V Prem Prakash A Srivastav	Novel fast heuristics for solving large instances of Euclidean Bounded Diameter Minimum Spanning Tree Problem	Journal of Computational and Applied Mathematics (Communicated in June, 2014)
10.	C. Patvardhan, V. Prem Prakash and A. Srivastav	A Quantum-inspired Evolutionary Algorithm for solving the Quadratic Knapsack Problem	Joint International Conference on Applied Systems Research and XXXIII National Systems Conference, DEI, Agra, November 2009
11.	C. Patvardhan, V. Prem Prakash and A. Srivastav	A Novel Quantum-inspired Evolutionary Algorithm for the Quadratic Knapsack Problem	Proc. of the International Conference on Operations Research Applications in Engineering and Management (ICOREM), Tiruchhirappalli, India, May 2009, pp 2061-2064.
12.	Lasse Kliemann C Patvardhan V Sauerland A Srivastav	Systematic Algorithm Design with Algorithm Engineering: Hypergraph Matching and Coloring	Joint International Conference on Applied Systems Research and XXXIII National Systems Conference, DEI, Agra, November 2009
13.	C Patvardhan V Sauerland A Srivastav	Systemic Studies on Large Natural Systems: An efficient Quantum Evolutionary Algorithm for Marine CO ₂ –Simulation	Joint International Conference on Applied Systems Research and XXXIII National Systems Conference, DEI, Agra, November 2009
14.	C. Patvardhan, V. Prem Prakash and A. Srivastav	Parallel Heuristics for the Bounded Diameter Minimum Spanning Tree Problem	IEEE INDICON, Pune, December 2014

(B) Collaborative work done by Prof K Hans Raj with Kiel University

- Dr. K. Hans Raj visited University of Kiel, Germany in the year 2005 and had spent a period of one month working on Evolutionary algorithms and their application to Hypergraphs. This

resulted in a joint research paper along with Prof. Anand Srivastav of University of Kiel, Germany.

Ref.: K. Hans Raj and Anand Srivastav, "Evaluating the Discrepancy of Hypergraphs with Hybrid Evolutionary Technique", International Conference on Differential Geometry and Topology in the Perspective of Modern trends (DGTPMT-2006), February, 18-19, 2006.

- Dr. K. Hans Raj visited University of Kiel, Germany in 2006, 2008 and 2014 and during his visits he delivered seminars on Finite Element Modelling of Metalforming, Computer Aided Design of Aerostat, Computer Aided Design of Radome, Hybrid Stochastic search techniques and their application to optimization of manufacturing processes, and Quantum inspired algorithms with application to engineering design and optimization of manufacturing processes. He also delivered a talk on Three Qubit Modelling of Personality using extended Jung's model at the department of Humanities, University of Kiel.
- In future Dr. K. Hans Raj will collaborate with Prof. Anand Srivastav and Dr. Lasse Kliemann on difficult optimization problems of engineering design and process optimization whose fitness evaluation involves large finite element codes and multiple objective functions. He is also intending to work with faculty of humanities (Prof. Bober from Theology) at University of Kiel on modeling of personality with soft computing techniques (ANN, Fuzzy and Neuro-Fuzzy modeling) and correlation to professional competence including modeling of consciousness integrated personalities with Qubits and validation through psychological instruments and meditational practices.

(C) Teaching and research cooperation of the Department of English Studies at Dayalbagh Educational Institute (DEI) (Deemed University), Agra, India, with the English Department at the Christian-Albrechts-University (CAU) at Kiel, Germany

- **Genesis**

Dr. Bani Dayal Dhir as Co-Convener invited Prof. Dr. Anna-Margaretha Horatschek, CAU Kiel, Germany, as a speaker for the "Towards a Science of Consciousness 2013" - Conference at DEI (Deemed University) from March 3 – 9, 2013. During her visit to the department of English and an informal meeting with Prof. S.K. Chauhan (Head of Department), Prof. J.K.Verma, Dr. V. Prem Lata (Vision 2031 Coordinator), Dr. Bani Dayal Dhir, and other faculty members at the Department of English Studies at DEI, possibilities of cooperation were discussed tentatively.

- **First Initiative – "Indo-German Lecture Exchange Series- 2013"**

As a first incentive for future cooperation, "Indo-German Lecture Exchange Series" was initiated during the winter semester 2013/14. Prof. Dr. Horatschek's lecture "Constellations of Consciousness in British Literature from Shakespeare to the Present" was transmitted per live-stream from CAU to DEI.

Prof. Dr. A. Horatschek received funds from CAU Internationalisation Fund for collaborative projects with DEI and to visit DEI in March 2014. In May 2013, Prof. Dr. A. Horatschek applied at the CAU Internationalisation Fund for financial support of the negotiation and establishment of a program for collaborative projects; the DEI Department of English issued a Letter of Approval, suggesting a variety of areas for collaboration. The CAU Internationalisation Fund granted means for a student help (Hiwi), as well as the travel expenses (tickets, accommodation etc.) for Prof. Dr. A. Horatschek and Prof. Dr. J. Zimmermann to take part in

the "Vision 2031-workshop at Department of English" at DEI in March 2014 as delegates of the CAU English Department. More funds are available to extend the cooperation in 2014.

Two Lectures by the guests from CAU, Germany, for the DEI faculty, PhD and Masters Students, with discussion.

- Prof. Dr. A. Horatschek: "Concepts of Consciousness in East and West: A Very Short History of British Literature"
- Prof. Dr. J. Zimmermann: "Slavery as a Transnational Phenomenon in US and Canadian Literature"

• **Indo – German Exchange lecture Series – 2014**

As part of the exchange lecture series programme Dr Gurpyari Jandial's recorded lecture was transmitted on consciousness studies and literature on 28th May 2014 for the Masters' students of Department of English Studies, Kiel University.

In September transmission of one lecture on British literature and Consciousness studies from Kiel is scheduled and transmission of two lectures from the Department of English is planned.

• **Joint Editorship of 'Literary Paritantra (Systems). An International Journal on Literature and Theory'**

Prof. Dr. A. Horatschek and Prof. Dr. J. Zimmermann have joined the editorial board of the journal, which is published at DEI Department of English Studies.

• **Agenda and Vision Plan : Regarding Cooperation between the Department of English Studies at Dayalbagh Educational Institute (DEI) (Deemed University), Agra, India, and the English Department at Christian-Albrechts-University (CAU), Kiel, Germany.**

It is the long term aim of DEI and CAU to design courses collaboratively and teach these courses per live stream in lectures and/or shared seminars, via faculty exchange, and/or in workshops at DEI or CAU attended by students from DEI and CAU. Many areas of overlapping interests in teaching have been found between DEI and CAU. These include British Literature (especially Modernism); North-American Literatures (especially Afro-American Literatures); Indian English Fiction; in the fields of Literary Criticism and Theory: Identity and Alterity Studies (Postcolonial Studies, Gender Studies, Women's Studies); Indian Aesthetics; Neurotheology; Systems Theory; Consciousness Studies, Literature and Religion; Literature and Psychology; Literature and Mysticism; Ecopoetics.

Eventually the courses taught in cooperation shall form a part of the respective obligatory curricula of the DEI Department of English Studies and of the CAU English Department. Special attention has to be paid to problems of time schedules in India and Germany.

Shared Seminars

Seminars shared online can only take place during the winter semester due to the lack of overlapping semester blocks in summer. The first shared seminar of this format is scheduled for the winter semester 2014/15.

Teaching format:

One Masters seminar per winter semester will be offered at DEI and CAU simultaneously. The topic will be taken from the overlapping fields of interest in DEI and CAU. They should fit into the curricula of the English Departments at DEI and CAU. Students in DEI and CAU will read identical texts. Three sessions during the overlapping weeks will be transmitted so that students in CAU and DEI can discuss prepared (seminar presentations, guiding questions etc.) aspects of the respective topic online. The capacities of the Computer Center will restrict the number of student participants to probably around 20.

Exchange of Students (Masters)

1-2 students per year shall be sent from CAU to DEI, and from DEI to CAU for one semester. As the DEI Department of English Studies educates women exclusively, only women students are eligible for this exchange. The courses taken shall be mutually accepted for the respective curricula.

DEI will accommodate the exchange students from CAU in the women's hostel of DEI, a mentor will be assigned to them. The CAU will accommodate the DEI students in students' houses, a mentor will be assigned to them.

Funding possibilities from the German (DAAD, other funding institutions in Germany and India) as well as the Indian side have to be explored yet. If possible, the first students from CAU to DEI shall be sent in February/March 2015 for 2-3 weeks for exploratory studies

Joint Mentoring of Theses

- a) Masters theses : Masters theses of CAU and DEI students which are of mutual interest shall be mentored and evaluated jointly by DEI and CAU faculty.
- b) PhD theses : PhD theses of mutual interest for CAU and DEI shall be mentored and evaluated jointly by DEI and CAU faculty.

