DAYALBAGH EDUCATIONAL INSTITUTE DEPARTMENT OF BOTANY (FACULTY OF SCIENCE)

COURSE LIST & COURSE OUTCOME

S.No.	Course	Course Title	Credits	End	Theory	Course Outcome
	Number			Sem. Exam.	/ Practic al	
1.	ESC191	Environmental Studies	2.0	No	Т	It is a core course. Motto of this course is to create awareness amongst all the students about environment, environment related problems, harms of over-exploitation of natural resources and all possible solutions to mitigate environmental hazards. Eco friendly solutions for a sustainable development with case studies will make the locaring more meaningful
2.	BOA101	Ecosystem And Its Dymanics	3.0	Yes	Т	It is an Elective course Ecology of plants community & dynamics; Ecosystems and biotic interactions; Response of plant to stress conditions; Importance of soil; Biogeochemical cycles and their importance will be studied
3.	BOH101	Botany Theory	3.0	Yes	Т	It is an introductory half course which provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. The course also introduce students to basic concepts of genetics and cellular and organelles structure and function. General account and importance of important plant groups and various disciplines of plant Sciences are discussed briefly
4.	BOH102	Botany Practical	3.0	Yes	Р	The laboratory exercises are coordinated with lecture topics including, field exercises
5.	BOH181	Environmental Sciences	2.5	Yes	Т	It is a non faculty half course. Objective is to create awareness for a safe ,sustainable and eco friendly environment To study environmental ethics and laws
6.	BOW101	Maintenance Of Botanical Garden I	2.0	No	Ρ	It is a work experience based course. Importance and utility of botanical garden in public welfare and botanical studies. Practical knowledge of Preparation of flower beds, seed beds and pots for growing seasonal and perennial ornamentals etc. will be given. Knowledge of Layout and designing of a garden and lawns; tillage, drainage, manuring, application of fertilizers and weeding; Vermi composting etc. will be imparted. Propagation techniques; Collection and preservation of seeds, fruits, flowers and bulbs will be taught
7.	BOW102	Work Experience-Dairy Products I	2.0	No	Р	It is a work experience based course. Students will get acquainted with upkeep of Dairy and its appliances. Milk, its composition and constituents, Adulteration in milk. Practical training of preparing traditional milk products- Khoa, Chenna/Paneer, Dahi, Srikhand, Flavoured milk etc. will be imparted.
8.	BOW103	Modern Crop Production Tech. I	2.0	No	P	It is a work experience based course. Practical knowledge of disease and Pest Management in Kharif Crops will be imparted through Field Survey, Collection of diseased plant parts, identification of major fungal, bacterial, and viral diseases and insects and phytonematodes
9.	BOW104	Techq.In Cell & Molecular Biology 1	2.0	No	P	It is a work experience based course. Laboratory practices and maintenance of equipments and Instrumentation will be given. Practical knowledge To measure pH ;To prepare buffer and other solutions will be given.
10.	BOW105	Biofertilizers I	2.0	No	Р	It is a work experience based course. Students will be able to identify ,isolate produce and maintain BGA from rice field ecosystem.
11.	BOW107	Prot.Prod.Tech.:Mushroo m&Spir.Cul.	2.0	No	P	It is a work experience based course. Preparation and Product Development of Button Mushroom (<i>Agaricus</i> <i>Bisporus</i>) and Spirulina Production will be taught.
12.	BOM101	Algae And Lichens	2.0	Yes	Т	Large diverse group important to study to mitigate environment related problems and food crisis. Micro flora have vital role for well being of next generation. Symbiotic relationship between algae and fungi is exemplified by study of lichens
13.		Pathology	2.0	Yes		To impart knowledge related to general characters; nutrition; reproduction; ultra structure ,economic importance and

						classification of fungi Students will learn about true and allied fungi as well as gain knowledge of important fungal diseases and their life cycle
14.	BOM103	Practical	4.0	Yes	Р	Practicals based on BOM 101 & BOM 102 through microscopic slide preparations; permanent slides and museum specimens will be given.
15.	BOM104	Seminar & Group Discussion	0.5	Yes	Р	Group discussions will be held on topics based on BOM 101 & BOM 102 .Assessment will be done on subject content; presentation; ability to answer questions etc. Purpose is to enhance skill of public speaking and develop confidence along with gaining subject knowledge
16.	BOH231 / BOH251	Botany-Theory	3.0	Yes	Т	It is a non faculty half course. General account and importance of important plant groups and various disciplines of plant Sciences are discussed briefly
17.	BOH232/ BOH252	Botany-Practical	3.0	Yes	P	It is a non faculty half course. The laboratory exercises are coordinated with lecture topics including field exercises.
18.	BOW201	Maintenance Of Botanical Garden II	2.0	No	P	It is a work experience based course. vegetative plant propagation techniques; bonsai; cultivation and care of cacti and succulents; hedges; climbers etc. will be taught.
19.	BOW202	Work Experience-Dairy Products II	2.0	No	Р	It is a work experience based course. Practical training of Keeping dairy records ; Understanding of Cattle housing; acquaintance with important breeds of cattle ; computation of ration for livestock will be imparted.
20.	BOW203	Modern Crop Production Tech. II	2.0	No	Р	It is a work experience based course. Practical knowledge of disease and Pest Management in Rabi Crops will be imparted through Field Survey, Collection of diseased plant parts, identification of major fungal, bacterial, and viral diseases and insects and phyto nematodes
21.	BOW204	Techq.In Cell & Molecular Biology 2	2.0	No	Р	It is a work experience based course. Cytological Techniques mainly staining; Differential staining; micrometry ; cell counting etc. will be done
22.	BOW205	Biofertilizers II	2.0	No	Р	It is a work experience based course. Students will learn Preservation and Production techniques for BGA.
23.	BOW207	Prot.Prod.Tech.:Mushroo m&Spir.Cul.	2.0	No	Р	It is a work experience based course. Student will learn Preparation and Product Development of Oyster Mushroom and Spirulina sps, etc. Quality Testing, Packing and Marketing
24.	BOM201	Bacteria, Virus And Mycoplasma	2.0	Yes	Т	Students will learn salient features, Nature and characteristics, of bacterial cell; viruses; Mycoplasma; and Cyanobacteria. They will be able to differentiate among these microbes.
25.	BOM202	Cell Biology	2.0	Yes	Т	Basic knowledge of Cell as a unit of structure and function; its evolution and Origin along with Organization and function of various cell organelles; cell cycle and genetic material will be imparted
26.	BOM203	Practical	4.0	Yes	Р	Practicals based on BOM 201 & BOM 202 through microscopic slide preparations; permanent slides and museum specimens will be given.
27.	BOM204	Seminar & Group Discussion	0.5	No	Р	Group discussions will be held on topics based on BOM 201 & BOM 202 .Assessment will be done on subject content; presentation; ability to answer questions etc. Purpose is to enhance skill of public speaking and develop confidence along with gaining subject knowledge
28.	BOM301	Bryophyta	3.0	Yes	Т	Students will be able to Compare morphological and structural organisation of gametophytes and sporophytes, reproductive mechanisms and their significance, evolutionary trends. Detailed life cycles of different bryophytes will be given. Students will learn about Ecology, economic importance etc.of bryophytes.
