**Post Graduate Government College for Girls, Sector-42, Chandigarh**

**Teaching Plan for Bachelors (Third Semester)**

**Session (2020-2021)**

**Class: B.Sc. II year Microbiology Elective Name of the Teacher: Akashdeep Sandhu**

**Subject: Microbiology Paper: A and B**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 03/08/2020 – 08/08/2020 | Development of chemotherapy. General characteristics of antimicrobial drugs. |
| Week 2 | 10/08/2020 – 14/08/2020 | Determining level of antimicrobial activity. Mechanism of action of antimicrobial drugs. |
| Week 3 | 17/08/2020 – 22/08/2020 | Factors influencing the effectiveness of antimicrobial drugs. |
| Week 4 | 24/08/2020 – 29/08/2020 | Introduction and history of immunology, Non-specific defence; Physical barriers. |
| Week 5 | 31/08/2020- 05/09/2020 | Chemical barriers, Cellular, Phagocytosis, Inflammatory barriers |
| Week 6 | 07/09/2020- 12/09/2020 | Inflammation, Fever, Types of Immunity, Active and Passive Immunity, Immunological memory. |
| Week 7 | 14/09/2020- 19/09/2020 | Humoral Immune Response. |
| Week 8 | 21/09/2020- 26/09/2020 | Antibodies/ Immunoglobulins, Structure,. |
| Week 9 | 28/09/2020- 03/10/2020 | function and type of antibodies. |
| Week 10 | 05/10/2020- 10/10/2020 | Antigen-antibody interactions. |
| Week 11 | 12/10/2020- 16/10/2020 | Precipitation reaction, Immunodiffusion test, |
| Week 12 | 19/10/2020- 24/10/2020 | Counter current Immuno electrophoresis, Complement fixation tests |
| Week 13 | 27/10/2020- 30/10/2020 | Cell Mediated Immune System (CMI) |
| Week 14 | 03/11/2020- 07/11/2020 | Mechanism of CMI, Types of effector T cells, Helper T cells, Suppressor T cells |
| Week 15 | 09/11/2020- 12/11/2020 | Cytotoxic T cells, Killer T cells, Interactions between T and B lymphocytes |
| Week 16 | 16/11/2020- 21/11/2020 | Microbial adherence, Active penetration into body, |
| Week 17 | 23/11/2020- 28/11/2020 | Passive penetration into body, Microbial production of enzymes in the body |

**Post Graduate Government College for Girls, Sector-42, Chandigarh**

**Teaching Plan for Bachelors (Fifth Semester)**

**Session (2020-2021)**

**Class: B.Sc. III year Microbiology Elective Name of the Teacher:**Akashdeep Sandhu

**Subject:Microbiology Paper: A and B**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 03/08/2020 – 08/08/2020 | Life cycle, pathogenic mechanisms and control of parasitic infections amoebiasis. |
| Week 2 | 10/08/2020 – 14/08/2020 | Kala-azar. |
| Week 3 | 17/08/2020 – 22/08/2020 | Toxoplasmosis. |
| Week 4 | 24/08/2020 – 29/08/2020 | Yeast (Baker’s) and its uses. |
| Week 5 | 31/08/2020- 05/09/2020 | Fermentation of Beer. |
| Week 6 | 07/09/2020- 12/09/2020 | Fermentation of wine and alcohols. |
| Week 7 | 14/09/2020- 19/09/2020 | Morphology, pathogenesis, life cycle, laboratory diagnosis, prevention and control of viral diseases: Rabies |
| Week 8 | 21/09/2020- 26/09/2020 | Polio |
| Week 9 | 28/09/2020- 03/10/2020 | Small pox |
| Week 10 | 05/10/2020- 10/10/2020 | Measles |
| Week 11 | 12/10/2020- 16/10/2020 | The operative mechanisms, laboratory diagnosis, prevention and control of diseases caused by Streptococcus, |
| Week 12 | 19/10/2020- 24/10/2020 | The operative mechanisms, laboratory diagnosis, prevention and control of diseases caused by Pneumococcus and Bacillus. |
| Week 13 | 27/10/2020- 30/10/2020 | The operative mechanisms, laboratory diagnosis, prevention and control of diseases caused by Neisseria and Clostridim. |
| Week 14 | 03/11/2020- 07/11/2020 | The operative mechanisms, laboratory diagnosis, prevention and control of diseases caused by Corynebacterium. |
| Week 15 | 09/11/2020- 12/11/2020 | The operative mechanisms, laboratory diagnosis, prevention and control of diseases caused by Proteus. |
| Week 16 | 16/11/2020- 21/11/2020 | Human mycotic infections: Superficial, Cryptococcosis and Dermatophytosis. |
| Week 17 | 23/11/2020- 28/11/2020 | Revision. |

**Post Graduate Govt. College for Girls, Sector-42, Chandigarh**

**Teaching Plan for Bachelors (First Semester)**

**Session (2020-2021)**

**Class: B.Sc. I year Microbiology Elective Name of the Teacher:** Akashdeep Sandhu

**Subject: Microbiology Paper: A and B**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 01/09/2020 – 05/09/2020 | History, development, scope and applications of Microbiology. |
| Week 2 | 07/09/2020 – 12/09/2020 | Methods of Microbiology, isolation of pure cultures, theory and practice of sterilization. |
| Week 3 | 14/09/2020 – 19/09/2020 | Nature of Microbial World : Prokaryotes and eukaryotes, growth pattern in microbes. |
| Week 4 | 21/09/2020 – 26/09/2020 | Microbial Nutrition : Requirements for Growth. Physical requirement (temperature, pH, osmotic pressure), chemical requirements (C, N, S, P, O). |
| Week 5 | 28/09/2020 – 03/10/2020 | Culture Media : Chemically defined media, complex media, anaerobic growth media, selective & differential media, and enrichment culture. |
| Week 6 | 05/10/2020 – 10/10/2020 | Cultivation of Aerobes and Anaerobes. |
| Week 7 | 12/10/2020 – 16/10/2020 | Enzymes : Chemical and physical properties of enzymes. |
| Week 8 | 19/10/2020 – 24/10/2020 | Classification and nomenclature of Enzymes |
| Week 9 | 27/10/2020 – 30/10/2021 | Factors affecting enzyme activity |
| Week 10 | 03/11/2020 – 07/11/2020 | Recombinant DNA technology: genetic engineering and gene cloning in microorganisms |
| Week 11 | 09/11/2020 – 12/11/2020 | Strategies of genetic engineering: Restriction enzymes, vectors and plasmids. |
| Week 12 | 16/11/2020 – 21/11/2020 | Microbial Metabolism: Respiration and fermentation. Glycolysis. |
| Week 13 | 23/11/2020 – 28/11/2020 | Pentose Phosphate pathway, The Entner Doudoroff pathway. |
| Week 14 | 01/12/2020 – 05/12/2020 | Tricarboxylic acid cycle. Glyoxylate cycle. |
| Week 15 | 07/12/2020 – 12/12/2020 | Bacterial Genetics : Conjugation. . |
| Week 16 | 14/12/2020 – 18/12/2020 | Transformation. Transduction (generalized transduction, specialized transduction) |
| Week 17 | 21/12/2020 – 26/12/2020 | The Regulation of Gene Expression : Lac operon, tryptophan operon |