(D) Collaborative work done / planned by Prof K Maharaj Kumari with Kiel University

- Prof K Maharaj Kumari visited Kiel University in June 2014. She delivered an Invited talk on "Aerosol Chemical Characterization: An Indian perspective" and had discussions for collaborative research with Prof. Hermann W Bange and Prof Bridget Quack and Prof. Christa Marandino of Marine Biogeochemie. They are interested in potential collaboration with us involving measurements in Indian Ocean.
- Scientists of GEOMAR will be measuring trace gases that are commonly believed to be the precursors of aerosols in the marine environment, namely DMS and isoprene. They would like to see if there are any sulfate or secondary organic aerosols that we may measure in Agra that could be derived from the trace gases they measure. The typical back trajectories during monsoon, for our area, come from over the Indian Ocean. In

addition, they are interested in how these gases, among others, are transported aloft by the convective center that sits above the Bay of Bengal, the air passes directly over central India. Therefore, we may be able to compare the two datasets and arrive at aerosol and trace gases transport chemistry.

(E) RECON 2015

"DEI CAU Research and Education Connect – RECON 2015"

An Indo – German Workshop "DEI CAU Research and Education Connect – RECON 2015" was organized by Faculty of Engineering, DEI from February 17 – 19, 2015 at the International Seminar Hall Complex, DEI. The following were the visiting CAU Faculty:

1. Prof. Dr. Anja Pistor-Hatam, Vice President
2. Prof. Dr. Jeffrey McCord, Institute for Materials Science
3. Dr. Martina Schmode, International Relations
4. Prof. Dr. Jutta Zimmermann, Center of North American Studies
5. Prof Anna Horatschek, Department of English
6. Prof Anand Srivastav, Department of Computer Science

The workshop consisted of paper presentation sessions, campus visit, class visits, interaction with students to disseminate information about CAU and German education system etc. The Inaugural Session had presentation on DEI by Prof Anand Mohan, Registrar, DEI and on CAU by Prof Anja Pistor-Hatam, Vice President, CAU. Director, DFG, New Delhi had sent a message for the workshop as he was unable to come personally and the message was read out by his representative, Dr. Hariharan Krishnan. A Letter of Intent for collaboration was signed by DEI and CAU in the Inaugural Session.

The technical sessions were on English (2), Islamic Studies (1), DEI's potential for Excellence in Consciousness and Entrepreneurship (1), Computer Science (1) and Electrical Engineering and Physics (1). 5 speakers presented their work from CAU side. 17 speakers presented their work from DEI side. The highlights were the presentations on DEI's Potential for Excellence in Consciousness and Entrepreneurship which were appreciated by one and all.

In the valedictory session on February 19, 2015, the visiting delegates were effusive in their praise of the work they saw in DEI during the campus visit and the workshop presentations. They also appreciated the hospitality and the culture of DEI. The Vice President formally invited DEI for a visit to CAU.

The workshop provided an excellent opportunity for both parties i.e. DEI and CAU to explore potential areas of collaboration. Some areas have already been identified and many more ideas are being pursued. This workshop would be followed by a similar workshop at CAU, Kiel, Germany.



रियाणा HARYANA

P 614132

AGREEMENT

THIS AGREEMENT is made on 17. March, 2015, between

Mitsubishi Electric India Private Limited, a Company incorporated under companies act, 1956, having its Head Office at 2nd Floor, Tower A&B, DLF Cyber Greens, DLF Cyber City, DLF Phase-III, Gurgaon, Haryana-122002 and Registered Office at International Business Center, M-38/1, Middle Circle, Connaught Place, New Delhi-110001(hereinafter referred to as **MEI** which expression shall unless repugnant to the context and meaning thereof be deemed to mean and include its successors and assigns) of the one part.

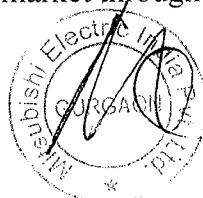
AND

Dayalbagh Educational Institute, Agra - 282005 Uttar Pradesh (hereinafter referred to as **DEI** which expression unless repugnant to the context or meaning thereof be deemed to mean and include its successors and permitted assigns) of the other part;

The **MEI** and **DEI** shall be referred to herein either individually as a party or collectively as parties.

WHEREAS **MEI** has decided to initiate collaboration with educational institutes to spread awareness about automation amongst young Indian engineers and contribute to the Indian market through its products and technologies.

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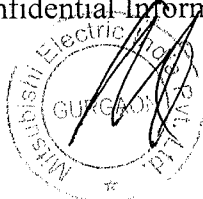
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Director
Dayalbagh Educational Institute
(Deemed University)
Dayal Bagh, Agra-282 005

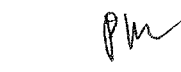
WHEREAS it is agreed between the parties that **MEI** will give Mitsubishi FA Training Equipment as per specifications and features given in Annexure 1 (hereinafter referred to as 'Equipment') to **DEI** for demonstration, learning & training purposes under the following terms and conditions:

NOW THEREFORE THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

1. **MEI** will supply the equipment with all accessories/attachments necessary for the functioning of the Training Equipment. The specification and scope of training equipment is given in Annexure 1.
2. **MEI** will provide necessary programming software for simulation / programming of training equipment. It is agreed that the software will be strictly used only for student training / demonstration within the premises of the **DEI**. The institute is not allowed to make copy or circulate this software without written consent from **MEI**.
3. **Confidentiality**
 - 3.1. Any and all provisions of this AGREEMENT shall be treated by both parties as confidential and will be disclosed to students, **DEI** designated staff and representatives of either party only on "need to know" basis and to the extent necessary for the performance of this AGREEMENT. **DEI** shall not disclose any of the provisions of this AGREEMENT to any third party without the prior written consent of **MEI**.
 - 3.2 **DEI** shall maintain confidential as above any and all business and technical Information furnished from **MEI** under this AGREEMENT (hereinafter referred to as ("Confidential Information")). **DEI** shall not, without the prior written consent of, in any manner whatsoever disclose or communicate to any third party any Confidential Information, and **MEI** shall exert its reasonable efforts to prevent the unauthorized disclosure, communication, or use of such Confidential Information.

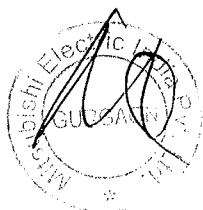



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Director
Dayalbagh Educational Institute
(Deemed University)
Dayal Bagh, Agra-202 005

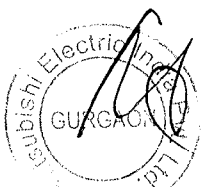
- 3.3 In the event that the disclosure of Confidential Information is required by court order, **DEI** shall promptly notify **MEI** of such court order in which disclosure is sought. In the event that it is unable to obtain a protective order or other portion of such Confidential Information that is legally required to disclose, provided, however, that it shall use its best efforts to ensure that such Confidential Information will be treated as confidential.
- 3.4 **DEI** shall use Confidential Information only for the purpose of this AGREEMENT. Upon the expiration of Term or termination of this AGREEMENT, or upon **MEI** request, whichever is sooner, **DEI** shall immediately cease all use of Confidential Information and shall, within two (2) weeks thereafter, return to **MEI** or destroy all Confidential Information in its possession subject to **MEI** instruction.
4. The value of the equipment is Rs. Eight lakh Twenty Three Thousand and Eight Hundred only (Rs 8, 23,800) for inventory/insurance purposes.
5. **DEI** will not make any payment to **MEI** for the training Equipment, it is understood that **MEI** has voluntarily come forward to place its Equipment at **DEI** to facilitate the institute for conducting training to the students.
6. The Equipment will be placed at **DEI** for three years. The dedicated space / section for Equipment will be provided and contribution will be displayed at respective equipment.
7. The Equipment will be delivered, installed and commissioned at **DEI** by **MEI**.
8. **MEI** will continue to retain full title to the equipment while it is at premises at **DEI**.
9. The operation, maintenance and upkeep of the equipment in good condition will be the responsibility of **DEI**.

