

Annual Teaching Plan

Name of the teacher: Miss. Salama Harun Nadaf

Programme: B.Sc. II, B.Sc. I Semester: II, IV

Subject: Biotechnology

Course Title: DSE-1009B Cell biology

Paper XIII- Biochemical Techniques

Paper XIV- Cell Metabolism and Virology

Month December 2018			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
10	2	12	B.Sc, I Cell Biology Unit I- Concepts in cell biology	Cell, type, cell cycle, Cell division
10	2	12	B.Sc, III Credit I- Cell Metabolism Credit I- Biochemical techniques	Introduction to carbohydrate metabolism and concept in metabolism Electrophoresis type and all
Month January 2019			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
5	2	12	B.Sc, I Cell Biology Unit I- Cell organelles in cell	Cell organelles structure and function
15	2	17	B.Sc, III Credit I- Lipid Metabolism Credit I- Biochemical techniques	1. Fatty acid synthesis 2. Beta oxidation 3. Tracer Techniques
Month February 2019			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
10	0	10	B.Sc, I Cell Biology Unit II- Genetics	Laws of Mendelian inheritance Crosslinking
17	2	19	B.Sc, III Credit I- Nucleic acid Metabolism Credit I- Biochemical techniques	Purine and pyrimidine metabolism Chromatography- Ion exchange. Gel filtration
Month -March 2019			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
10	2	12	B.Sc, I Cell Biology Unit II- Genetics	Epistasis, Multiple alleles, Extrachromosomal material
10	3	13	B.Sc, III Credit I- Protein Metabolism Credit I- Biochemical techniques	Urea Cycle Affinity Chromatography Spectroscopy- 1, atomic, Spectrofluometry, Infra red

Name and Signature of Teacher

(Ms. S.H. Nadaf)



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(AUTONOMOUS)



Annual Teaching Plan

Name of the teacher: Miss Salama Harun Nadaf

Programme: B.Sc. I, B.Sc. II

Semester: I, III

Subject: Biotechnology Course Title: DSE-1009A Basics of Biotechnology I

: DSE-1009A Basics of Biotechnology II

: Paper -V-Biophysics Enzyme Technology and Molecular

Biology

Month July 2018			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
14	2	16	Paper I- Basics of Biotechnology I Scope of Biotechnology Carbohydrates	Scope and Importance of Biotechnology Branches of Biotechnology Introduction carbohydrates
06	4	10	Paper III- Enzyme technology Credit I- Introduction	Introduction and concept of enzymes
Month August 2018			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
12	3	15	Paper II- Basics of Biotechnology II Credit -II Biophysical technique	Spectroscopy, Lambert Beers law Colourimetry
06	06	10	Paper III- Enzyme technology Credit I- Active site Enzyme inhibition Enzyme kinetics	Enzyme activity, Active site Factors affecting enzyme activity Inhibition
Month Sept. October 2018			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
10	2	12	Paper I- Basics of Biotechnology I Lipids, Enzymes	Classification function properties
10	3	13	Paper III- Enzyme technology Credit II- Immobilization	Immobilization type and application
Month November 2018			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
5	2	07	Paper II- Basics of Biotechnology II Credit -II Centrifugation biochemical technique	Centrifugation Biochemical technique
5	2	07	Paper III- Enzyme technology Credit II Allosteric enzyme, Ribozyme	Structure and function of allosteric enzyme Ribozyme structure function

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**Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)**

Department of Biotechnology (Optional)

Academic Year: 2018 - 19

Annual Teaching Plan

Name of the teacher: Mrs. Mrunal Sachin Patil ~~Mrs. Mrunal Sachin Patil~~ **M. D. Ulope**

Programme: B.Sc. III, B.Sc. II, B.Sc. I Semester: V, III, I

Subject: Biotechnology Course Title: Paper -IX-Plant Biotechnology

Paper-X- Environmental Biotechnology

Paper-IV- Molecular Biology

DSE-1009A Basics of Biotechnology II

Month July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
10	02	12	Plant Biotechnology Credit I	Historical and conceptual background, Lab org, Sterilization
10	02	12	Molecular Biology Credit II	Historical and conceptual background, Structure of DNA, RNA, protein
05	00	05	Basics of Biotechnology Unit I	Protein History and intro, Amino acids intro
Month August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
10	3	13	Plant Biotechnology Credit I- Introduction	Culture media (Types, properties, components)
10	00	10	Molecular Biology Credit II	Prokaryotic Replication and Eukaryotic Replication
05	00	05	Basics of Biotechnology Unit II -	Types of amino acids
Month Septe-Oct 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
10	02	12	Plant Biotechnology Credit II- Introduction	Callus Culture, Suspension Culture, Organ Culture
10	03	13	Molecular Biology Credit II	Pro and Eukaryotic Transcription, Prokaryotic Translation
05	00	05	Basics of Biotechnology Unit I	Structure of amino acids, Structural levels of protein
Month Des-Jan 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
10	00	10	Plant Biotechnology Credit II- Introduction	Clonal Propagation, Anther and pollen culture,
10	03	13	Molecular Biology Credit II- Basics of Mol Bio	concepts, applications Eukaryotic Translation, Gene regulation, DNA damage and repair
05	00	05	Basics of Biotechnology Unit I-Protein and amino acid	Structural Levels, Functions of protein

