**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Odd Semester (UG 1st Year)**

**Session (2021-2022)**

**Class:** B.Sc. (Hons.) Biotechnology (1st Sem) **Name of the Teacher: Ms Sonia Chauhan**

**Subject:** Life Sciences **Period: 2nd (5); 4th (1,2); 7th (5)**

**Paper:** BIOT-103B-T **Room No: 122,111,111**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 1-09-2021 to 04-09-2019 | ADMISSION |
| Week 2 | 06-09-2021 to 11-09-2021 | ADMISSION |
| Week 3 | 13-09-2021 to 18-09-2021 | An introduction to life on earth. Plant Anatomy and Physiology:- Structure of land plants: Vascular system of dicot and monocot plants |
| Week 4 | 20-09-2021 to 25-09-2021 | Nutrition and Transport phenomena in plants. |
| Week 5 | 27-09-2021 to 01-10-2021 | An Introduction to Plant reproduction. |
| Week 6 | 04-10-2021 to 09-10-2021 | Plant responses to the environment (Short day and Long day Plants). |
| Week 7 | 11-10-2021 to 16-10-2021 | Unit-II Ecology:- Community interactions. Ecosystems:- Definition and components. Food chain and food web. |
| Week 8 | 18-10-2021 to 19-10-2021 | Habitat. Ecological succession. Types of succession. |
| **Mid Semester Exam (21st October 2021 – 30th October 2021)** | | |
| Week 9 | 01-11-2021 to 06-11-2021 | Animal Anatomy and Physiology:- Homeostasis and organization of animal body |
| Week 10 | 08-11-2021 to 13-11-2021 | Circulation: Human Circulatory system, Mechanism of Circulation, Cardiac cycle; Nutrition and digestion: Mechanism of digestion of proteins and carbohydrates. |
| Week 11 | 15-11-2021 to 20-11-2021 | Respiration: Organs of respiration, mechanism of breathing, Exchange of gases; The immune response in Animals: B Cells and T Cells |
| Week 12 | 22-11-2021 to 27-11-2021 | Unit-IV Animal Anatomy and Physiology:- The endocrine system: Define glands, Pitutary, Pancreas, Thyroid and Parathyroid |
| Week 13 | 29-11-2021 to 04-12-2021 | Action and support by the muscles and skeleton system. |
| Week 14 | 06-12-2021 to 11-12-2021 | Reproduction: An introduction to reproduction in animals. |
| Week 15 | 13-12-2021 to 16-12-2021 | Revision |

**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Odd Semester (UG 1st Year)**

**Session (2021-2022)**

**Class:** B.Sc. Biotechnology (E) (1st Sem) **Name of the Teacher: Ms Sonia Chauhan**

**Subject:** Introduction to Biotechnology **Period: 2nd period (1,3,6)**

**Paper :** BIOT-Elect-Sem-I-T **Room No : 221**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 1-09-2021 to 04-09-2019 | ADMISSION |
| Week 2 | 06-09-2021 to 11-09-2021 | ADMISSION |
| Week 3 | 13-09-2021 to 18-09-2021 | UNIT –III: Basic Techniques in Biotechnology Sterilization techniques used in Biotechnology, Sonication. |
| Week 4 | 20-09-2021 to 25-09-2021 | Microscopy: Principle, & working of various microscopes (bright field, phase contrast, fluorescent) |
| Week 5 | 27-09-2021 to 01-10-2021 | Centrifugation: Theory, Types of centrifugation and their application to biological systems…Contd |
| Week 6 | 04-10-2021 to 09-10-2021 | Centrifugation: Theory, Types of centrifugation and their application to biological systems. |
| Week 7 | 11-10-2021 to 16-10-2021 | Chromatography: Principles, TLC, Gel permeation, Ion exchange. |
| Week 8 | 18-10-2021 to 19-10-2021 | Electrophoresis: Principle, types and applications. |
| **Mid Semester Exam (21st October 2021 – 30th October 2021)** | | |
| Week 9 | 01-11-2021 to 06-11-2021 | UNIT- IV: Genetically modified organisms (GMOs) - Definition, types, Applications and Ethical issues, Transgenic plants and Animals: benefits and drawbacks |
| Week 10 | 08-11-2021 to 13-11-2021 | Genetically modified organisms (GMOs) - Definition, types, Applications and Ethical issues, Transgenic plants and Animals: benefits and drawbacks |
| Week 11 | 15-11-2021 to 20-11-2021 | Public concerns and risks associated with genetic engineering: Bioterrorism and biowarfare |
| Week 12 | 22-11-2021 to 27-11-2021 | Human Cloning and Stem cell research: concept, applications and ethical issues….contd |
| Week 13 | 29-11-2021 to 04-12-2021 | Human Cloning and Stem cell research: concept, applications and ethical issues |
| Week 14 | 06-12-2021 to 11-12-2021 | IPR and biotechnology: Concept of Patent, Trademarks and copyrights, Patenting life forms, Importance of patents in Biotechnology. |
| Week 15 | 13-12-2021 to 16-12-2021 | IPR and biotechnology: Concept of Patent, Trademarks and copyrights, Patenting life forms, Importance of patents in Biotechnology. |