Contd.4





Director
Dayalbagh Educational Institute
(Deemed University)
Dayal Bagh, Agra-282 005

10. **DEI** will employ qualified staff to operate the equipment for training and demonstration purposes.
11. **DEI** will be responsible for the proper and safe operation of the equipment.
12. Any equipment failures will be set right by **MEI's** Servicing Department
13. This agreement is valid for a period of Three (3) years from the date of execution of this agreement. After completion of three years with **DEI**, the equipment will be returned to **MEI** in good working condition considering the standard technical depreciation which may take place during the period due to usage. However, **MEI** may consider extending the period/replacing it with different equipment for a further period by mutual agreement.
14. **DEI** acknowledges that this Agreement does not grant any right or title of ownership to **DEI** in **MEI's** intellectual property unless specifically provided in this Agreement. **DEI** shall not use **MEI's** or its affiliates' or Group Companies' Corporate name, trade-marks, emblems, specification, designs, models or logo without **MEI's** prior written consent. All or any intellectual property rights in the Software, products, design and or campaign shall subject to terms 3.1 and 3.2 above at all times remain the property of Mitsubishi Electric Group Companies and **DEI** shall have no claims on the same under any circumstances whatsoever and vice a versa.
15. Logos of **MEI** will be included on all programs handouts / catalogues where in this equipment is directly / indirectly utilized, acknowledging **MEI's** sponsorship of the facility, by **DEI**.
16. Contribution of the equipment will be acknowledged through display boards at the respective equipment by **DEI**.



Contd.5


Director
Dayalbagh Educational Institute
(Deemed University)
Dayal Bagh, Agra-282 005


This agreement is based on mutual confidence and friendly co-operation. In case any dispute or difference arises, this shall be clarified and settled by means of personal negotiations between the respective Chairman/Managing Director/Director of the parties. In case this procedure is infructuous, any difference or dispute shall be settled by reference to two arbitrators, one to be appointed by each party to the dispute. All disputes shall be finally settled by Arbitration and Conciliation Act, 1996. The award shall be final and binding upon both the parties.

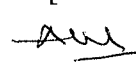
FORCE MAJEURE:

Neither **DEI**, nor **MEI** shall be liable for any damage or loss suffered by the other on account of the happening of any event which the said parties are unable to avoid and over which they have no control and which prevents the said parties from executing their Contractual obligations, such events being, but not limited to war, civil commotions, strikes, natural catastrophes, embargo, Acts of God, etc.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be duly executed the day and the year first above written.

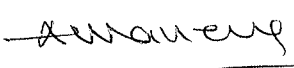
For Dayalbagh Educational Institute- Agra

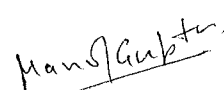
✓ 
[Prof. Prem K. Kalra]


Director
Dayalbagh Educational Institute
(Deemed University)
For Mitsubishi Electric India Private Limited
Dayal Bagh, Agra-202 005


[Makoto Kitai]
Managing Director

In the presence of:

1. Prof. Ajay Kumar Saxena
Dean, Faculty of Engineering, **DEI** 

2. Mr. Manoj Gupta
Manager, **MEI** 

Annexure 1 to the agreement between MEI and DEI dated 17 March, 2015

Specifications and features of QPLC & FX PLC Training Setup:

A Q PLC Training Set up

No.	Product name	Model	Quantity	Unit Price	Total
1	Universal model QCPU	Q03UDECPU	1	84700	84700
2	Main base unit	Q38B	1	17600	17600
3	Power supply module	Q61P	1	14200	14200
4	CC-Link system master / local module	QJ61BT11N	1	24800	24800
5	DC input module	QX81	1	26700	26700
6	Transistor output module	QY41P	1	21400	21400
7	Analog-digital converter module	Q64AD	1	31400	31400
8	Digital-analog converter module	Q64DAN	1	60700	60700
9	High speed counter module	QD62	1	48700	48700
10	Manual Pulse Generator (Encoder)	MR-HDP01	1	14500	14500
11	40 Pin Connector	A6CON1	2	1400	2800
12	Remote Input Module, 8 point	AJ65SBTB1-8D	1	12600	12600
13	Remote Output Module, 8 point	AJ65SBTB1-8T	1	12600	12600
14	CC-Lin Cable (meter)	FANC110SBH	2	400	800
15	I/O simulator		1	50000	50000
Total Kit Cost					4,23,500

B FX PLC Training Setup

No.	Product name	Model	Quantity	Unit Price	Total
1	FX3G series PLC with 40 I/O	FX3GE- 40MR/ES	1	57000	57000
2	GT14 series HMI	GT1455-QTBDE	1	95000	95000
3	I/O simulator		1	40000	40000
Total Kit Cost					1,92,000

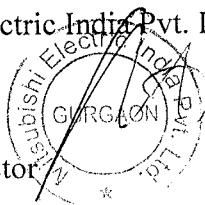
C Mitsubishi FA Training Equipment

No	Name of Kit	Quantity	Unit Price	Total
1	Q PLC Training Setup as per A	1	423500	423500
2	FX PLC training Setup as per B	1	192000	192000
3	IQ Platform Programming Software	1	208300	208300
Grand Total of Complete offer				8,23,800

(In words Rs. Eight Lakh Twenty Three Thousand Eight Hundred only)

For Mitsubishi Electric India Pvt. Ltd.