29.	BOM302	Pteridophyta	3.0	Yes	Т	Students will learn Comparative organography, systematics reproduction and phylogeny of Pteridophytes; Life cycle of different genera will be taught. Students will learn about Early land plants and Evolution of stele
30.	BOM303	Gymnosperms & & Palaeobotany	3.0	Yes	Т	Ancient plants persist on earth .It is important for students to understand about past climate, phylogeny, economic values etc. Students will also learn about Palaeobotany ,which is a science pertinent to fossils and process of fossilization of past flora.
31.	BOM304	Practical	3.0	Yes	Р	Practicals based on BOM 301,302,303
32.	BOM305	Seminar & Group Discussion	0.5	No	Р	Group discussions will be held on topics based on BOM 301 302 & 303 .Assessment will be done on subject content; presentation; ability to answer questions etc. Purpose is to enhance skill of public speaking and develop confidence along with gaining subject knowledge
33.	BOM401	Anatomy Of Angiosperms	3.0	Yes	Т	The course is designed ,to gain an understanding of the plant internal structure. The angiosperms anatomy is more emphasized, however comparative study of gymnosperms and lower vascular plants is also taught Further course is important to correlate between plant

						anatomy and the other major disciplines of biology, including taxonomy, cell biology, physiology, genetics, biochemistry, and ecology.
34.	BOM402	Biomolecules	3.0	Yes	Т	At the end of the course, the students should be able to have a basic understanding of the structural and functional aspects of different biomolecules present in cells like Carbohydrates, Proteins, Lipids and Nucleic acids. They should also be able to appreciate the complex molecular mechanisms involved in regulation of gene expression in eukaryotes. The students will also be introduced to the field of bioinformatics and recombinant DNA technology.
35.	BOM403	Taxonomy Of Angiosperms	3.0	Yes	Т	It is the backbone of all branches of science. Three main objectives are Identification, nomenclature and classification of plants. Students learn much more about morphology of plants
36.	BOM404	Practical	3.0	Yes	Р	Practicals based on BOM 401;402;&403 through microscopic slide preparations; permanent slides and museum specimens will be given.
37.	BOM405	Seminar & Group Discussion	0.5	No	Р	Group discussions will be held on topics based on BOM 401;402 & 403 .Assessment will be done on subject content; presentation; ability to answer questions etc. Purpose is to enhance skill of public speaking and develop confidence along with gaining subject knowledge
38.	BOM501	Taxonomy Of Angiosperms	4.0	Yes	Т	Cladistics is a newer approach of systematics of clades or lineages with apomorphy and synapomorphy, Speciation provides valuable knowledge to students that how the present flora evolved from common ancestors. Botanical garden, herbarium, its preparation are few examples of classical taxonomy included in curriculum. Apart from this taxonomy provides an opportunity to come closer to nature to unveil facts associated with plants.
39.	BOM502	Cytogenetics And Plant Breeding	4.0	Yes	Т	Students will be introduced to Concept of gene-fine structure analysis; gene structure and organisation; gene function and regulation; chromosome & chromatid segregation. Mutagenesis & repair mechanisms; Linkage and Crossing over will be discussed. Students will learn about plant breeding, and improvement of some selected crops
40.	BOM503	Plant Physiology	4.0	Yes	Т	Understanding Plant Physiology will help students to explore function and behaviour of plants with respect to nutrition uptake, movement and growth & development, effect of growth regulators, evapo-transpiration, sap movement. This understanding will help students to manipulate conditions to minimize stress and maximize plant productivity.
41.	BOM504	Ecology	4.0	Yes	т	Students will understand scope and relationship of ecology with other sciences, Plant community, Community structure and Ecosystems and biotic inter actions. Renewable and non-renewable resources; soil And biogeochemical cycles will be discussed.
42.	BOM505	Practical	8.0	Yes	Р	Botany practical based on the courses BOM501, BOM502, BOM503 and BOM504
43.	BOM601	Microbiology	4.0	Yes	Т	Students will know details of bacterial cell; and viruses. They will learn about Microbiology of Air, water and soil as also Industrial; food and milk; and medical Microbiology. Microbial disease caused by Fungi, Bacteria, Virus, & Mycoplasma will be taught.
44.	BOM602	Embryology	4.0	Yes	Т	This course gives a detailed account of the different aspects of embryology encompassing anther and ovule development, micro and megasporogenesis, pollination and fertilization in angiosperms. The students will also gain an understanding of different types of embryo and endosperm development seen in diverse families of flowering plants. This course also highlights the role of embryology in plant taxonomy and use of applied embryology in plant tissue culture
45.	BOM603	Applied Botany & Ethnobotany	4.0	Yes	Т	This course deals with the importance of plants and plant products. Fruits, oils, beverages, fibres, wood and cork, condiments, spices, and drugs will be discussed through different examples. Students will also learn about ethnobotany; and Plants in folk religion and mythology.
46.	BOM604	Biometrics & Computer Applications	4.0	Yes	Т	To provide the student's skills and expertise to understand, analyze and interpret biological data using bio-statistical techniques. The course also introduces the student's to data characteristics, representation, analytical test and technique in bio-metrics.
