

BIOTECHNOLOGY

5.	Name of Department (Biotechnology)	Date of Board of Studies Meeting (10-04-2021)	Detailed Syllabus Annexure (Biotech_2021)
Agenda Item of BOS : <u>Item: Bio 6: 2021: 3</u> Name of Programme: B.Sc. Bio-Technology Name of Course: Biochemistry-I & General Microbiology-I Semester: I			
Changes in Syllabus			
It was decided to ➤ The syllabus was approved.			
Agenda Item of BOS : <u>Item: Bio 6: 2021: 4</u> Name of Programme: B.Sc. Bio-Technology Name of Course: Genetics, Biochemistry-II & General Microbiology-II Semester: II			
Changes in Syllabus			
➤ Add kinetics of competitive, uncompetitive and non-competitive inhibition topics in Unit-IV of Biochemistry-II			
Agenda Item of BOS : <u>Item: Bio 6: 2021: 5</u> Name of Programme: B.Sc. Bio-Technology Name of Course: Fundamentals of Biotechnology, Immunology-I, Biochemistry-III, Skill Development in Biotechnology-A, Immunology-B & Molecular Biology Semester: III			
➤ To introduce new course Fundamentals of Biotechnology in semester –III. ➤ To introduce practical “Isolation of genomic DNA from blood and perform agarose gel electrophoresis” in Molecular biology practical’s instead of Animal Biotechnology course of semester-VI. ➤ To remove Agro and Industrial Applications of microbes-A from semester III and introduce as Industrial Biotechnology-I in semester IV			
Agenda Item of BOS <u>Item: Bio 6: 2021: 6</u> Name of Programme: B.Sc. Bio-Technology Name of Course: Industrial Biotechnology-I, Immunology-II, Biochemistry-IV, Skill Development in Biotechnology-A, Fundamentals of Bioinformatics Semester: IV			
➤ To remove Agro and Industrial Applications of microbes-B course from semester IV			

and later will be introduced in semester IV

- To remove practical “Isolation of microbial cells by serial dilution-spread plate method, pour plate” from Industrial Biotechnology-I as it was present in practical list of General Microbiology-I
- To introduce practical in Industrial Biotechnology-I course of semester IV “To perform an AMES assay to determine the mutagenicity of a compound”
- To introduce practical in Immunology-I course “Separation and purification of IgG antibodies from Serum using protein A column” and remove it from practical list of Animal Biotechnology
- In 208-19, Computer fundamentals and bioinformatics with course code BBTM-1137 was in semester I and after that it was removed from there and now it has been introduced in semester IV as Fundamentals of Bioinformatics with course code BBTM-4065
- To introduce Industrial/Institutional visit with course code BBTM-4067 in semester IV and it was removed from semester VI where it was titled as Educational Tour & Written Illustrated Report with course code BBTM-6068

Agenda Item of BOS : Item: Bio 6: 2021: 7

Name of Programme: B.Sc. Bio-Technology

Name of Course: Patent laws in Biotechnology, rDNA Technology-A, Concepts of Plant Tissue Culture, Animal Tissue Culture, Bioprocess Engineering-A, Biophysical & Biochemical Techniques-A

Semester: V

- To remove practical “Growing of *E.coli* bacterial culture” from rDNA Technology-A of semester V
- To merge practical “Agarose gel electrophoresis” with another practical and rephrased as “To perform spectrophotometric quantification of DNA for determination of purity and agarose gel electrophoresis” in rDNA Technology-A course of semester V
- To merge restriction digestion practical with agarose gel electrophoresis and rephrased as Restriction enzyme digestion of the isolated DNA with 6, 5 and 4 cutters and agarose gel electrophoresis of the digested fragments in rDNA Technology-A course of semester V
- To introduce new practical “To perform ligation reaction and agarose gel

electrophoresis” in rDNA Technology-A course of semester V ➤ To introduce new practical “To study differential centrifugation” in Biophysical & Biochemical Techniques-A course of semester V ➤ To remove practical “To study separation of bio-molecules by thin layer chromatography” and merge it with “To study separation of bio-molecules by paper and thin layer chromatography” in Biophysical & Biochemical Techniques-A course of semester V
Agenda Item of BOS : <u>Item: Bio 6: 2021: 8</u> Name of Programme: B.Sc. Bio-Technology Name of Course: Intellectual Property Rights & Entrepreneurship, rDNA Technology-B, Applications of Plant Tissue Culture, Animal Biotechnology, Bioprocess Engineering-B, Biophysical and Biochemical Techniques-B Semester: VI
Changes in Syllabus ➤ To specify names of new generation sequencing techniques “Roche 454 pyrosequencing, Illumina (Solexa) HiSeq and MiSeq sequencing, Sequencing by Oligonucleotide Ligation and Detection (SOLiD), Ion Torrent technology, Single-molecule real-time (SMRT) sequencing by pacific biosciences” in Unit IV of rDNA Technology-B of semester VI ➤ To remove names of cell lines and include only few important one in Unit-1 of Animal Technology semester VI ➤ To include topics “Organotypic and histotypic cultures: Organotypic culture: Gas and nutrient exchange, structure integrity, growth, differentiation, advantages and applications. Methods, advantages and applications of histotypic culture. Three dimensional culture and tissue engineering: Concept of tissue engineering, components of tissue engineering, cells imaging in 3D construct” in course of Animal Biotechnology in semester VI. ➤ To remove two practicals “DNA isolation from blood” and “Quantification of isolated DNA” from practical list of Animal Biotechnology in semester VI as these practical’s are part of molecular biology. ➤ To include following practicals “Observation of adherent (Fibroblastic, epithelial) and suspension cultures (Lymphoblast)”, “To perform trypsinization of cells”, “Cell counting by haemocytometer”, “Determination of the IC50 value of a drug using MTT assay” in course of Animal Biotechnology in semester VI.

➤ To remove practical “Separation and purification of IgG antibodies from Serum using protein A column” from course of Animal Biotechnology in semester VI as it was introduced in semester IV of Immunology-I
Agenda Item of BOS: <u>Item: Bio 6: 2021: 9</u> Name of Programme: B.Sc. Home Science Name of Course: Basic Nutritional Biochemistry of B.Sc. Home Science semester-V and Applied Nutritional Biochemistry Semester: VI
Changes in Syllabus
It was decided to ➤ The syllabus was approved.
Agenda Item of BOS: <u>Item: Bio 6: 2021: 10</u> Name of Programme: Bachelors in Vocational Bachelor of Vocation (Nutrition, Exercise and Health) Name of Course: Genetics, Biochemistry-II & General Microbiology-II Semester: IV
Changes in Syllabus
It was decided to ➤ The syllabus was approved.
Agenda Item of BOS: <u>Item: Bio 6: 2021: 11</u> Name of Programme: Masters in Botany Name of Course: Computer Applications and Bioinformatics Semester: II
Changes in Syllabus
It was decided to ➤ The syllabus was approved.