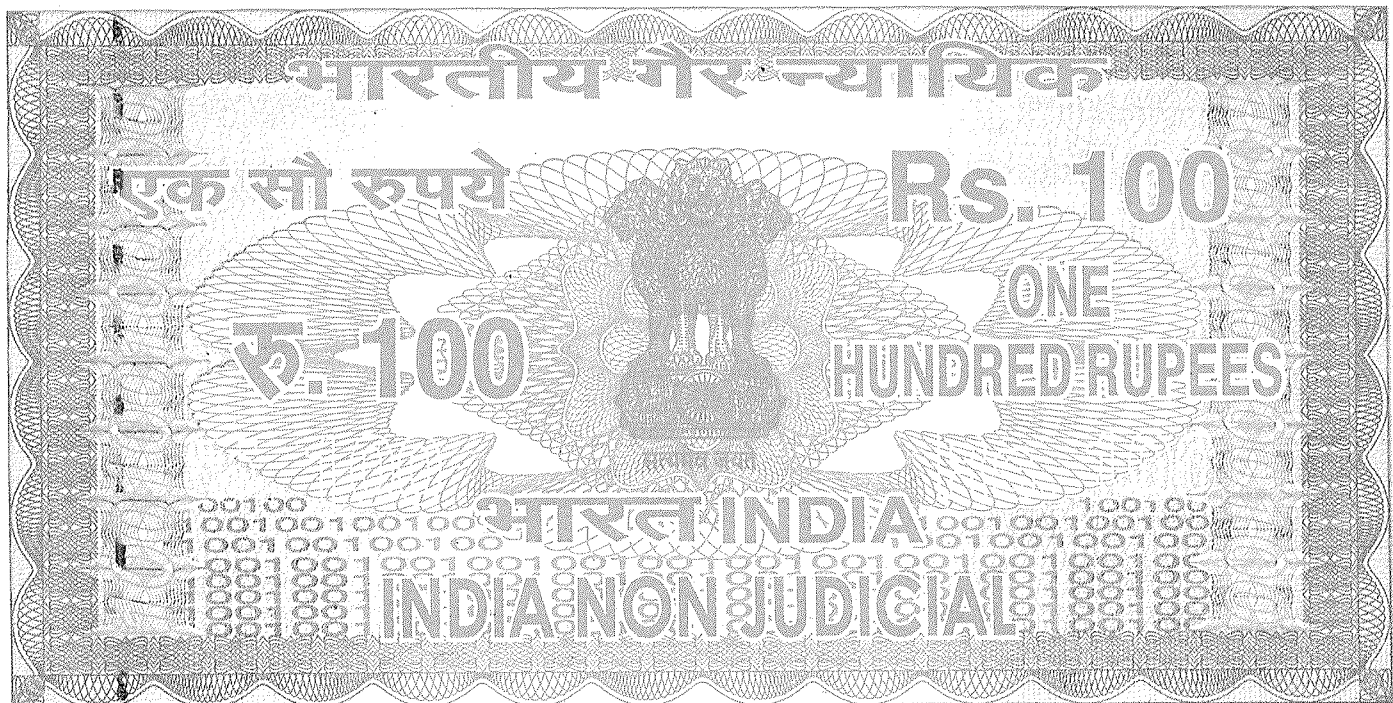
[Makoto Kitai]
Managing Director



For Dayalbagh Educational Institute

[Prem K Kalra]
Director

Dayalbagh Educational Institute
(Deemed University)
Dayal Bagh, Agra-282 005



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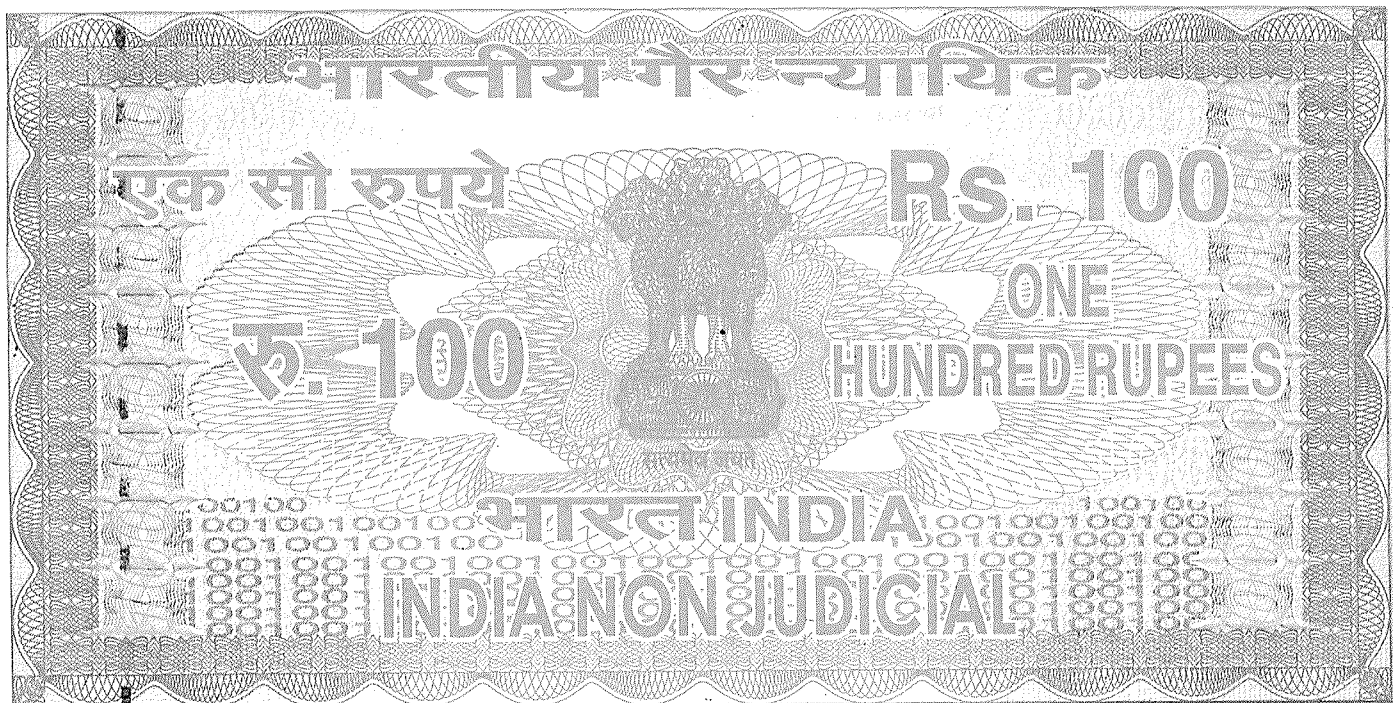
AGREEMENT

This Agreement is made and executed at Thiruvananthapuram on this, the 17th day of December, 2015 **between Government of Kerala** represented by Dr. Reju M.T, Chief Executive Officer, Additional Skill Acquisition Programme, Higher Education Department, thereafter referred to as the Government and who is duly authorized to sign and execute this Agreement on behalf of the Government of Kerala, the Department includes the Programme Secretariat created for implementation of the Additional Skill Acquisition Programme (ASAP) with its office at Trans Towers, 3rd floor, Vazhuthacaud, Thiruvananthapuram-14, which expression shall unless it be repugnant to the context or meaning thereof be deemed to mean and include its successors and assigns of the **FIRST PART** and **Dayalbagh Educational Institute**, Dayalbagh, Agra - 282005 represented through Prof. A. K. Saxena, Dean, Research & Development, Dayalbagh Educational Institute of, shall which expression shall unless it be repugnant to the context or meaning thereof be deemed to mean and include its successors and

[Signature]



[Signature]
17 DEC 2015



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BC 052937

assigns , who is duly authorized to sign and execute this Agreement on behalf of
Dayalbagh Educational Institute, of the **SECOND PART**

Government of Kerala and Dayalbagh Educational Institute shall hereinafter also
collectively be referred to as the "**Parties**" and individually as the "**Party**"

WHEREAS, Government of Kerala has decided to introduce the Additional Skill
Acquisition Programme (ASAP) in selected Government and Aided Schools and
Colleges in the State with the objective of improving the employability of
students in the schools and colleges by imparting skill training to them in
identified areas and as per the industry requirements

AND WHEREAS Dayalbagh Educational Institute(DEI) (www.dei.ac.in), a
premier university of India, has the unique distinction of being the only university
not only in India, but the world, to have a triple entity status in the same campus
besides being a regular conventional university, as a vocational education

Signature


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university, a vocational / technical board and vocational / academic secondary education board. Besides, these features are also offered through distance education as a fourth dimension. The fifth dimension of online education / vocational online education and even beyond is now being developed through Vs-e-e-DEI-de (vocational Skill based / entrepreneurial/ electronic education through distance mode). The Institute has introduced a scheme of innovative and comprehensive education in the above three domains with the aim of developing an integrated personality of a well-adjusted complete man. The Institute has received 'A' Grade in the recent NAAC accreditation.


AND WHEREAS, Government of Kerala through Additional Skill Acquisition Programme approached Dayalbagh Educational Institute to develop and impart Skill Development in various sectors for different batches of 30 students each enrolled in the ASAP by the Government of Kerala for the period up to 31.12.2017

AND WHEREAS, Dayalbagh Educational Institute agreed to offer the skill course training in various sectors at a mutually agreed rate and the Government of Kerala has accepted the negotiation and agreed to work out detailed plan of action within 30 days after the execution of this agreement.

AND WHEREAS, Government of Kerala and Dayalbagh Educational Institute are desirous of entering into an agreement to improve employability of students in various industry Sectors, facilitating Government of Kerala to offer skill oriented courses in technical/academic collaboration with Dayalbagh Educational Institute.

AND WHEREAS, the Parties appreciate each other's objectives in promoting excellence, *inter alia*, in education in common areas of interest and are desirous of entering into an Agreement for the aforesaid purpose. The Parties are also desirous of working together for identifying other areas of co-operation between them.

AND WHEREAS, The Parties hereto are desirous of recording the terms of their agreement into this Agreement for the areas identified for co-operation and commit to co-operate to the fullest extent.

— *Amay* —


Now, therefore, in consideration of the foregoing and the mutual covenants set forth herein, the Parties hereto agree as follows:

1. **DEFINITIONS**

The following expressions shall have the following meanings:

1.1 **"CONFIDENTIAL INFORMATION"** means

1.1.1 either Party's proprietary technology and/or software and/or Reports in all versions and forms of expression, whether or not the same has been patented or the copyright thereto registered, is the subject of a pending patent or registration application, or forms the basis for a patentable invention;

1.1.2 all technical, proprietary and confidential information of either Party;

1.1.2a any manual, note, documentation, technical information, drawing, diagram, specification, or formula which is not intended for distribution to or use by end-users or know-how related to any of the foregoing;

1.1.3 any information regarding current or proposed products, trade secrets, know-how, marketing plans, customers, employees, vendors, contracts and contractual obligations, business methods, financial and statistical data or marketing data which are not intended for distribution to or use by end-users including the details of the students enrolled for the programmes;

1.1.4 any other written information that is clearly marked or designated as confidential or proprietary by the Party disclosing it; and

1.1.5 any unwritten information that is identified by such Party as confidential at the time of disclosure.

1.1.6 without prejudice to the above, any information exchanged between the Parties during the subsistence of this Agreement for the purposes of this Agreement.

1.2 **"PROGRAMMES"** means the courses in particular sector (or such other

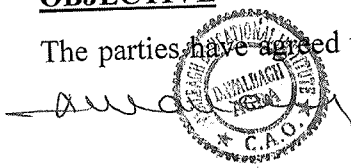


programmes as may be jointly offered in future) that Dayalbagh Educational Institute will offer to students with the support of Government of Kerala.

- 1.6 **“PROGRAMME FEE”** means the cumulative fees collected by Government of Kerala through ASAP, from each student appearing for the programme(s) mentioned in clause 2 below or such other programmes as may be jointly offered in future.
- 1.7 **“PROGRAMME MATERIAL”** means the educational material developed by Dayalbagh Educational Institute provided in Printed hard copies/ Digital / Electronic mode to the enrolled students and Government of Kerala. The educational material would be used for teaching the subjects covered under the courses defined in clause 2 below (or such other programmes as may be jointly offered in future). Programme material may also include, besides printed copies, e-Learning platforms such as CD-based/ LAN-based/ Web-based Learning, Webinars, Podcast, Video-Conferencing System, TV Channels, Radio, Referred sources etc.
- 1.8 **“STUDENT”** means the individual enrolled with Government of Kerala for the Additional Skill Acquisition Programme as a student for the courses defined in clause 2 below (or such other programmes as may be jointly offered in future).
- 1.9 **“FACULTY”** means a trainer deployed by Dayalbagh Educational Institute and approved by Government of Kerala to teach theory or practical at various colleges / schools/Skill Development Centres approved by Government of Kerala in face to face teaching, online teaching, mentoring etc. for facilitating the learning process of the student of the Programmes.
- 1.10 **“CONTRACT VALUE”** means the amount to be given to Dayalbagh Educational Institute by the Government of Kerala for imparting skill course training defined in Clause 2 below (or such other programmes as may be jointly offered in future) for Training students enrolled for the programme in a particular year.