47.	BOM605	Practical	8.0	Yes	Р	Botany practical based on the courses BOM601, BOM602, BOM603 and BOM604.

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algae with generated. algae with generated. algae with generated. State monther algoed in the classification of fung (Dotate e used) in the classification of fung (Dotate e used) in the classification of fung (Dotate e used) in the classification of states e used in the classification of states and general characters. Bacterial and virus induced diseases in plant, Nature of virulence, Plant toxin ; cancer, virus purfication; Immune response JScope and general characters. Just even plant coxin ; cancer, virus purfication; Immune response JScope and general characters. Just even plant coxin ; cancer, virus purfication; immune response JScope and general characters. Just even plant coxin ; cancer, virus purfication; Programmed cell death etc. Will be discussed. 50. BOM703 Cell & Molecular Biology 4.0 Yes T Knowledge of various Techniques in cell and molecular Biology; Structure; Productivity of various cocystems will be given construct. 51. BOM704 Ecology I 4.0 Yes T Botaled knowledge about Structure; characters and classification; Probing and biol structure; Productivity of various cocystems will be given the structure; Productivity of various cocystems will be given the structure; Productivity of various cocystems will be given the structure; Productivity of various cocystems will be given the structure; Productivity of various cocystems will be given the structure; Productivity of various cocystems wille given the struc			Diseases				reproduction, classification, phylogeny and interrelationship of principal groups of algae. A Knowledge of life-history, alternation of generation, convultive nigmonts. Ecology and economic importance of
study of the structure, reproduction, life cycle pattern of the principal groups of fungi wile begiven 49. BOM702 Microbiology 4.0 Yes 1 Students will keam about Outine Cassification of bacteria and general characters, Bacterial and virus induced diseases in plant, Nature of Virulency, Plant toxin ; cancer; Virus purfication ; Immume response ; Scope and application of microbal physiology, and Biosensors virus purfication; Immume response ; Scope and application in microbal in physiology, and Biosensors virus purfication; Plant toxin ; cancer; Virus purfication; Plant toxin ; cancer; Virus purfication; Plant toxin ; cancer; Virus purfication; Proteins will be another object to the structure ; Virus purfication; Proteins will be applied to communics, Succession, Trophic romunication; Programmed cell death etc. will be imparted. 50. BOM704 Ecology I 4.0 Yes 1 Detailed knowledge about Structure ; virus purfication; Proteins success BOM703 and Bom705 51. BOM704 Ecology I 4.0 Yes 1 Bothy precicial based on the courses BOM703 and Bom706 52. BOM706 Practical II 4.0 Yes 1 Student will be able to develop a basic knowledge about Plant Endwards and the importance of origins of plants; virus and based on the courses BOM703 and BoM704 54. BOM711 Plant Biodiversity 4.0 Yes 1 Knowledge about Plant Community classification of b							algae will be imparted. Criteria used in the classification of fungiComparative
BOM702 Microbiology 4.0 Yes T Economic importance of fungi, fungi as Biological tools, Pea, Groundrut, Paddy, Wheat and Bajra) and their control will defacussed. 49. BOM702 Microbiology 4.0 Yes T Students will learn about Outline Classification of bacteria diseases in plant, Nature of virulence, Plant tools, cancer, included diseases in plant, Nature of virulence, Plant tools, cancer, microbial physiology, and Biosensors. 50. BOM703 Cell & Molecular Biology 4.0 Yes T Knowledge of various Techniques in cell and molecular Biology; Structural organization and function of communication; Programmed cell deast hetc. will be imparted. 51. BOM704 Ecology I 4.0 Yes T Knowledge of various Techniques; incell and molecular Biology; Structure incommunities, Succession, Trophic communication; Programmed cell deast hetc. will be imparted. 52. BOM705 Practical I 4.0 Yes P Botrop matcical based on the courses BOM703 and BOM706 53. BOM706 Practical II 4.0 Yes T Kondent will be able to develop a basic knowledge about Plant communities; community classification; flow of energy in an ecosystem; centers of origins of plants; molecular and barcoding; endageed plants database, endemism and Red Data Book, Global biodiversity, Plant Biodiversity, and Eli							study of the structure, reproduction, life cycle pattern of
Bom 702 Microbiology 4.0 Yes Touchail and general characters, Bacterial and virus induced diseases in plant, Nature of virulence, Plant toxin ; cancer; virus purification of marches, Bacterial and virus induced diseases in plant, Nature of virulence, Plant toxin ; cancer; virus purification of microbes in Biotechnology, Microbiology 50. BOM703 Cell & Molecular Biology 4.0 Yes 1 Knowledge of various Techniques in cell and molecular communication, Protein synthesis, Cell signaling; Cellular communication, Programmed cell death etc., will be imparted. 51. BOM704 Ecology I 4.0 Yes 1 Knowledge about Structure ; characters and classification of plant communication; regoramed cell death etc., will be given. 52. BOM704 Ecology I 4.0 Yes 1 Detailed knowledge about Structure ; characters and classification of plant communities, Success, Trophic Structure; Productivity of various cosystems will be given. 53. BOM706 Practical II 4.0 Yes 1 Detailed knowledge about Structure ; characters and classification of plant communities; success, Technique about segmetable to develop a back knowledge about Structure; Productivity of various cosystems will be given. 54. BOM711 Plant Biodiversity and it importance. Understructure in cluding mole structure and plant communites; successoftand structure in anecosystem; centers of origins of							Economic importance of fungi, fungi as Biological tools,
49. BOM702 Microbiology 4.0 Yes T Students will learn about Outline Classification of bartensin and vicus induced diseases in plant, Nature of virulence, Plant toxin; cancer, virus purification of microbes in Biotechnology, Microbial Dhysiology: and Biosensors 50. BOM703 Cell & Molecular Biology 4.0 Yes T Knowledge of various Techniques in cell and microbeau in proteins in Biotechnology, Microbial Dhysiology: and Biosensors 50. BOM703 Cell & Molecular Biology 4.0 Yes T Knowledge of various Techniques in cell and microbeau in proteins withesis; Cell Signaling; Celluar communication; Programmed cell death etc., will be given in practical and on plant communities, Succession, Trophic structure; Productivity of various cosystems will be given in practical based on the courses BOM701 and BOM705. 51. BOM704 Ecology I 4.0 Yes T Students will be able to develop a basic knowledge about Structure; Productivity of various cosystem; centres of origins of plants; molecular and bar coding; endangered plant sdrabase, endemism and Red Data BOM704. 52. BOM711 Plant Biodiversity 4.0 Yes T Students will be able to develop a basic knowledge about Structure of plant communities; scomstor origins of plants; molecular and bar coding; endangered plant basic and tructure and the collassification, flow of plant Biodioversity and the portanestof origins of plants; molecular							Groundnut, Paddy, Wheat and Bajra) and their control will be discussed.
