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

**Teaching Plan OddSemester (For Undergraduate Classes - First Year)**

**Session (2022-2023)**

**Class: BSc 1st Micro E**  **Name of the Teacher:Akashdeep Sandhu**

**Subject: Microbiology Period: 3rd**

**Paper: A & B Room No: 105**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 16-08-2022 to 20-08-2022 | History development and scope and applications of  Microbiology. |
| Week 2 | 22-08-2022 to 27-08-2022 | Methods of Microbiology, isolation of pure culture. Theory and  Practice of sterilization. |
| Week 3 | 29-08-2022 to 03-09-2022 | Nature of microbial word: Prokaryotes and eukaryotes. Growth  Pattern in microbes. |
| Week 4 | 05-09-2022 to 10-09-2022 | Microbial Nutrition: Requirements of growth, Physical  requirement (temp, pH, osmotic pressure), chemical  requirements (C,N,S,PO) |
| Week 5 | 12-09-2022 to 17-09-2022 | Culture Media: Chemical defined media, complex media,  anaerobic growth media, selective &amp; differential media and  Enrichment culture. Cultivation of Aerobes and Anaerobes. |
| Week 6 | 19-09-2022to 24-09-2022 | Enzymes: Chemical and physical properties of enzymes.  Classification and nomenclature of Enzymes. |
| Week 7 | 26-09-2022 to 01-10-2022 | Factors affecting enzyme activity. |
| Week 8 | 03-10-2022 to 08-10-2022 | Microbial Metabolism: Respiration and fermentation. |
| Week 9 | 10-10-2022 to 15-10-2022 | Glycolysis. Pentose phosphate pathway. |
| Week 10 | 17-10-2022 to 22-10-2022 | EntnerDoudoroff pathway. TCA cycle. |
| Week 11 | 25-10-2022 to 27-10-2022 | Glyoxylate cycle. Bacterial genetics: Conjugation. |
| **Mid Semester Exam (28thOctober 2022 – 4th November 2022)** | | |
| Week 13 | 5-11-2022 | Transformation. Transduction. |
| Week 14 | 07-11-2022 to 12-11-2022 | Regulation of gene expression. Lac Operon, Tryptophan  operon. |
| Week 15 | 14-11-2022 to 19-11-2022 | Recombinant DNA technology: Genetic engineering and gene  cloning in microorganisms. |
| Week 16 | 21-11-2022 to 26-11-2022 | 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 (2022-2023)**

**Class: BSc 2nd Micro E**   **Name of the Teacher:Akashdeep Sandhu**

**Subject: Microbiology Period : 4th**

**Paper:A& B Room No : 105**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 13-08-2022 | Introduction and history of Immunology. |
| Week 2 | 16-08-2022 to 20-08-2022 | Nonspecific defenses; Physical barriers. |
| Week 3 | 22-08-2022 to 27-08-2022 | Chemical barriers. Cellular, Phagocytosis. Inflammatorybarriers, Inflammation. |
| Week 4 | 29-08-2022 to 03-09-2022 | Fever. Types of Immunity. Active and passive immunity. Immunological memory. |
| Week 5 | 05-09-2022 to 10-09-2022 | Humoral Immume response. Antibodies/ Immunolobulins. |
| Week 6 | 12-09-2022 to 17-09-2022 | Structure, function and types of antibodies. |
| Week 7 | 19-09-2022 to 24-09-2022 | Cell mediated immune system. Mechanism of CMI. |
| Week 8 | 26-09-2022 to 01-10-2022 | Type of effector T cells, Helper cells, Suppressor cells, Cytotoxic T cells, killer cells. |
| Week 9 | 03-10-2022 to 08-10-2022 | Interaction between T and B cells. |
| Week 10 | 10-10-2022 to 15-10-2022 | Antigen Antibody Interactions. |
| Week 11 | 17-10-2022 to 22-10-2022 | Precipitation reactions. Immunodiffusion test. |
| Week 12 | 25-10-2022 to 27-10-2022 | Counter current Immunoelectrophporesis. Complement Fixation tests. |
| **Mid Semester Exam (28th October 2022 – 4th November 2022)** | | |
| Week 13 | 5-11-2022 | Development of chemotherapy. General Characteristics of Antimicrobial drugs. |
| Week 14 | 07-11-2022 to 12-11-2022 | Determining level of antimicrobial activity. Mechanisms of action of antimicrobial drugs. |
| Week 15 | 14-11-2022 to 19-11-2022 | Factors influencing the effectiveness of antimicrobial drugs. |
| Week 16 | 21-11-2022 to 25-11-2022 | Revision |

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

**Session (2022-2023)**

**Class: BSc 3rd Micro E**  **Name of the Teacher:Akashdeep Sandhu**

**Subject: Microbiology E Period : 2nd ( wed) 5th (Thu)**

**Paper : A & B Room No : 105**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 13-08-2022 | Morphology Pathogenesis life cycle lab diagnosis prevention control of Rabies |
| Week 2 | 16-08-2022 to 20-08-2022 | Morphology Pathogenesis life cycle lab diagnosis prevention control of Polio |
| Week 3 | 22-08-2022 to 27-08-2022 | Morphology Pathogenesis life cycle lab diagnosis prevention  control of Small pox |
| Week 4 | 29-08-2022 to 03-09-2022 | Morphology Pathogenesis life cycle lab diagnosis prevention  control of Measles |
| Week 5 | 05-09-2022 to 10-09-2022 | Life cycle pathogenic mechanisms and control of parasitic  infections : Amoebiasis |
| Week 6 | 12-09-2022 to 17-09-2022 | Life cycle pathogenic mechanisms and control of parasitic  infections : Kala Azar |
| Week 7 | 19-09-2022 to 24-09-2022 | Life cycle pathogenic mechanisms and control of parasitic  infections : Toxoplasmosis |
| Week 8 | 26-09-2022 to 01-10-2022 | Introduction to human mycotic infections: Superficial |
| Week 9 | 03-10-2022 to 08-10-2022 | Life cycle pathogenic mechanisms and control of parasitic  infections : Cryptococcosis and Dermatophytosis |
| Week 10 | 10-10-2022 to 15-10-2022 | Baker’s Yeast and its uses. Fermentation of beer. |
| Week 11 | 17-10-2022 to 22-10-2022 | Fermentation of wine and alcohol. |
| Week 12 | 25-10-2022 to 27-10-2022 | Introduction to important disease caused by Streptococcus,  Phneumococcus. Operative mechanisms, lab diagnosis,  prevention and control. |
| **Mid Semester Exam (28th October 2022 – 4th November 2022)** | | |
| Week 13 | 5-11-2022 | Introduction to important disease caused by Neisseria,  Corynebacterium. Operative mechanisms, lab diagnosis,  prevention and control. |
| Week 14 | 07-11-2022 to 12-11-2022 | Introduction to important disease caused by bacillus,  Clostridium. Operative mechanisms lab diagnosis, prevention  and control. |
| Week 15 | 14-11-2022 to 19-11-2022 | Introduction to important disease caused by Proteus. Operative  mechanisms, lab diagnosis, prevention and control. |
| Week 16 | 21-11-2022 to 25-11-2022 | Revision |