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

**Teaching Plan Session Even Semester**

**(2017-18)**

**Class: Name of the Teacher:**

**Subject: Period :**

**Paper : Room No :**

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| **S. No** | **Date From** | **Date Upto** | | **Topics to be covered** |
| Week 1 | Jan 08, 2018 | Jan 13, 2018 | | - |
| Week 2 | Jan 15, 2018 | Jan 20, 2018 | | B.Sc sem 6:  Gene and Genetic Code: Structure of nucleic acids (DNA & RNA). Replication of DNA and transcription. Expression of gene (protein synthesis in Prokaryotes and Eukaryotes). Properties of genetic code, codon assignment, wobble hypothesis. |
| Week 3 | Jan 22, 2018 | Jan 27, 2018 | | M.Sc Sem 2:  Definitions and perspectives of systematics, classification and taxonomy, goals and importance of taxonomy. Procedures of taxonomy -identification, classification, nomenclature, phena, taxa, category. Key and its significance. |
| Week 4 | Jan 29, 2018 | Feb 3, 2018 | | B.Sc sem 6  Linkage, crossing over and recombination: Linkage, sex-linked characters, crossing over, frequency of crossing over, cytological basis of crossing over, synaptonemal complex. |
| Week 5 | Feb 5, 2018 | Feb 10, 2018 | | M.Sc Sem 2:  Higher taxa and Linnean hierarchy. Qualitative and quantitative methods of analysis of variations |
| Week 6 | Feb 12, 2018 | Feb 17, 2018 | | B.Sc sem 6  Recombination in Fungi (tetrad analysis). Genetic recombination in bacteria (conjugation, transduction and transformation) plasmids. Regulation of gene expression in prokaryotes (Operon model) and in eukaryotes. |
| Week 7 | Feb 19, 2018 | Feb 24, 2018 | | M.Sc Sem 2:  History and theories of classification. International code of Zoological nomenclature-principles, objectives and rules for nomenclature, type system and priority for different taxa.  Population structure of species. Polytypic species, race, variety, cline, subspecies, semispecies, super species. |
| Week 8 | Feb 26, 2018 | Mar 03 , 2018 | | B.Sc sem 6  Applied Genetics: Recombinant DNA, genetic cloning and its applications in medicine and agriculture, DNA finger printing. |
| **2nd week March (Mid Semester Exam)** | | | | |
| Week 9 | March 12, 2018 | | March 17, 2018 | M.Sc Sem 2:  Speciation. Species concepts - Typological species concept, nominalistic species concept, biological species concept, evolutionary species concept. Difficulties in applying biological species concept. |
| Week 10 | March 19 , 2018 | | March 24, 2018 | B.Sc sem 6  Population genetics: Equilibrium of gene frequencies and Hardy Weinberg Law. Modification of Mendelian ratios: Non-allelic gene interaction, Modified F2 ratios. (9:7, 9:3:4, 9:3:3:1, 12:3:1, 13:3, 15:1, 9:6:1). |
| Week 11 | March 26, 2018 | | March 31, 2018 | M.Sc Sem 2:  Mutation theory of evolution: mutations, variations and natural selection. Modern concept and interpretation of evolution and future of evolutionary process, sexual selection and co-evolution. |
| Week 12 | April 02, 2018 | | April 07, 2018 | B.Sc sem 6  Gene modifications due to incomplete dominance, lethal factors (2:1), Pleiotropic genes. Multiple Alleles: Blood group inheritance, eye colour in Drosophila, pseudo-allelism. Multiple Factors: Qualitative and quantitative characters, inheritance of quantitative traits (skin colour in man). |
| Week 13 | April 09, 2018 | | April 14 , 2018 | M.Sc Sem 2:  Interrelationship among different phyla of Invertebrates and their evolutionary significance. Origin of Vertebrates: Pisces, Amphibia, Reptilia, Aves and Mammalia. |
| Week 14 | April 16, 2018 | | April 21, 2018 | B.Sc sem 6  Mutations: Spontaneous and induced mutations, physical and chemical mutagens. Detection of mutations in Maize and Drosophila. |
| Week 15 | April 23, 2018 | | April 28, 2018 | M.Sc Sem 2:  Ancestry of man, horse, camel and elephant. |
| Week 16 | April 30, 2018 | | May 05, 2018 | B.Sc sem 6  Inborn errors of metabolism in man (Phenylketonuria, Alcaptonuria, Albinism). Somatic mutations and carcinogenesis. Extranuclear inheritance: Kappa particles in Paramecium. |