50. BOM703 Cell & Molecular Biology 4.0 Yes T Knowledge of various Techniques in cell and molecular molecular sector paralles; Philosophia physology; and Biosensors 50. BOM703 Cell & Molecular Biology 4.0 Yes T Knowledge of various Techniques in cell and molecular intracellular organelles; Philosophia Physology; and Biosensors 51. BOM704 Ecology I 4.0 Yes T Detailed knowledge about Structure : characters and classification of plant communities, Succession, Trophic structure; Productivity of various ecosystems will be given imparted. 52. BOM704 Ecology I 4.0 Yes P Botany practical based on the courses BOM703 and BOM704. 53. BOM701 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about Structure of orlants of orlants of plants; molecular and bar-coding; endangered plants database, endemism and Red Data Book, Globab Diddiversity, cancer of orlants of plants; molecular and bar-coding; endangered plants database, molecular structure and qualitative assays of viruse; plantative assays of viruse; plantative and qualitative assays of viruse; plantative and qualitative assays of viruses; molecular plantosology / Agriculture ; Wirobial geneticit; Stue	49.	BOM702	Microbiology	4.0	Yes	Т	Students will learn about Outline Classification of bacteria and general characters, Bacterial and virus induced
So. BOM703 Cell & Molecular Biology 4.0 Yes T Knowledge of various Techniques in cell and molecular Biology; Structural organization and function of intracellular organelles; Fundamental processes like DM 51. BOM704 Ecology I 4.0 Yes T Knowledge of various Techniques in cell and molecular regulation; Programmed cell death etc. will be imparted. 52. BOM704 Ecology I 4.0 Yes T Detailed knowledge about Structure; characters and BOM702. 53. BOM705 Practical I 4.0 Yes T Detailed knowledge about Structure; characters and BOM702. 54. BOM711 Plant Biodiversity 4.0 Yes T Botany practical based on the courses BOM703 and BOM704. 55. BOM712 Plant Biodiversity 4.0 Yes T Knowledge of Outline Classification of Datactin Industration BOM704. 56. BOM712 Microbiology 4.0 Yes T Knowledge of Outline Classification of Datactin Industry cancer Purification of Virus; Quantitative and pulletative acalignations of viruses; Innume response; Scope and applications of microbes in Biotechnology / Apriculture ; Microbiol Purification of Virus; Quantitative and pulletative acalification of viruses; Innumune							diseases in plant, Nature of virulence, Plant toxin ; cancer; virus purification; Immune response ;Scope and
50. BOM703 Cell & Molecular Biology 4.0 Yes T Knowledge of various Techniques in cell and molecular Biology: Structural organization and function of intracellular organization and function of intracellular organization. 51. BOM704 Ecology I 4.0 Yes T Detailed knowledge about Structure ; characters and classification of plant communities, Succession, Trophic structure; Productivity of various ecosystems will be given 52. BOM705 Practical I 4.0 Yes P Botany practical based on the courses BOM703 and BOM704. 53. BOM711 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about Plant Biodiversity and it importance. Understand structure of plant communities; community classification, flow of energy in an ecosystem; centers of origins of plants; molecular system and legislations related to Biodiversity information system and Biogensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell Biology : and Biosensors will be imparted. 57. BOM714 Introductory Molecular 4.0 Yes <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>application of microbes in Biotechnology; Microbial genetics; Microbial physiology; and Biosensors</td></td<>							application of microbes in Biotechnology; Microbial genetics; Microbial physiology; and Biosensors
St. BOM704 Ecology I 4.0 Yes T Cellisidal roganelles; Fundamental processes like DNA Replication of plant communities; Succession, Trophic target and the second second second second second second second dassification of plant communities, Succession, Trophic structure; Productivity of various ecosystems will be given. 52. BOM705 Practical I 4.0 Yes P Botany practical based on the courses BOM701 and BOM702. 53. BOM706 Practical II 4.0 Yes P Botany practical based on the courses BOM703 and BOM704. 54. BOM711 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about regrup in an ecosystem; centers of origins of plants; molecular and bar-coding; endangered plants database, endemism and Red Data Book, Global biodiversity information system and legislations related to Biodiversity information or Virus; Quantitative and biodiversity of anna pathogen interaction, disease manifestation; Plant toxin, Yird diversity; cancer Purification of Virus; Quantitative and biodiversity of anna pathogen interaction, diverses; Immune responses; Scope and application of microbes in Biotechnology / Agriculture ; Microbial genetics; Microbial physiology; and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell is the basic structural and functional unit of life, advances in the cellucal biology. Cell Composition and microbes in Bio	50.	BOM703	Cell & Molecular Biology	4.0	Yes	Т	Knowledge of various Techniques in cell and molecular Biology: Structural organization and function of
St. BOM704 Ecology I 4.0 Yes Parametel. 51. BOM705 Practical I 4.0 Yes Parametel. Detailed knowledge about Structure ; characters and classification of plant communities, succession, Trophic Structure; Productivity of various ecosystems will be given. 52. BOM705 Practical I 4.0 Yes P Botany practical based on the courses BOM701 and BOM703. 53. BOM706 Practical II 4.0 Yes P Botany practical based on the courses BOM703 and BOM703. 54. BOM711 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about Plant Biodiversity and timopratice. Understand structure of plant communities ;community classification of bacteria including and ecosystems centers of origins of plants; molecular and bac-coding; endangenet plants database, endemism and Red Dasification of bacteria including Archae bacteria; Specificity of plant toxin ; Viral diversity; cancer Purification of Virus; Quantitative and Qualitative assays of viruse; Immune responses; Scope and qualitative assays of viruse; Immune responses; Scope and qualitative assays of viruse; Immune response; Scope and application of entry; quantitative and Lealuping of the cell (Celluper organeties) in Biodechnology / Accounter; Microbial genetics and Unitation. 56. BOM713 Cell Biology 4.0 Yes <							intracellular organelles; Fundamental processes like DNA
51. BOM704 Ecology I 4.0 Yes T Detailed knowledge about Structure ; characters and classification of plant communities, Succession, Trophic Structure ; Productivity of various ecosystems will be given as the present in the given practical based on the courses BOM701 and BOM702. 52. BOM705 Practical II 4.0 Yes P Botany practical based on the courses BOM703 and BOM704. 54. BOM711 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about Plant Biodiversity in an ecosystem; centers of origins of plants; molecular and bar-coding; endangered plants database, endemism and Red Data Book, Global biodiversity information system and legislations related to Bodiversity, information system and legislative and Qualitative assays of viruse; Jumune responses; Scope and application of wirus; Quantitative assays of viruse; Immune responses; Scope and application ad macromolecular plant biology / Agriculture ; Microbial diversity, and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell is the basic structural and functional unit of life, advances, in the cell/call biology / Agriculture ; Microbial and Ullization of energy in cells will be able to apply their knowledge of cell imparted. 56. BOM713 Cell Biology 4.0 Yes T T Cell is the basic structural and functional unit of life, advances in the cell/call bid							communication; Programmed cell death etc. will be
S2. BOM705 Practical I 4.0 Yes P Botany practical based on the courses BOM701 and BOM702. 53. BOM706 Practical II 4.0 Yes P Botany practical based on the courses BOM703 and BOM704. 54. BOM711 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about Plant Biodiversity and it importance. Understand Structure of plant communities community classification flow of energy in an ecosystem; centers of origins of plants; information system and legislations related to Biodiversity information system and legislations related to Biodiversity (understand back), enderstand bloidversity (understand back), and the courses; Scope and application of viruses; Immune responses; Scope and application of viruses; Microbial opt / Agriculture ; Microbial genetics; Microbial physiology; and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell is the basic structural and functional unit of life, advances in biotechnology / Agriculture ; Microbial genetics; Microbial present in the cell.Cellular organelies structure and functions in the cellular biology Cell composition and macromoleculae present in the cell.Cellular organelies structure and functions in the functioning of the cerg in cells; Molecular pathways of packaging and transport of proteins in the cellular biology Cell composition and macromoleculae regulation and theck points will be tought. 56. BOM714 Introductory Molecul	51.	BOM704	Ecology I	4.0	Yes	Т	Imparted. Detailed knowledge about Structure ; characters and
52. BOM705 Practical I 4.0 Yes P Botany practical based on the courses BOM701 and BOM702. 53. BOM706 Practical II 4.0 Yes P Botany practical based on the courses BOM703 and BOM704. 54. BOM711 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about Plant Biodiversity and it importance. Understand structure of plant community classification; flow of energy in an ecosystem; centers of origins of plants; molecular and bar-coding; endangered plants database, endemism and Red Data Book, Global biodiversity information system and legislations related to Biodiversity information system and legislations related to Biodiversity information system and legislations related to Biodiversity (cancer Purification of Virus; Quantitative and Qualitative assays of viruses; Immune response; Scope and application of microbes in Biotechnology / Agriculture ? Microbial physiology; and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell is the basic structural and functional unit of life. advances in the cell. Cellular energy generation and tizzation of energy in cells; Molecular pathways of packaging and transport of proteins in the cell. Stages of mitotic and meiotic cell division and tracture and functional mitot cell division and tracture and supplication of Dix to past-transport of physiology to selected examples of changes or losse in cell function. These can include response to environmental or physiological changes or alters altorical modificatic all division and transport of Dix to past-translation							classification of plant communities, Succession, Trophic structure ;Productivity of various ecosystems will be given
53. BOM706 Practical II 4.0 Yes P 54. BOM711 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about Plant Biodiversity and it importance. Understand structure of plant communities ; community classification, flow of energy in an ecosystem; centers of origins of plants; molecular and bar-odding; endangered plants database, endemism and Red Data Book, Global biodiversity information system and legislations related to Biodiversity information system and legislations related to Biodiversity (cancer Purification of Virus; Quantitative and Qualitative assays of viruses; Immune responses; Scope and application of microbes in Biotechnology / Agriculture ; Nicrobial genetics; Microbial physiology; and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T 6. BOM713 Cell Biology 4.0 Yes T 7. BOM714 </td <td>52.</td> <td>BOM705</td> <td>Practical I</td> <td>4.0</td> <td>Yes</td> <td>Р</td> <td>Botany practical based on the courses BOM701 and BOM702.</td>	52.	BOM705	Practical I	4.0	Yes	Р	Botany practical based on the courses BOM701 and BOM702.
