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

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

**Session (2021-2022)**

**Class: BSc I Micro E Name of the Teacher: Akashdeep Sandhu**

**Subject: Microbiology Period: 2nd**

**Paper: A & B Room No: 223**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 1-09-2021 to 04-09-2019 | History development and scope and applications of Microbiology. |
| Week 2 | 06-09-2021 to 11-09-2021 | Methods of Microbiology, isolation of pure culture. Theory and practice of sterilization. |
| Week 3 | 13-09-2021 to 18-09-2021 | Nature of microbial word: Prokaryotes and eukaryotes. Growth pattern in microbes. |
| Week 4 | 20-09-2021 to 25-09-2021 | Microbial Nutrition: Requirements of growth, Physical requirement (temp, pH, osmotic pressure), chemical requirements (C,N,S,PO) |
| Week 5 | 27-09-2021 to 01-10-2021 | Culture Media: Chemical defined media, complex media, anaerobic growth media, selective & differential media and enrichment culture. Cultivation of Aerobes and Anaerobes. |
| Week 6 | 04-10-2021 to 09-10-2021 | Enzymes: Chemical and physical properties of enzymes. Classification and nomenclature of Enzymes. |
| Week 7 | 11-10-2021 to 16-10-2021 | Factors affecting enzyme activity. |
| Week 8 | 18-10-2021 to 19-10-2021 | Microbial Metabolism: Respiration and fermentation. |
| **Mid Semester Exam (21st October 2021 – 30th October 2021)** | | |
| Week 9 | 01-11-2021 to 06-11-2021 | Glycolysis. Pentose phosphate pathway. |
| Week 10 | 08-11-2021 to 13-11-2021 | Entner Doudoroff pathway. TCA cycle. |
| Week 11 | 15-11-2021 to 20-11-2021 | Glyoxylate cycle. Bacterial genetics: Conjugation. |
| Week 12 | 22-11-2021 to 27-11-2021 | Transformation. Transduction. |
| Week 13 | 29-11-2021 to 04-12-2021 | Regulation of gene expression. Lac Operon, Tryptophan operon. |
| Week 14 | 06-12-2021 to 11-12-2021 | Recombinant DNA technology: Genetic engineering and gene cloning in microorganisms. |
| Week 15 | 13-12-2021 to 16-12-2021 | Strategies of genetic engineering: Restriction enzymes, vectors and plasmids. |

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

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

**Session (2021-2022)**

**Class: BSc II year Micro E**  **Name of the Teacher: Akashdeep Sandhu**

**Subject: Microbiology Period: 3rd**

**Paper: A & B Room No: 223**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 11-08-2021 to 14-08-2021 | Introduction and history of Immunology. |
| Week 2 | 16-08-2021 to 21-08-2021 | Nonspecific defenses; Physical barriers. |
| Week 3 | 23-08-2021 to 28-08-2021 | Chemical barriers. Cellular, Phagocytosis. Inflammatory barriers, Inflammation. |
| Week 4 | 31-08-2021 to 04-09-2019 | Fever. Types of Immunity. Active and passive immunity. Immunological memory. |
| Week 5 | 06-09-2021 to 11-09-2021 | Humoral Immume response. Antibodies/ Immunolobulins. |
| Week 6 | 13-09-2021 to 18-09-2021 | Structure, function and types of antibodies. |
| Week 7 | 20-09-2021 to 25-09-2021 | Cell mediated immune system. Mechanism of CMI. |
| Week 8 | 27-09-2021 to 01-10-2021 | Type of effector T cells, Helper cells, Suppressor cells, Cytotoxic T cells, killer cells. |
| Week 9 | 04-10-2021 to 09-10-2021 | Interaction between T and B cells. |
| Week 10 | 11-10-2021 to 16-10-2021 | Antigen Antibody Interactions. |
| Week 11 | 18-10-2021 to 19-10-2021 | Precipitation reactions. Immunodiffusion test. |
| **Mid Semester Exam (21st October 2021 – 30th October 2021)** | | |
| Week 12 | 01-11-2021 to 06-11-2021 | Counter current Immunoelectrophporesis. Complement Fixation tests. |
| Week 13 | 08-11-2021 to 13-11-2021 | Development of chemotherapy. General Characteristics of Antimicrobial drugs. |
| Week 14 | 15-11-2021 to 20-11-2021 | Determining level of antimicrobial activity. Mechanisms of action of antimicrobial drugs. |
| Week 15 | 22-11-2021 to 27-11-2021 | Factors influencing the effectiveness of antimicrobial drugs. |
| Week 16 | 29-11-2021 to 30-11-2021 | Revision |

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

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

**Session (2021-2022)**

**Class: BSc III Micro E**   **Name of the Teacher: Akashdeep Sandhu**

**Subject: Microbiology Period: 1st**

**Paper: A &B Room No: 223**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 11-08-2021 to 14-08-2021 | Morphology Pathogenesis life cycle lab diagnosis prevention control of Rabies |
| Week 2 | 16-08-2021 to 21-08-2021 | Morphology Pathogenesis life cycle lab diagnosis prevention control of Polio |
| Week 3 | 23-08-2021 to 28-08-2021 | Morphology Pathogenesis life cycle lab diagnosis prevention control of Small pox |
| Week 4 | 31-08-2021 to 04-09-2019 | Morphology Pathogenesis life cycle lab diagnosis prevention control of Measles |
| Week 5 | 06-09-2021 to 11-09-2021 | Life cycle pathogenic mechanisms and control of parasitic infections : Amoebiasis |
| Week 6 | 13-09-2021 to 18-09-2021 | Life cycle pathogenic mechanisms and control of parasitic infections : Kala Azar |
| Week 7 | 20-09-2021 to 25-09-2021 | Life cycle pathogenic mechanisms and control of parasitic infections : Toxoplasmosis |
| Week 8 | 27-09-2021 to 01-10-2021 | Introduction to human mycotic infections: Superficial |
| Week 9 | 04-10-2021 to 09-10-2021 | Life cycle pathogenic mechanisms and control of parasitic infections : Cryptococcosis and Dermatophytosis |
| Week 10 | 11-10-2021 to 16-10-2021 | Baker’s Yeast and its uses. Fermentation of beer. |
| Week 11 | 18-10-2021 to 19-10-2021 | Fermentation of wine and alcohol. |
| **Mid Semester Exam (21st October 2021 – 30th October 2021)** | | |
| Week 12 | 01-11-2021 to 06-11-2021 | Introduction to important disease caused by *Streptococcus, Phneumococcus.* Operative mechanisms, lab diagnosis, prevention and control. |
| Week 13 | 08-11-2021 to 13-11-2021 | Introduction to important disease caused by *Neisseria, Corynebacterium.* Operative mechanisms, lab diagnosis, prevention and control. |
| Week 14 | 15-11-2021 to 20-11-2021 | Introduction to important disease caused by *bacillus, Clostridium.* Operative mechanisms lab diagnosis, prevention and control. |
| Week 15 | 22-11-2021 to 27-11-2021 | Introduction to important disease caused by *Proteus.* Operative mechanisms, lab diagnosis, prevention and control. |
| Week 16 | 29-11-2021 to 30-11-2021 | Revision |