Name and Signature of Teacher

M. D. Ulope



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Department of Biotechnology (Optional)

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: Mrs. Mrunal D. Ulape

Programme: B.Sc. II, B.Sc. I Semester: II, VI

Subject: Biotechnology Course Title: XV-Animal Tissue Culture

Paper-VIII-r DNA technology

Month December 2018			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Animal Tissue Culture Credit I	History and intro Landmarks in ATC Scope and recent advances
10	2	12		
10	2	12	Paper- r -DNA technology Credit I	Introduction to r DNA technology, Nucleases Restriction enzymes
Month January 2019			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Animal Tissue Culture Credit I	Requirements of Animal Cell Culture Sterilization of Glassware Culture media
10	2	12		
10	2	12	Paper -r- DNA technology Credit I	Enzymes to modify ends of DNA Cloning vectors Construction of C DNA and genomic library
Month February 2019			Module/Unit:	Sub-units planned
10	0	10	Animal Tissue Culture Credit II	Conceptual background Basic techniques of mammalian cell culture
10	2	12	Paper- -r DNA technology Credit II	Probes Blotting techniques PCR
Month March 2019			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Animal Tissue Culture Credit II	Organ and Histotypic culture Types and maintenance
10	02	12		
10	02	12	Paper-r DNA technology Credit II	DNA sequencing techniques Selection of transformed cells Applications of gene cloning Safety measures and biological risk for r-DNA work

Name and Signature of Teacher

(Ms. M. D. Ulape)



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Annual Teaching Plan

Name of the teacher: Miss ~~Arpita~~ *Phanshree A. Wajantri*

Programme: B.Sc. I, B.Sc. III

Semester: I, V

Subject: Biotechnology Course Title:

Papee XI Large-Scale Manufacturing Process-

Paper XII- Specific fermentions

DSE-1009A Basics of Biotechnology II

Month -July 2018			Module/Unit:	Sub-units planned
Lecture s	Practical	Total	Concept of bioprocess engineering and fermentation technology Credit I- Introduction	The basic design of a fermentor Types of fermentors Fermentation medium and optimization
10	2	12		
10	2	12	Basics of Biotechnology Unit II – Concept of sterilization	Introduction Physical agents: Temperature, radiation, filters
Month-August 2018			Module/Unit:	Sub-units planned
Lecture s	Practical	Total	Basics of Biotechnology Unit II – Concept of sterilization	Chemical Agents: phenols and phenolic compounds, heavy metals Gaseous agents: Ethylene oxide, formaldehyde
10	3	13		
10	2	12	Concept of bioprocess engineering and fermentation technology Credit I	Sterilization Strain Improvement Inoculum development
Month-September 2018			Module/Unit:	Sub-units planned
10	2	12	Concept of bioprocess engineering and fermentation technology Credit I	Pure culture techniques Culture collection canter
10	3	13	Basics of Biotechnology Unit II – Microscopy	General principles of microscopy SEM, TEM
Month October 2			Module/Unit:	Sub-units planned
5	2	07	PBT and EBT Credit I - Bioremediation	Introduction Composting & vermicomposting Biopesticides Bioleaching
5	2	07	PBT and EBT Credit I - Bioremediation	Biosorption Phytoremediation Biofertilizer production

Name and Signature of Teacher
(Ms. D. A. Wajantri)



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Vivekanand College, Kolhapur (Autonomous)

Department of Biotechnology (Optional)

Academic Year: 2018 - 19

Annual Teaching Plan

Name of the teacher: ~~Ms. Anuradha Jadhav~~ Ms. Dhanshree A. Wajant

Programme: B.Sc. I. B.Sc. III

Semester: I, V

Subject: Biotechnology Course Title:

Paper XI Large-Scale Manufacturing Process-

Paper XII- Specific fermentations

DSE-1009A Basics of Biotechnology II

Month -July 2018			Module/Unit:	Sub-units planned
Lecture s	Practical	Total		
10	2	12	Concept of bioprocess engineering and fermentation technology Credit I- Introduction	The basic design of a fermentor Types of fermentors Fermentation medium and optimization
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5	2	07	PBT and EBT Credit I - Bioremediation	Biosorption Phytoremediation Biofertilizer production

Name and Signature of Teacher
Ms. D. A. Wajant



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