54. BOM711 Plant Biodiversity 4.0 Yes T Student will be able to develop a basic knowledge about of plant Biodiversity and it importance. Understand structure of plant communities ;community classification; flow of energy in an ecosystem; centers of origins of plants; molecular and bar-coding; endangered plants database, endemism and Red Data Book, Global biodiversity information system and legislations related to Biodiversity; cancer Purification of Virus; Quantitative and Qualitative assays of viruses; Immune responses; Scope and application of microbes in Biotechnology / Agriculture ; Microbial genetics; Microbial physiology; and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell is the basic structural and functional unit of life. advances in the cellular biology Cell composition and macromolecules present in the cell.Cellular organelles' structure and functioning of the cell ;Cellular energy generation and utilization of energy in cells; Molecular pathways of packaging and transport of proteins in the cell. Stages of mitotic and meiotic cell division and its molecular regulation and check points will be taught. 57. BOM714 Introductory Molecular 4.0 Yes T 58. BOM714 Introductory Molecular 4.0 Yes T 59. BOM714 Introductory Molecular 4.	53.	BOM706	Practical II	4.0	Yes	Р	Botany practical based on the courses BOM703 and BOM704.
55. BOM712 Microbiology 4.0 Yes T Knowledge of Outline Classification of bacteria including Arrchae bacteria; Specificity of plant pathogen interaction, disease manifestation; Plant toxin ; Viral diversity; cancer Purification of Virus; Quantitative and Qualitative assays of viruses; Immune responses; Scope and application of microbes in Biotechnogy / Agriculture ; Microbial genetics; Microbial physiology; and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell is the basic structural and functional unit of life. advances in Biotechnogy / Agriculture ; Microbial genetics; Microbial physiology; and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell is the basic structural and functional unit of life. advances in the cellular biology Cell composition and macromolecules present in the cell.Cellular organelles' structure and functions in the functioning of the cell ;Cellular energy generation and utilization of energy in cells; Molecular regluation and check points will be taught. 57. BOM714 Introductory Molecular 4.0 Yes T 58. BOM715 Practical 8.0 Yes T 59. BOM714 Introductory Molecular 4.0 Yes T 59. BOM714 Interoductory Molecular 4.0	54.	BOM711	Plant Biodiversity	4.0	Yes	Т	Student will be able to develop a basic knowledge about Plant Biodiversity and it importance. Understand structure
55. BOM712 Microbiology 4.0 Yes T Knowledge of Outline Classification selated to Biodiversity information system and legislations related to Biodiversity; cancer Purification of Virus; fumune responses; Scope and application of viruses; Immune responses; Scope and application and microbes in Biotechnology / Agriculture ; Microbial genetics; Microbial physiology; and Biosensors will be imparted. 56. BOM713 Cell Biology 4.0 Yes T Cell is the basic structural and functional unit of life, advances in the cellular biology cell composition and macromolecular pathways of packaging and transport of proteins in the cell. Stages of mitotic and meiotic cell division and its molecular pathways of packaging and transport of proteins in the cell. Stages of mitotic and meiotic cell biology cale changes, or alterations of cell function. These can include responses to environmental or physiological changes, or alterations of cell function brought about by mutation. 57. BOM714 Introductory Molecular 4.0 Yes T 58. BOM715 Practical 8.0 Yes T 58. BOM714 Introductory Molecular 4.0 Yes T 59. BOM801 Inheritance Biology 4.0 Yes T <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>of plant communities ;community classification; flow of</td>							of plant communities ;community classification; flow of
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57.BOM714Introductory BiologyMolecular A4.0YesTTT<							;Cellular energy generation and utilization of energy in cells: Molecular pathways of packaging and transport of
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57.BOM714Introductory BiologyMolecular All4.0YesTTThis course deals with Molecular biology. In this course, students will be taught all aspect of molecular biology right from replication of DNA to post-translational modification. It also describes the cloning of plasmid, gene of interest and purification of proteins. After going through this course students will get the confidence to apply basic science in translation research.58.BOM715Practical8.0YesPpractical based on the courses BOM711, BOM712, BOM713, and BOM714.59.BOM801Inheritance Biology4.0YesTStructure of Chromosomal inheritance; Microbial genetics; Gene silencing, RNAi; Quantitative genetics; Genetics of cancer, cell division and immune response along with Statistical Methods will be discussed.60.BOM802Plant Biochemistry4.0YesTA detailed understanding of General aspects of							Students will be able to apply their knowledge of cell biology to selected examples of changes or losses in cell
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60. BOM802 Plant Biochemistry 4.0 Yes T A detailed understanding of General aspects of	59.	BOW801	Inneritance Biology	4.0	Yes		Structure of Chromosome, Chromosome Modeling/Architecture, Gene mapping methods, ; Extra
60. BOM802 Plant Biochemistry 4.0 Yes T A detailed understanding of General aspects of							chromosomal inheritance; Microbial genetics; Gene silencing, RNAi; Quantitative genetics; Genetics of cancer.
60. BOM802 Plant Biochemistry 4.0 Yes T A detailed understanding of General aspects of							cell division and immune response along with Statistical Methods will be discussed
Enzymplopy, Dhaten without C2 C4 and CAM without	60.	BOM802	Plant Biochemistry	4.0	Yes	Т	A detailed understanding of General aspects of

						Respiration and lipid metabolism; nitrogen and sulphur metabolism; Sensory photobiology will be given.
61.	BOM803	Ecology II	4.0	Yes	Т	Natural resources and their management; Biological Diversity; Major types of Ecosystems of the World; soil; Concept of Microbial Ecology; Microbial ecological relationship and Microbial succession will be taught in details.
62.	BOM804	Taxonomy	4.0	Yes	Т	Principles of classification and criteria employed in different systems; Modern tools for taxonomic data; Morphological, Embryological, Palynological, Cytological, Phytochemical and Molecular Systematics; Phylogeny of angiosperms; Diagnostic features of different families and range of floral characters will taught in details.