2. **OBJECTIVE**

The parties have agreed to work together to offer skill Programmes aligned

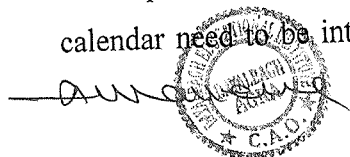


with National Occupation standards by Dayalbagh Educational Institute to the students enrolled with Government of Kerala under Additional Skill Acquisition Programme.

3. SCOPE OF THE AGREEMENT

Based on the terms and conditions as may be mutually agreed upon between the Parties from time to time, both the Parties agree as follows:

- 3.1 Government of Kerala shall do necessary things as may be required for the purpose of introducing the skill programmes mutually agreed as part of this agreement under Additional Skill Acquisition Programme.
- 3.2 The admissions for programmes will be held on the basis of detailed procedure defined by Government of Kerala for the relevant year.
- 3.3 The administration of the Programmes shall be conducted in the manner as provided herein below:
 - 3.3.1 Dayalbagh Educational Institute shall, in consultation with Government of Kerala, administer the Programmes through approved training locations /Skill Development Centres named in the RFP OR the locations mutually agreed time to time. The program administration includes teaching of all papers, practical training, internship, conduct of examination, evaluation, assessment, issue of marks/grades and award of certificate as per procedure and guideline(s) for the relevant Programme.
 - 3.3.2 Government of Kerala and Dayalbagh Educational Institute shall jointly work out modalities for smooth conduct of the courses, examination, assessment, Internship, Practicals, training the Skill Development Executives (Trainers) etc.
 - 3.3.3 The programmes agreed will be offered at training locations named Skill Development Centres identified by Government across the State of Kerala and will offer only on all holidays including Sundays and Second Saturdays.
 - 3.3.4 Dayalbagh Educational Institute will prepare customised training schedule for programmes agreed in consultation with Programme Manager, ASAP in charge of respective Skill Development Centres and will impart training accordingly. Any changes in the approved training calendar need to be intimated to the Programme Manager, ASAP in



charge and should get prior approval from ASAP.

4. COMMERCIAL AND PAYMENT TERMS

The Parties herein agree that they shall pay their respective share of costs and expenses for the Programme in the manner, method agreed here in the agreement and payment terms for Dayalbagh Educational Institute by the Government of Kerala mentioned in table below.

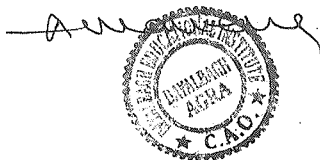
I	10% of Contract Value	After the commencement of Training by Dayalbagh Educational Institute
Ii	20 % of Contract Value	After the successful completion of 50 hours of Training by Dayalbagh Educational Institute
Iii	50% of Contract Value	On Successful Completion of all batches of the training and submission of all relevant reports, documents by Dayalbagh Educational Institute
Iv	20% of Contract Value	Will be released after the issue of certificate and successful completion of internship by Dayalbagh Educational Institute

Notwithstanding anything contained herein, the Government of Kerala hereby agrees to market and make best efforts to enrol maximum students for the Programmes agreed.

4a. PROJECT CO-ORDINATOR

Project Co-ordinator: Both Government of Kerala and Dayalbagh Educational Institute shall nominate a Project Co-ordinator each, as a single point of contact, on behalf of Government of Kerala and Dayalbagh Educational Institute to coordinate the launch and successful implementation of the Programmes.

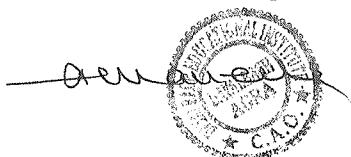
In addition, Government of Kerala, shall nominate one Programme Manager at each Skill Development Centre to co-ordinate activities related to Skill Courses



5. RIGHTS AND OBLIGATIONS OF THE PARTIES

5.1 Rights & Obligations of Government of Kerala

- 5.1.1 Government of Kerala shall provide all the relevant information, guidelines and data to Dayalbagh Educational Institute to give effect to the scope and purpose of this agreement within agreed timelines of launching the Programmes.
- 5.1.2 Government of Kerala shall ensure that the Programmes offered under this agreement are in compliance with the relevant laws, rules, policies and procedures of Government of Kerala as well as other relevant Central/State Government or Statutory Authorities.
- 5.1.3 Government of Kerala shall screen and admit the students; confirm admissions and registrations of the students to the programmes agreed and issue enrolment numbers and ID cards to registered students. Further, the list of the students enrolled for the programmes shall be provided by Government of Kerala to Dayalbagh Educational Institute within 10 working days of the closure of admission.
- 5.1.4 Government of Kerala shall provide the basic infrastructure such as class room and projector required for the Centers where the courses are decided to commence for the respective Programmes.
- 5.1.5 Government of Kerala shall identify the test centres for the final Examinations in the Skill Development Centres and finalise in consultation with Dayalbagh Educational Institute the date, time of the examinations and inform the students about the same. The schedule is not normally alterable as per any individual candidate's request.
- 5.1.6 Government of Kerala shall issue Certificate which is jointly signed by Government of Kerala or authorised agency and Dayalbagh Educational Institute to the students who successfully complete the programme.
- 5.1.9 Government of Kerala and Dayalbagh Educational Institute shall jointly finalise the manner and method and time for conduct of examinations pursuant to the Programme, time to time.

A handwritten signature in black ink is written over a circular stamp. The stamp contains the text "DAYALBAGH EDUCATIONAL INSTITUTE" around the top edge, "DAYALBAGH" in the center, and "C.A.O." at the bottom. There are also small stars on either side of the center text.

5.1.10 Government of Kerala will offer skill programmes in different Centers identified as per the standard requirements of the courses. The course fee shall be fixed before the implementation of the programme after due consultation with both parties from time to time.

5.2 **Rights & Obligations of Dayalbagh Educational Institute**

5.2.1 Dayalbagh Educational Institute shall provide the Programme Material in printed, digital and electronic format to the students enrolled for the programme. The Programme Material shall be updated by Dayalbagh Educational Institute from time to time.

5.2.2 Dayalbagh Educational Institute shall design a curriculum with a minimum of 150 hrs. This Curriculum should be aligned with National Occupation Standards, if job role is already mapped by Sector Skill Council.

5.2.3 Dayalbagh Educational Institute shall train the Trainers and deploy them at locations identified by the Government of Kerala for imparting the approved skill programmes.

5.2.4 Dayalbagh Educational Institute shall conduct training in the skill programmes in batches not more than 30 participants per batch at the identified locations across the State of Kerala.

5.2.5 Dayalbagh Educational Institute shall setup lab facilities wherever it is required in the identified locations mutually agreed by the parties. All the equipment installed by DEI in the lab shall form the part of the assets of DEI.

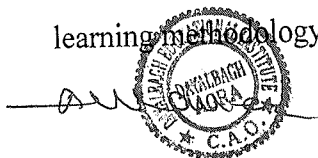
5.2.6 Dayalbagh Educational Institute shall make arrangement with companies for internship for students enrolled for Programmes in Name of sector for a minimum duration of 150 hrs.

5.2.7 Dayalbagh Educational Institute shall take steps to get the programme material vetted by Sector Skill Council/Industry.

5.2.8 Dayalbagh Educational Institute shall conduct assessment in association with Sector Skills Council/ approved third party assessment agency and issue joint certificates by Government of Kerala and Dayalbagh Educational Institute to students



- 5.2.9 Dayalbagh Educational Institute shall prepare and submit lesson plan and content in a modular format with sessions suitable for one hour delivery and the same in the digital format shall be handed over to ASAP before the commencement of each batch.
- 5.2.10 Dayalbagh Educational Institute shall submit the course material and other reports in digital format to ASAP for the purpose of information exchange
- 5.2.11 Course material shall contain both reading materials and hands out in the form of learners note, guidelines, quick reference guide etc. All the material developed as part of the course kit should be in English only.
- 5.2.12 Dayalbagh Educational Institute shall make all possible efforts for placement to the successful candidates who are willing to opt for employment.
- 5.2.13 Dayalbagh Educational Institute shall develop course promotion materials in both digital and print formats which can be given to students during counseling session.
- 5.2.14 Dayalbagh Educational Institute shall submit documentation report at the end of the programme comprising the salient features of the training activity under this programme, suggestions and recommendations from the participants, compilation and an analytical note of the evaluation sheet (pre evaluation and post evaluation) submitted by the participants and over all summary report on completion of entire programme.
- 5.2.15 Dayalbagh Educational Institute shall deploy trainers having proficiency both in English and Malayalam.
- 5.2.16 Dayalbagh Educational Institute shall conduct training activities with more scope for teamwork, individual practice on the skill and interaction of the participants.
- 5.2.17 Dayalbagh Educational Institute shall implement activity based learning methodology while imparting training.