**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Odd Semester (For Ongoing Classes UG-PG)**

**Session (2021-2022)**

**Class: B.Sc. Bioinformatics (E)- 5th sem Name of the Teacher: Mrs Sonia Chauhan**

**Subject:** GENETIC ENGINEERING **Period : 1st (1-3)**

**Paper :** BNE-5002 **Room No : 219**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 11-08-2021 to 14-08-2021 | UNIT- I : DNA sequencing methods: GENERAL INTRODUCTION |
| Week 2 | 16-08-2021 to 21-08-2021 | DNA sequencing methods: Maxam and Gilbert method |
| Week 3 | 23-08-2021 to 28-08-2021 | DNA sequencing methods: Sanger method |
| Week 4 | 31-08-2021 to 04-09-2019 | DNA sequencing methods: Chain termination method, Pyrosequencing |
| Week 5 | 06-09-2021 to 11-09-2021 | Genome Sequencing methods: Shotgun |
| Week 6 | 13-09-2021 to 18-09-2021 | Genome Sequencing methods: Hierarchical (clone contig) methods |
| Week 7 | 20-09-2021 to 25-09-2021 | Next generation sequencing techniques |
| Week 8 | 27-09-2021 to 01-10-2021 | Revision |
| Week 9 | 04-10-2021 to 09-10-2021 | UNIT II: Cloning and expression vectors: Characteristics of cloning and expression vectors; |
| Week 10 | 11-10-2021 to 16-10-2021 | plasmid, phages, and cosmid vectors, |
| Week 11 | 18-10-2021 to 19-10-2021 | multipurpose cloning vectors, shuttle vectors |
| **Mid Semester Exam (21st October 2021 – 30th October 2021)** | | |
| Week 12 | 01-11-2021 to 06-11-2021 | bacterial, yeast, plant and mammalian expression vectors. BACs and YACs. |
| Week 13 | 08-11-2021 to 13-11-2021 | Preparation of genomic libraries |
| Week 14 | 15-11-2021 to 20-11-2021 | Preparation of cDNA libraries |
| Week 15 | 22-11-2021 to 27-11-2021 | Revision |
| Week 16 | 29-11-2021 to 30-11-2021 | Revision Test |

**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Odd Semester (For Ongoing Classes UG-PG)**

**Session (2021-2022)**

**Class: B.Sc. Microbiology (E)- 5th sem Name of the Teacher: Mrs Sonia Chauhan**

**Subject: Food and Industrial Micro. Period : 1st (5,6)**

**Paper: MIC502 Room No : 223**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 11-08-2021 to 14-08-2021 |  |
| Week 2 | 16-08-2021 to 21-08-2021 |  |
| Week 3 | 23-08-2021 to 28-08-2021 |  |
| Week 4 | 31-08-2021 to 04-09-2019 |  |
| Week 5 | 06-09-2021 to 11-09-2021 | Revision exercises |
| Week 6 | 13-09-2021 to 18-09-2021 |  |
| Week 7 | 20-09-2021 to 25-09-2021 |  |
| Week 8 | 27-09-2021 to 01-10-2021 |  |
| Week 9 | 04-10-2021 to 09-10-2021 | Revision |
| Week 10 | 11-10-2021 to 16-10-2021 | Section C: Production strains, Isolation and screening techniques……contd. |
| Week 11 | 18-10-2021 to 19-10-2021 | Section C: Production strains, Isolation and screening techniques |
| **Mid Semester Exam (21st October 2021 – 30th October 2021)** | | |
| Week 12 | 01-11-2021 to 06-11-2021 | Section C: preservation |
| Week 13 | 08-11-2021 to 13-11-2021 | Section C: genetic modification of Industrial microorganisms……contd. |
| Week 14 | 15-11-2021 to 20-11-2021 | Section C: genetic modification of Industrial microorganisms |
| Week 15 | 22-11-2021 to 27-11-2021 | Revision |
| Week 16 | 29-11-2021 to 30-11-2021 | Revision test |

**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Odd Semester (For Ongoing Classes UG-PG)**

**Session (2021-2022)**

**Class: B.Sc. Microbiology (E) -3rd sem Name of the Teacher: Mrs Sonia Chauhan**

**Subject: Introduction to Medical Microbiology-I Period: 3rd pd (3, 4)**

**Paper : MIC 301 Room No : 223**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 11-08-2021 to 14-08-2021 | Section A: Brief Intro to terminology of infectious diseases |
| Week 2 | 16-08-2021 to 21-08-2021 | Section-A: Frequency of disease, Recognition of infectious diseases, |
| Week 3 | 23-08-2021 to 28-08-2021 | Section-A: Infectious disease cycle |
| Week 4 | 31-08-2021 to 04-09-2019 | Section-B: Nomenclature of microbes of medical importance |
| Week 5 | 06-09-2021 to 11-09-2021 | Section-B: Nomenclature of microbes of medical importance |
| Week 6 | 13-09-2021 to 18-09-2021 | Section-B: Nomenclature of microbes of medical importance |
| Week 7 | 20-09-2021 to 25-09-2021 | Section-B: classification of microbes of medical importance; criteria of classification |
| Week 8 | 27-09-2021 to 01-10-2021 | Section-B: classification of microbes of medical importance; criteria of classification |
| Week 9 | 04-10-2021 to 09-10-2021 | Revision exercises |
| Week 10 | 11-10-2021 to 16-10-2021 | Section-D: Development of Chemotherapy |
| Week 11 | 18-10-2021 to 19-10-2021 | Gen characteristics of Antimicrobial Drugs |
| **Mid Semester Exam (21st October 2021 – 30th October 2021)** | | |
| Week 12 | 01-11-2021 to 06-11-2021 | *Determining level of*  Antimicrobial activity |
| Week 13 | 08-11-2021 to 13-11-2021 | Mechanism of Action of Antimicrobial Drugs |
| Week 14 | 15-11-2021 to 20-11-2021 | Factors influencing the effectiveness of Antimicrobial Drugs |
| Week 15 | 22-11-2021 to 27-11-2021 | Revision exercises |
| Week 16 | 29-11-2021 to 30-11-2021 | Revision exercises |