63.	BOM805	Practical I	4.0	Yes	Р	Botany practical based on the courses BOM801and BOM802.
64.	BOM806	Practical II	4.0	Yes	Р	Botany practical based on the courses BOM803 and BOM804.
65.	BOM811	Genetics	4.0	Yes	Т	Important objectives of the course is to understand the inheritance of characters, understanding of genotypes and phenotypes and their role in species evolution. Study of quantitative traits and population genetics, and mutations, and mapping of genes. Linkage mapping and mapping populations and their role in genetic and breeding
66.	BOM812	Plant Metabolism, Growth & Develop.	4.0	Yes	Т	Students will get detailed outline of Photosynthesis; Respiration; Nitrogen metabolism; Lipid metabolism; Light control of Plant development; Plant growth regulators and elicitors; Signal Transduction; Stress Physiology and Plant responses to pathogens and defense mechanisms.
67.	BOM813	Cell,Tissue Culture& Differentiat.	4.0	Yes	Т	This paper trains the students in theory and practical how to maintain or grow plant cells, tissues and organ under sterile conditions. Students learn the technique of micro propagation which is a useful technique at industrial level production of plants.
68.	BOM814	Bioinformatics & Biostatistics	4.0	Yes	Т	Nowadays Bioinformatics has already gained popularity among all life sciences courses. This is fusion course originated from an amalgamation of biology and information technology. At present time huge data analysis is the big problem. In this course, student will learn all soft wares related biological research because these soft wares will provide the prediction of any biological query in a fraction of a second. Further validation will be done by wet lab experiment.
69.	BOM815	Practical	8.0	Yes	Р	Practicals based on BOM 811,812,813,814
70.	BOM001	Basic Res. Meth., Sc.Comput. & Anal.	4.0	Yes	Т	Students will know Meaning of research, types of research, research process, problem formulation and techniques, Methods of data collection and analysis; Interpretation& Reporting. Patents, copyrights, trademarks, trade secrets, IPR.
71.	BOM002	Pre-Dissertation	4.0	No	Р	preparation and presentation of M.Sc. synopsis in consultation with concerning supervisor.
72.	BOM901	Dissertation	12.0	Yes	Т	Project work, including submission of M.Sc. dissertation
73.	BOM902	Plant Biotechnology	4.0	Yes	Т	The course deals with providing an overview of the various tools and techniques used in plant biotechnology. The students will be introduced to the field of 'omics'- genomics, proteomics and metabolomics. They will also get an understanding of intellectual property rights and their role in research work. The course also involves the study of plant tissue culture techniques and some aspects of microbial biotechnology.
74.	BOM903	Environmental Pollution & Mngt.	4.0	Yes	Т	Source and effect of pollution ; waste water and sewage treatment, reuse and recycling of water; afforestation, wild life management and satellite imagery and its application will be discussed.
75.	BOM904	Biology Of Reprod. Of Angiosperms	4.0	Yes	Т	Flower Development and floral organ differentiation; Gender and Sexual dimorphism in plants: Evolution and diversity of sexual systems; Plant-pollinator interaction effect; applied pollination ecology. Phenology; mating systems.Male and female Gametes: <i>In vitro</i> and <i>in vivo</i> double fertilization ,physiology of embryogenesis and Seed Biology will be taught in detail.
76.	BOM905	Plant Resource Utilization& Conser.	4.0	Yes	Т	Students will know about Plant Biodiversity: Concept, status in India, utilization and concerns. Sustainable development. Green revolution: Benefits and adverse consequences. Innovations for meeting world food demands. Strategies for conservation - <i>in situ</i> conservation ; <i>ex situ</i> conservation: Principles and practices

78. BOM907 Genetic Diversity 4.0 Yes 1 Students will learn Mathematical models of variation, Accessing molecular data on genetic DNA technologies and genome mapping. Applid utilization of molecular techniques in genetic DNA technologies and genome mapping. Applid utilization of molecular techniques in genetic DNA technologies and genome mapping. Applid utilization of molecular techniques in genetic DNA technology and technology. 79. BOM908 Plant Physiology 4.0 Yes T Students get detailed knowledge of Plant equilators and Blain. 80. BOM911 Prin.8. Appl. Of Plant 4.0 Yes T Students learn techniques of molecular beiolog engineering and molecular preceding and in vitro metabolite production. Students will be well patients of the use of Itest techniques, of techniques, intervalues of technology. Apart general microbiology techniques, the students about the different types of fermenters, culture conditions used to culture microbes at large course also deals with providing an overvi upstream and defending work of M.Phil Dissertation 1 81. BOM951 Dissertation 1 16.0 Yes T Presentation of the M.Phil Dissertation soft study. 82. BOM952 Dissertation 1 16.0 Yes T Symposis presentation of the M.Phil Dissertation and Ageression f. and there applica cicnose. Sais of Computer Operating in the dudy of the applica cicnose. Sais of Computer Operating in the dudy and technology in Plant 4.0 Yes T	77.	BOM906	Molecular Techniques	4.0	Yes	Т	Students will learn Techniques for DNA isolation , purification and detection from eukaryote and prokaryote; RFLP; DNA fingerprinting. Recombinant DNA technology: Southern and Nothern blotting. PCR: DNA amplification, electrophoretic methods. Autoradiography. Nucleotide sequencing and Molecular technique application: Genome mapping. Crop improvement.
79. BOM908 Plant Physiology 4.0 Yes T Students get detailed knowledge of Plant regulators and elictors; Flower Development dimorphism in plants; Signal Transductio Physiology; Growth & Development 80. BOM911 Prin.& Appl. Of Plant Biotechnology 4.0 Yes T Students learn techniques of molecular biolog engineering and molecular biolog engineering and molecular biolog. 81. BOM912 Microbial Biotechnology 4.0 Yes T This course emphasizes on the applied a microbioly techniques, the students about the different types of fementers, culture incrobes at large course and downstream processes in production of commercially useful products, and antibiotics, single cell proteins and various en antibiotics. 82. BOM951 Dissertation II 8.0 Yes T T ersentation and defending work OM. Phill Dissertation 33. 84. BOM952 Dissertation II 6.0 Yes T Ricearch, Basics of Computer Operating Introduction to Presentation Software. Intro 85. BOM954 Adv. Scientific 4.0 Yes T Ricearch, Basics of Computerenantid desi Computer Software. Intr	78.	BOM907	Genetic Diversity Assessment	4.0	Yes	Т	Students will learn Mathematical models of Genetic variation; Accessing molecular data on genetic diversity: DNA technologies and genome mapping; Applications and utilization of molecular techniques in genetic diversity; Molecular markers for rapid selection and improvement of crop plant; Genetic engineering applications; Technology and ethics; Genomics and proteomics and Bioinformatics.