- 5.2.18 Dayalbagh Educational Institute shall draw up training calendar for programmes selected in consultation with Government of Kerala and should adhere to the plan.
- 5.2.19 Dayalbagh Educational Institute shall ensure trainers under their pay role are reaching training centre at least 30 minutes before the commencement of class and taking session as per the approved syllabus.
- 5.2.20 Dayalbagh Educational Institute shall conduct examination with the support of third party assessment agency approved by Government of Kerala. The marks obtained by the students will be communicated by Dayalbagh Educational Institute to Government of Kerala within 10 working days of each of the papers in order to enable Government of Kerala to award the appropriate credit of marks.
- 5.2.21 Dayalbagh Educational Institute shall conduct the practical examination to test the skills of students. The modalities of conduct of examination, relative weightage of marks etc. shall be jointly worked out with Government of Kerala and shall adhere to the assessment manual of ASAP.
- 5.2.22 Dayalbagh Educational Institute shall provide, optional value added services to Government of Kerala on payment of the fees as prescribed by Dayalbagh Educational Institute.
- 5.2.23 Dayalbagh Educational Institute shall use only approved logos and banners in the training venue.
- 5.2.24 Dayalbagh Educational Institute shall not make any attempt to promote and market their company or services offered by them among participants.
- 5.2.25 Dayalbagh Educational Institute shall ensure that the time lines will be adhered to.



5.3 Joint Rights and Obligations of Government of Kerala & Dayalbagh Educational Institute

5.3.1 Parties may jointly organize informative seminars, road shows etc. to popularize the Programmes in the manner and method as may be mutually agreed upon between them.

5.3.2 Undertake, either jointly or by itself such activities which are incidental to the successful implementation of the Programmes.

5.3.3 Both the Parties shall provide appropriate staff for providing deployment and administration of the Programmes.

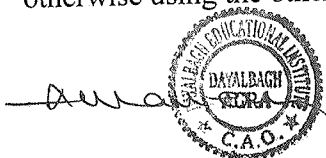
5.3.4 Both the Parties reserve the right to audit the performance of the Programme through methods including without limitation, conduct inspection, surprise visit, in affiliated colleges and schools to ensure teaching standards and quality are maintained as per laid down norms and procedures from time to time.

5.3.5 Dayalbagh Educational Institute reserves the right to, in its sole discretion, update the curriculum of course papers in line with latest industry trends; Government of Kerala will ensure updating the educational materials provided to students by completing necessary administrative formalities.

5.4 Notwithstanding anything contained herein, Parties may take up additional responsibilities as may be required from time to time, to ensure the success of the Programmes.

6. INTELLECTUAL PROPERTY RIGHTS

6.1 The Parties herein grant each other a royalty-free, non-exclusive, non-transferable, non-sublicensable, license right over their respective trademarks and logos in India only, for use by the other Party in marketing and promoting the Programme. It is clarified however that either Party shall obtain the written consent of the other Party before printing, displaying, exhibiting, using or otherwise using the other Party's trademarks.



It is clarified herein that both Parties shall exclusively own and continue to retain all right, title and interest to its trade name/s, trade mark/s and logo/s and nothing contained herein is intended to assign or transfer any of the said rights in the trade names/trademarks and logo/s to the other Party.

Neither party during the course of performance of this agreement desire nor intend to transfer any intellectual property rights whatsoever with respect to any information that is proprietary.

6.2 The Parties acknowledge that they will not acquire any right, title, or interest in either party's trademarks, trade names, service marks, copyrights, patents, ideas, concepts, designs, specifications, models, processes, software systems, technologies, and other intellectual property owned or developed by either party.

6.3 Dayalbagh Educational Institute shall, at its own discretion, apply for and register in its own name, any trademark, copyright or other applicable intellectual property rights on the Programme and/or Programme Material and Government of Kerala hereby waives any and all objections or claims against such registration and shall co-operate and assist Dayalbagh Educational Institute whenever required, in completing such registration.

7 VALIDITY AND RENEWAL

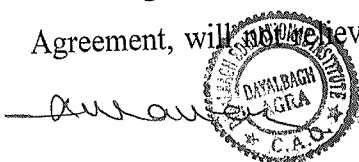
This Agreement shall come into effect from the date of signing of this agreement and shall continue to be operative till 31.12.2017, and may be renewed by the Parties through signed written instrument on terms and conditions as may be mutually agreed upon between them.

8 TERMINATION

8.1 The Agreement may be terminated immediately by mutual consent of the Parties; or by a written notice by the non-defaulting Party in the event the other Party commits a material breach of the Agreement and is unable to rectify it within 30 (Thirty) days after receiving a written notice of such material breach.

8.2 The Agreement shall be terminated by the Government of Kerala without assigning any reason whatsoever at any time.

8.3 In the larger interest of the students' future at stake, any termination of this Agreement, will not relieve the parties of their obligations specified in this



Agreement for a period of three years after such termination or till the enrolled students complete their respective course; provided the students clear their examinations, clear all financial transactions and continue to fulfil the norms of the Parties

8.4 The Dayalbagh Educational Institute shall not suo motto withdraw from the training programme once the course is commenced and shall continue as a training provider till the certificates are issued to the students.

8.5 The clauses of this Agreement, which by nature are intended to survive termination of this Agreement shall remain in effect after such termination.

9 AMENDMENT AND WAIVER

No Amendment or change hereof or addition hereto shall be effective or binding on either of the Parties hereto unless set in writing and executed by the respective duly authorized representatives of each of the Parties hereto. Further, any waiver of any of the terms hereof shall be valid if made by mutual consent of the Parties.

10 NO LIABILITY OR AUTHORITY

10.1 Nothing in this Agreement shall give either Party any rights to use any trade names or trademarks or any service marks (or the goodwill associated therewith) which are used by the other, save as may be authorized by the latter in writing.

10.2 Neither party shall be liable to the other for special, indirect or consequential losses or damages incurred or suffered by the other party arising as a result of or arising out of this Agreement whether in contract, tort or otherwise, even if the other has been advised of the possibility of such loss or damages.

11 FURTHER ACTS AND ASSURANCES

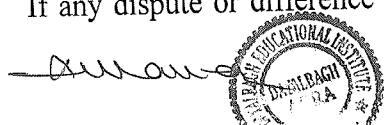
Each of the Parties agrees to execute and deliver all such further instruments and to do and perform all such further acts and things, as shall be necessary and required to carry out the provisions of this Agreement.

12 MATTERS NOT PROVIDED IN

If any doubt arises as to the interpretation of the provisions of this Agreement or as to matters not provided therein, the Parties shall consult with each other for each instance and resolve such doubts in good faith.

13 SETTLEMENT OF DISPUTE AND JURISDICTION

13.1 If any dispute or difference of any kind whatsoever may arise between the



Parties in connection with or arising out of this agreement, the Parties shall attempt for a period of 30 days after receipt of notice by the other Party of the existence of a dispute to settle such dispute in the first instance by mutual discussions between the Parties.

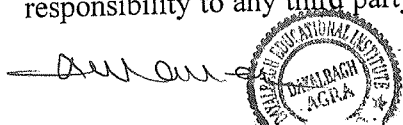
- 13.2 All disputes, differences or questions arising out of this Agreement including the interpretation of the terms herein or in regard to the obligations, failure or breach of any terms thereof by either of the party under this Agreement or of any matter whatsoever arising under this Agreement which have not been mutually settled as per the provisions of clause 13.1, shall be referred to Arbitration under the provisions of the Arbitration and Conciliation Act, 1996. The Parties shall mutually appoint an Arbitrator. The place of Arbitration shall be Thiruvananthapuram. The language for Arbitration shall be English. The provisions of this clause shall survive the termination of this Agreement.

14 **FORCE MAJEURE**

If the performance of any obligations by any party as specified in this Agreement is prevented, restricted, delayed or interfered by reason of force majeure then notwithstanding anything contained hereinabove, the Party affected shall be excused from its performance to the extent of such performance relates to such prevention, restriction, delay or interference and provided the Party so affected uses its best efforts to remove such cause of non-performance and when removed the Party shall continue performance with utmost urgency. For the purpose of this article "Force Majeure" means and includes fire, explosion, cyclone, floods, war, revolution, blockage or embargo, any law, order, demands or requirements of any Government or statutory authority, strikes, which are not instigated for the purpose of avoiding obligations herein or any other circumstances beyond the control of the Party affected.

15 **NO PARTNERSHIP**

It is hereby understood and agreed that this Agreement is on a Principal to Principal basis and neither Party shall describe itself as an agent, partner, joint-venture partner, employee, or representative of the other Party, or pledge the credit of the other Party in any way or make any representations or give any warranties to any third party which may require the other Party to undertake or be liable for, whether directly or indirectly, any obligation and/or responsibility to any third party or enter into contracts on behalf of the other



Party.

16 ASSIGNMENT

Neither Party shall assign or otherwise transfer the rights and obligations contemplated under this Agreement without the prior written consent of the other party.

17 GOVERNING LAW

This Agreement shall be governed by and construed and interpreted in accordance with the laws of Republic of India. Subject to the provisions of clause 13 herein, the Parties shall be subject to the exclusive jurisdiction of the Courts in Thiruvananthapuram

18. CONFIDENTIALITY

18.1 Both the Parties agree to maintain confidentiality of this Agreement and all Confidential Information (written or oral) shared with each other or which comes to their knowledge under or as a result of this Agreement and shall not divulge such information to any third party under any circumstances whatsoever, (except to their own employees and that too only to those employees who need to know the same and to such other persons as required under this agreement), without prior written consent of the other party. The confidentiality obligation under this clause shall not apply to information that:

18.1.1 is available in public domain; or becomes so at a future date (otherwise than as a result of a breach of this clause); or

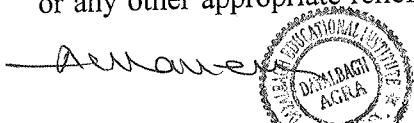
18.1.2 which the receiving party already had in its possession before the date of signing of this Agreement, as evidenced by documents; or

18.1.3 which the receiving party acquires from a third party who is authorised to disclose it; or

18.1.4 which was independently developed by or on behalf of the receiving party without use of, reference to or reliance on any Confidential Information of the other party, as evidenced by documents; or

18.1.5 is disclosed in pursuant to any requirement of law including RTI Act.

18.2 In the event of any of the Parties becoming legally compelled to disclose any Confidential Information, such Party shall give sufficient notice to the other Party so as to enable the other Party to seek a timely protective order or any other appropriate relief. If such an order or other relief cannot be



obtained, the

18.3 Party being required to make such a disclosure shall make the disclosure of the Confidential Information only to the extent that is legally required of it and no further.

18.3 The confidentiality obligation under this clause shall survive for a period of 3 years post termination or expiration of this Agreement.

19 SEVERABILITY

Any law restraining the validity and enforceability of any provision of this Agreement shall not affect the validity or enforceability of the remaining provisions of this Agreement, and shall be deemed as not containing the invalid provisions. The remaining provisions of this Agreement shall remain in full force and effect unless the invalid or unenforceable provision comprises an integral part of or otherwise inseparable from the remaining agreement. In such a case, the Parties to this Agreement shall attempt to agree on a provision that is valid and enforceable and similar to the original provision.

20 INDEMNIFICATION

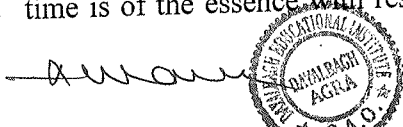
Either Party shall indemnify and keep indemnified, and defend and hold harmless the affected party, its respective officers, employees, and agents from and against all losses, damages, legal proceedings, liabilities and claims at law, or in equity including without limitation costs, expenses and lawyers fees, directly or indirectly arising out of or resulting from the representations contained herein or its obligations under this Agreement.

21 REPRESENTATIONS AND WARRANTIES

The Parties hereby represent and warrant to each other that:

21.1 it is duly established and existing under the laws of jurisdiction stated against its name of this Agreement and has the legal power and authority to sign this Agreement, bind itself and perform and comply with its duties and obligations under this Agreement

21.2 time is of the essence with respect to all provisions within this Agreement.



Any delay in performance by either Party shall constitute a material breach of this Agreement

21.3 this Agreement constitutes legal, valid and binding obligations enforceable against it in accordance with the terms hereof;

21.4 the execution, delivery and performance of this Agreement have been duly authorized by all requisite actions and will not constitute a violation of:

21.4.1 any statute, judgment, order, decree or regulation of any court, Government instrumentality or Arbitral Tribunal applicable or relating to itself, its assets or its functions, or of

21.4.2 any other documents or to the best of its knowledge any indenture contract of agreement to which it is a party or by which it may be bound;

21.5 there are no actions, suits or proceedings pending or, to the best knowledge threatened against it before any Court, Governmental instrumentality or Arbitral Tribunal that restrain it from performing its duties and obligations under this Agreement; and no representation or warranty made herein contains any untrue statement.

22 HEADINGS

The headings in this Agreement are inserted for ease of reference only and shall not affect the interpretation of the Agreement.

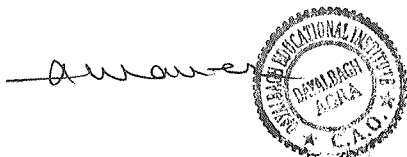
23 COUNTERPARTS

This Agreement may be executed by both Parties hereto in two counterparts, each of which when executed shall be deemed to be an original, but both of which taken together shall constitute one and the same Agreement.

The training is to be commenced from the mutually agreed date.

24. Interaction with officials

Whenever Dayalbagh Educational Institute visits any of the specified training centres, they should intimate the same to Programme Co-ordinator of the Project well in advance and only with the permission of Programme Co-ordinator or Competent Authority of the premises, they shall interact with students. If any critical situation occurs during the visit, they should interact with Programme Managers of Additional Skill Acquisition Programme.



25. Final Output expected from the Training Agency

- a. The Dayalbagh Educational Institute shall ensure 100% internship to all the students enrolled in an industry approved by Government of Kerala.
- b. Professionally Trained and industry ready professionals in the sectors selected.

26 NOTICES

Any notice approval, consent and or other notification required or permitted to be given hereunder shall be in writing in English and shall be personally delivered, or transmitted by registered post with postage fully paid or transmitted by fax to the address specified below or to such other addresses as may, from time to time be given by each Party to the other in writing and in the manner herein before provided to:

Government of Kerala:

Attention: Dr. Reju M T

Address: Chief Executive Officer, Additional Skill Acquisition Programme

Dayalbagh Educational Institute :

Attention: Prof. A. K. Saxena

Address: Dean, Research & Development, Dayalbagh Educational Institute,
Dayalbagh Agra - 282005

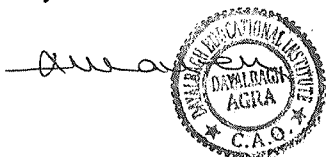
Phone: 9412559851

Fax No: 0562-2801226

Email ID: ajay.saxena@dei.ac.in

IN WITNESS WHEREOF both the Parties thereunto have set their hands on through their duly authorized representatives signed this Agreement as this 17th day of month of December, 2015.

The day month and year first above written



Signed by Dr. Reju M T

Signed by Prof. A. K. Saxena



For and on behalf of Government of Kerala

For and on behalf of Dayalbagh Educational Institute

Dr. Reju M T

Prof. A. K. Saxena

Chief Executive Officer,
Additional Skill Acquisition
Programme,
Government of Kerala

Dean, Research & Development
Dayalbagh Educational Institute

Witnesses:

1. -----

1.

D. BHAWAN DAS

PROFESSOR

DEI Agra

2. -----

2.

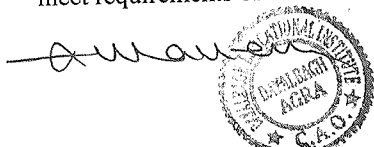
ANNEXURE I

Terms of Reference

Task to be performed by the Training agency/company

1. Programme Design

- They should design curriculum for the programme offered. Training Service Provider may also choose the programmes designed and approved by Sector Skill Council concerned. The curriculum should be suitable for level 3 or above certification as per NSQF and should meet requirements of National Occupation



- They should get endorsement from Sector Skill Council, if the programme is new.
- If the Training Service Provider is selecting a programme not directly related to the already approved National Occupation standard, they can submit the programme to ASAP for approval. Only after obtaining approval from ASAP, Training Service Provider can commence programme, even if they are selected through this RFP.
- A minimum of 55% of Syllabus should be devoted to practical Training excluding Internship.
- Course material should contain both reading material and hands out in the form of learners note, guidelines, quick reference guide etc. All the material developed as part of the course kit should be in English only.
- Lesson plan and content should be prepared in a modular format with sessions suitable for one hour delivery and the same in the digital format in the standard format approved by ASAP should be handed over to ASAP before the commencement of each batch. ASAP will, in turn, feed the same into Learning Management System for the benefit of students.