80. BOM911 Prin. & Appl. Of Plant 4.0 Yes T Students learn techniques of molecular biologin in vitro metabolite production. Students will be well per oduction. Students learn techniques on the subort the different types of fermenters, culture conditions used to culture microbes at large course also deals with providing an overviu upstream and downstream processes in production of the M-Phil Dissertation states to culture microbes set. 82. BOM951 Dissertation II 16.0 Yes T Presentation and defending work of M.Phil Dissertation and the presentation of the M-Phil Dissertation and the presentation and the presentation and the presentation and techniques and presenting through set study. 84. BOM954 Adv. Scientific 4.0 Yes T Research, Basics of Computer Advanced techniques and presenting Introduction to Presentation Software. Intro Internet Technologies will be imparted. 85. BOM954 Adv. Scientific 4.0 Yes T Basic knowledge of this course will make s improve crop production to reperimental desistic computers and releavant software. Intro Internet Technologies will be imparted. 86. BOM95	79.	BOM908	Plant Physiology	4.0	Yes	Т	Students get detailed knowledge of Plant growth regulators and elicitors; Flower Development; Sexual dimorphism in plants; Signal Transduction; Stress Physiology; Growth & Development
81. BOM912 Microbial Biotechnology 4.0 Yes T This course emphasizes on the applied a microbiology techniques, the students about the different types of fermenters, culture conditions used to culture microbes at large course also deals with providing an overviuy upstream and downstream processes in production of commercially useful products, rai antibiotics, single cell proteins and various en anylases, lipases, cellulases etc. 82. BOM951 Dissertation II 16.0 Yes T Synopsis presentation of the M.Phil Dissertation of Medica and their application of microor and the developes and their application of Indexerve and their application in dustry 85. BOM956 Organic Farming 4.0 Yes T T Basics of Computer Operating Introduction to Presentation of Microor any application of microor any application of microor application of microor application of microor application of microor application and Modeling. Climate of anof Nutrient Management. <td>80.</td> <td>BOM911</td> <td>Prin.& Appl. Of Plant Biotechnology</td> <td>4.0</td> <td>Yes</td> <td>Т</td> <td>Students learn techniques of molecular biology, genetic engineering and molecular breeding and in vitro secondary metabolite production. Students will be well prepared in the use of latest techniques of crop improvement which will stand them in good stead while looking for jobs.</td>	80.	BOM911	Prin.& Appl. Of Plant Biotechnology	4.0	Yes	Т	Students learn techniques of molecular biology, genetic engineering and molecular breeding and in vitro secondary metabolite production. Students will be well prepared in the use of latest techniques of crop improvement which will stand them in good stead while looking for jobs.
82. BOM951 Dissertation I 8.0 Yes T Synopsis presentation of the M.Phil Dissertation 83. BOM952 Dissertation II 16.0 Yes T Presentation and defending work of M.Phil Dissertation 84. BOM953 Self Study Course 4.0 Yes T Iterarning of Advanced techniques and presenting through self study. 85. BOM954 Adv. Scientific 4.0 Yes T Knowledge on Flundamentals of Statistica Correlation and Regression, and their applical sciences.Basic principles of experimental desis Computers and relevant software: Computer a in Research, Basics of Computer Operating Introduction to Presentation Software. Introduction to Presentation Software: Computer and presentation of microorg agriculture and presentation of microorg agriculture and significance farming. Commercial exploitation of microorg agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic compositing techniques. 87. BOM956 Organic Farming 4.0 Yes T Students will learn Systems approaches in A Agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic compositing techniques. 88. BOM957 Agricultural Systems 4.0 Yes T Students will learn Modeling. Climate cd Agriculture and Information technolog and products 89. BOM958 Indu	81.	BOM912	Microbial Biotechnology	4.0	Yes	Т	This course emphasizes on the applied aspects of microbes in industrial biotechnology. Apart from the general microbiology techniques, the students will study about the different types of fermenters, culture media and conditions used to culture microbes at large scale. The course also deals with providing an overview of the upstream and downstream processes involved in production of commercially useful products, ranging from antibiotics, single cell proteins and various enzymes like amylases, lipases, cellulases etc.
83. BOM952 Dissertation II 16.0 Yes T Presentation and defending work of M.Phil Diss 84. BOM953 Self Study Course 4.0 Yes T Learning of Advanced techniques and presenting 1 through self study. 85. BOM954 Adv. Scientific Methodology& Analysis 4.0 Yes T Knowledge on Fundamentals of Statistica Correlation and Regression, and their applical sciences.Basic principles of experimental desis Computers and relevant software: Computer a in Research, Basics of Computer Operating Introduction to Presentation Software. Intro Internet Technologies will be imparted. 86. BOM955 Biotechnology In Plant Industry 4.0 Yes T Basic knowledge of this course will make set improve crop productivity in agriculture an benefit from agricultural biotech seeds. 87. BOM956 Organic Farming 4.0 Yes T Students will learn practices and significance farming. Commercial exploitation of microor agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic composing techniques. 88. BOM957 Agricultural Systems 4.0 Yes T Students will learn Systems approaches in A precision Agriculture. Instager management, Integrated and Nutrient Management. 89. BOM958	82.	BOM951	Dissertation I	8.0	Yes	Т	Synopsis presentation of the M.Phil Dissertation
84. BOM953 Self Study Course 4.0 Yes T Learning of Advanced techniques and presenting t through self study. 85. BOM954 Adv. Scientific Methodology& Analysis Yes T Learning of Advanced techniques and presenting t through self study. 86. BOM955 Biotechnology In Plant Industry 4.0 Yes T Basic knowledge of this course will make s improve crop productivity in agriculture an benefit from agricultural biotech seeds. 87. BOM956 Organic Farming 4.0 Yes T Students will learn practices and significance farming. Commercial exploitation of microorg agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic composting techniques. 88. BOM957 Agricultural Systems 4.0 Yes T Students will learn practices and significance farming. Commercial exploitation of microorg agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic 89. BOM958 Industrial Microbiology 4.0 Yes T Microbes and fermented foods in Indust organism as a source of food. Fermentation process and products Fermentation and Nutrient Management. 89. BOM958 Industrial Microbiology 4.0 Yes	83.	BOM952	Dissertation II	16.0	Yes	Т	Presentation and defending work of M.Phil Dissertation
85. BOM954 Adv. Scientific 4.0 Yes T Knowledge on Fundamentals of Statistica Sciences. Basic principles of experimental desig Correlation and Regression, and their applicad sciences. Basic principles of Computer a line Research, Basics of Computer Operating Introduction to Presentation Software: Computer a line Research, Basics of Computer Operating Introduction to Presentation Software. Intro Internet Technologies will be imparted. 86. BOM955 Biotechnology In Plant 4.0 Yes T Basic knowledge of this course will make s improve crop productivity in agriculture an benefit from agriculture and benefit from agriculture and significance farming. Commercial exploitation of microord agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic composting techniques. 88. BOM957 Agricultural Systems 4.0 Yes T Students will learn Systems approaches in A Precision Agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic composting techniques. 89. BOM958 Industrial Microbiology 4.0 Yes T Students will learn Systems approaches in A Precision Agriculture. Disaster management. Integrated 3 and Nutrient Management. 89. BOM958 Industrial Microbiology 4.0 Yes T Students will learn Systems approaches in A griculture. Disaster management. Integrated 3 and Nutrient Management. 89. BOM958 Industrial Microbiology </td <td>84.</td> <td>BOM953</td> <td>Self Study Course</td> <td>4.0</td> <td>Yes</td> <td>Т</td> <td>Learning of Advanced techniques and presenting them through self study.</td>	84.	BOM953	Self Study Course	4.0	Yes	Т	Learning of Advanced techniques and presenting them through self study.