II. Programme Materials

- Should develop Learner Material relevant to the programme proposed and same should be provided in both print and digital format to all students enrolled for the programme.
- Should develop Trainer facilitation guide for the programme Proposed.
- Should develop Quality Framework as per the Standards and formats developed by ASAP
- Should develop Internship Framework as per the Standards and Formats developed by ASAP.
- Should develop a training manual for the programme.
- Should develop an Assessment Manual


III. Training Delivery

- Should develop an activity based learning methodology for the proposed Programme
- Activity based learning methodology should be adopted while imparting training.
- Should develop hour wise training delivery Plan and should adhere to the plan.
- The training activities should provide more scope for teamwork, individual practice on the skill and interaction of the participants.
- The Training Service Provider in consultation with ASAP officials should draw up training calendar for the chosen programme and should adhere to the plan.
- Should ensure each student is getting individual attention.
- Should deliver training as per the approved quality frame work
- Training service provider should provide all the materials required for training delivery to the Trainers and Students.

IV. Trainer

- TSPs should deploy Trainers at skill development centres approved by ASAP.
- Only Trainers from the following category should be deployed for the programme Proposed.
 - i. Professionals having a minimum of one year experience in the relevant industry.

Answer



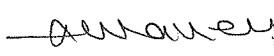

- ii. Trainer should have completed his/her Education/Training in the areas of Programme proposed.
- Trainers should have attended ToT programme conducted by Sector Skill Council and certified by Sector Skill Council. If in a particular sector, SSC is not active, then Trainer should attend ToT conducted by relevant industry/Industry Association. ASAP may allow the TSP to deploy a professional from the industry as trainer, even if he/she hasn't certified by Industry Association, if TSP submits credential for the same and ASAP official concerned approves.
 - TSP should also conduct ToT for prospective trainers. This would focus more on trainer traits of Trainers. Separate session for ASAP philosophy, Quality framework, Assessment criteria, general etiquette at SDC should be incorporated in the ToT design. ToT should empower the Trainer to conduct activity oriented session in the classroom in an effective manner.
 - TSPs should consult ASAP on design and finalize the schedule of the ToT with the approval from ASAP.
 - TSPs should submit resumes of trainers to ASAP and get approval before field deployment.
 - Trainers should have proficiency in English and Malayalam (preferable)
 - TSPs should deploy a minimum of one subject Matter Expert (SME) per 15 trainers deployed in the field.
 - TSPs should assign at least two trainers per batch at any given time during the contract period.
 - The Training Service Provider should ensure Trainers under their pay role are reaching the training centres at least half an hour before the commencement of the class and engage sessions as per the ASAP approved syllabus and quality framework.
 - Out of the total trainers intended to deploy/deployed, 50% of the trainers should be sourced from Industry with a minimum of one year experience and rest can be sourced based on their academic qualification in the sector concerned.

V. Student Selection

- ASAP to administer an aptitude test while selecting student based on the interest inventory questionnaire provided by Training service Provider. They should provide question bank for each programme proposed along with the submission of RFP documents. A minimum of 100 interest inventory questions should be submitted.
- Should provide correct information w.r.t programme to students, parents and other stakeholders.
- Should submit three copies of a video having 20 second to 3 minutes duration highlighting the prospects of the programme, job verticals, curriculum covered, trainers, Lab features, assessment method, internship features, placement etc to ASAP along with RFP documents
- Should print and distribute brochures in ASAP templates to students with the support of ASAP Programme Managers

VI. Learning Materials

- Should provide learning materials as per the syllabus to all students enrolled for the programme in both hard copy as well as digital formats.
- The cover page of Hard copy should be made using the design template provided by ASAP.
- The learning material of the proposed programme will be available on ASAP website for students reference during the period of contract,

- Should submit three copies of learning material while submitting RFP

VII. Practical

- Each programme Should require a minimum of 55% of Practical component exclusive of Internship.
- Training Service Provider should provide and ensure tools, devices, furniture etc required for the practical training.
- Practical training should be conducted as per the quality framework of the programme
- The TSP should set up labs for the conduct of practical at their own cost in the training location. ASAP will provide space for setting up of such labs.

VIII. Assessment and Evaluation

- Should adhere to ASAP assessment and Evaluation manual
- Final Assessment should be conducted by a third party assessment agency brought in by Training Service Provider and approved by ASAP.
- If Sector Skill Councils are active, should involve SSCs for assessment and Evaluation of the learner.
- Should submit three copies of assessment manual to ASAP

IX. Certification

- Should issue joint certificates to students along with Government of Kerala and Sector Skill Council/third party assessment agency/Industry Association as the case may be.

X. Internship

- They should make arrangement with relevant companies/entrepreneurs for internship for students completed course work.
- The minimum internship duration shall be 150 hours.
- Should ensure the safety and security of the students during in internship
- Should identify internship supervisor in each internship centre.
- Should conduct internship evaluation in consultation with internship supervisor and the same should be given to ASAP
- The Training Service Provider should arrange residential facility, if any part of the programme including internship is conducted outside the District of domicile of the trainee.
- Should submit list of Prospective Internship centres

XI. Batch Size

- The batch size of the programme may vary from 20 to 35
- They need to conduct training in the chosen programme at the identified locations across the State of Kerala.

XII. Placement

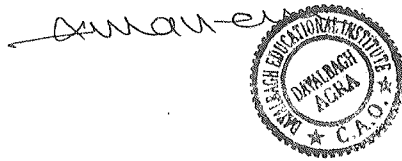
- Should facilitate placement to the successful candidates by campus interviews and job fairs



- If more than 100 students are willing to accept job immediately after the course, they should organise job fairs by inviting leading employers in the sector.
- Should submit a placement protocol and strategy to ASAP
- Should submit a list of prospective employers

XIII. Reports

- At the end of the programme, the course material and other reports should be submitted in digital format to ASAP for the purpose of information exchange
- Submission of documentation report at the end of the programme comprising the salient features of the training activity under this programme, suggestions and recommendations from the participants, compilation and an analytical note of the evaluation sheet submitted by the participants and over all summary report on completion of entire programme.
 - A training video capturing different aspect of the training should be submitted to ASAP.





M.G. ROAD, NEAR CONSTRUCTION, AGRA,
UTTAR PRADESH, INDIA.
Email: gm@agrasmartcity.in Website: www.agrasmartcity.in
CIN: U74999UP2017SGC088981

From,
Chief Executive Officer,
Agra Smart City Ltd

To,
Head of Department,
Electrical Department
Dayalbagh Engineering College

Letter No: ²⁹/ASCL/2019-20

Date: 27.09.2019

Subject: Regarding vetting of Extra Items, Deviation Items of various projects

Sir,

During the execution of various projects due to various site conditions, suggestions from various approval authorities like ASI, Jal Nigam etc and also from TPQA agency certain deviation and extra items have arisen for the following project:


1. Façade Improvement of traditional houses along Daresi Road in Agra
2. Improvement of Taj East drain and Operation and Maintenance for 05 (Five) Years. (Third Call)
3. Junction improvement project Phase 1 (Civil Work) in ABD Area including five years of Operation and maintenance
4. Junction Improvement Project PAN City
5. Junction improvement project Phase 1 (Sinages) in ABD Area including five years of Operation and maintenance
6. Beautification and Street-scaping of Fatehabad Road including Operation and Maintenance for 05 Years.
7. Development of Major road in ABD area under Smart City Mission including Operation and Maintenance of 05 years at Agra, Uttar Pradesh.
8. Sewerage system in ABD area including five years of operations & maintenance
9. Development of Heritage walks.
10. Intensive beautification of heritage walk within 2 km radius of taj mahal with 5(five) years operation and maintenance – civil works
11. Construction of ICCC building in Agra Nagar Nigam/Agra Smart City office premises including five years of operations & maintenance

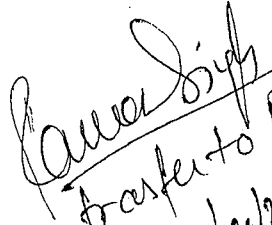
The detailed statement of the deviation items, extra items and saving items along with reasons and financial implication is attached along with this letter .

It is kindly requested to vet the extra items and deviation items of various projects and convey your valuable suggestions

Looking forward for an early response,

Thanking You,


Chief Executive Officer
Agra Smart City Ltd
Agra


Transfer to Prd/. S. Prakash Ar
04/10/2019.