 BOM955 Biotechnology In Plant Industry Bom956 Organic Farming Yes Bom956 Organic Farming Yes Yes Students will learn practices and significance farming. Commercial exploitation of microorg agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic composing techniques. BOM957 Agricultural Systems Yes Students will learn Systems approaches in Agriculture. Disaster management, Integrated System Integration and Modeling. Climate of Agriculture. Disaster management, Integrated System Integration and Modeling. Climate of Agriculture. Disaster management, Integrated System Integration and Modeling. Climate of Agriculture. Disaster management. BOM958 Industrial Microbiology Yes RDC 191 Rural Development NO RDC 191 Rural Development NO P It is a core course. This course will provide an into the theory and practice of rural development. This course will provide an into the theory and practice of rural advelopment. This course will provide an into the theory and practice of rural development. This course will provide an into the theory and practice of rural development. This course will provide an into the theory and practice of rural development. This course will provide an into the theory and practice of rural development. This course will provide an into the theory and practice of rural development. Students will learn to development. This course will get practical knowledge about vad development programs initiated by National Governments. Students will get practical knowledge about vad development will be the methed be valued on the top of a village by surveying a villag	85.	BOM954	Adv. Scientific Methodology& Analysis	4.0	Yes	Т	Knowledge on Fundamentals of Statistical Analysis Correlation and Regression, and their application to life sciences.Basic principles of experimental design, Use of Computers and relevant software: Computer and its role in Research, Basics of Computer Operating Systems; Introduction to Presentation Software. Introduction to Internet Technologies will be imparted.
 87. BOM956 Organic Farming 4.0 Yes T Students will learn practices and significance farming. Commercial exploitation of microorg agriculture. Integrated Nutrient Management. of bio-fertilizers Importance of organic composting techniques. 88. BOM957 Agricultural Systems 4.0 Yes T Students will learn Systems approaches in A Precision Agriculture and Information technoloc System Integration and Modeling. Climate of Agriculture. Disaster management, Integrated s and Nutrient Management. 89. BOM958 Industrial Microbiology 4.0 Yes T Microbes and fermented foods in Industrial Microbiology 90. RDC 191 Rural Development 1.0 NO P It is a core course. This course will provide an in to the theory and practice of rural development. Students will learn the concept and Importance and problems of Rural Development. This course will provide and Importance and problems of Rural Development. Students will learn the concept and Importance and problems of Rural Development. Students will learn to development. Students will get practical knowledge about va development survey of a rural and students will get practical knowledge about va development survey of a rural and students will get practical knowledge about va development survey of a rural and students will get practical knowledge about va development will be the student by National Governments. 	86.	BOM955	Biotechnology In Plant Industry	4.0	Yes	Т	Basic knowledge of this course will make students to improve crop productivity in agriculture and farmers benefit from agricultural biotech seeds.
88. BOM957 Agricultural Systems 4.0 Yes T Students will learn Systems approaches in A Precision Agriculture and Information technoloc System Integration and Modeling. Climate of Agriculture. Disaster management, Integrated S and Nutrient Management. 89. BOM958 Industrial Microbiology 4.0 Yes T Microbes and fermented foods in Industri organism as a source of food. Fermentation process and products Antibiotics and Amino acids; Microbes in Agricult discussed in details 90. RDC 191 Rural Development 1.0 NO P It is a core course. This course will provide an in to the theory and practice of rural development. Students will learn the concept and Importance and problems of Rural Development. This course will provide knowledge about va development programs initiated by National Governments. Students will learn to developing question schedule for Socio-economic survey of a rural ar Students will get practical knowledge about va development will be practical knowledge about va development will get practical knowledge about va development survey of a rural ar Students will get practical knowledge about va development will be practical knowledge ab	87.	BOM956	Organic Farming	4.0	Yes	Т	Students will learn practices and significance of organic farming. Commercial exploitation of microorganisms in agriculture. Recycling of agro-waste. Sustainable Agriculture. Integrated Nutrient Management. Production of bio-fertilizers Importance of organic farming, composting techniques.
89. BOM958 Industrial Microbiology 4.0 Yes T Microbes and fermented foods in Industri organism as a source of food. Fermentation process and products Antibiotics and Amino acids; Microbes in Agricult discussed in details 90. RDC 191 Rural Development 1.0 NO P It is a core course .This course will provide an in to the theory and practice of rural development. Students will learn the concept and Importance and problems of Rural Development. This course will provide knowledge about va development programs initiated by National Governments. Students will learn to developing question schedule for Socio-economic survey of a rural an Students will get practical knowledge about economic status of a village by surveying	88.	BOM957	Agricultural Systems	4.0	Yes	Т	Students will learn Systems approaches in Agriculture, Precision Agriculture and Information technology. Whole System Integration and Modeling. Climate change and Agriculture. Disaster management, Integrated Soil, Water and Nutrient Management.
90. RDC 191 Rural Development 1.0 NO P It is a core course .This course will provide an in to the theory and practice of rural development. Students will learn the concept and Importance and problems of Rural Development. This course will provide knowledge about va development programs initiated by National Governments. Students will learn to developing question schedule for Socio-economic survey of a rural an Students will get practical knowledge about economic status of a village by surveying	89.	BOM958	Industrial Microbiology	4.0	Yes	Т	Microbes and fermented foods in Industry. Micro- organism as a source of food. Fermentation ;Microbial process and products Antibiotics and Amino acids; Microbes in Agriculture will be discussed in details
Students will get practical knowledge about blocentre/Agriculture farm/ Dairy farm by studying 91. RDC 291 Agriculture operations 1.0 NO P It is a core course .This course will provide an in	90.	RDC 191	Rural Development	1.0	NO	P	It is a core course .This course will provide an introduction to the theory and practice of rural development. Students will learn the concept and Importance ; structure and problems of Rural Development. This course will provide knowledge about various rural development programs initiated by National and State Governments. Students will learn to developing questionnaire and schedule for Socio-economic survey of a rural area. Students will get practical knowledge about Socio- economic status of a village by surveying a village Students will get practical knowledge about block training centre/Agriculture farm/ Dairy farm by studying them. It is a core course .This course will provide an introduction

		to the basic and fundamental knowledge about agriculture
		to students and help them to appreciate the dignity of
		labour and will encourage the students to learn by doing
		about and will cheodrage the stadenes to learn by doing.
		This course will help in the development of six 'H's in the
		personality traits of the students i.e. better Head , better
		Hand, better Heart, better Health, better Home, and
		feeling of Humility . This course will develop love for
		plants among students which can be used in development
		Litchen and and for heavitification of fields offices
1		KITCHEIT GALGERS AND TOT DEAULITCATION OF HEIDS, OTTCES,
		homos oto
		momes etc.