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

**Teaching Plan Even Semester**

**Session (2018-19)**

**Class: B.SC II sem and**

**B.SC Hons. IV sem Name of the Teacher: Bindu Rani**

**Subject: Physics Period : Third and seventh ,sixth**

**Paper : B and IV Room No : 129(5-6) and 129(4), 319(5-6)**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 14 /01/2019 – 19/01/2019 | Wave motion and its characteristics//Methods of separation of variables |
| Week 2 | 21/01/2019 –  25/01/2019 | Wave equation//separations of Helmholtz equation in Cartesian ,spherical and cylinderical co-ordinate |
| Week 3 | 28/01/2019 –  2/02/2019 | Solution of wave equation, Energy of progressive wave// Laplace  equation in various co- ordinate system, ordinary and singular points |
| Week 4 | 4/02/2019 –  9/02/2019 | Velocity and characteristic impedance//Example of partial differential  equation in physics, heat flow in one and two dimensions |
| Week 5 | 11/02/2019 –  16/02/2019 | Reflection and transmission coefficients//series solution of differential  equation, power series solution about ordinary and singular points |
| Week 6 | 18/02/2019 –  23/02/2019 | Matching of impedance, Standing wave, Wave velocity and group velocity//Dirac deltaa function , properties of delta function |
| Week 7 | 25/02/2019 –  02/03/2019 | Maxwells equations, em wave with conductivity zero//Gramma  function ,factorial notation and application, beta function |
| Mid Semester Exam | | |
| Week 8 | 11/03/2019 –  16/03/2019 | Refractive index, Transverse nature of Em wave// Bessel differential  equation, Bessel function of 1st kind |
| Week 9 | 18 /03/2019 –  22/03/2019 | Poyntic vector and theorm,// Generating function , recurrence  Relation ,plots ,zeros of Bessel function and orthogonality |
| Week 10 | 25/03/2019 –  30/03/2019 | Em wave for conducting medium, Skin depth//Legendre equation,  Legendre polynomial , plots |
| Week 11 | 1/04/2019 –  6/04/2019 | skin depth//recurrence relation, Orthogonality, series expansion of a  function in terms of complete set of Legendre function |
| Week 12 | 8/04/2019 –  12/04/2019 | Dispersion, Impedance of conducting medium//Rodrigue formula ,  Laplace transform |
| Week 13 | 15/04/2019 –  20/04/2019 | Reflection and transmission of em waves at boundary// Application of  Laplace transform to derivative and integral , S- domain interpretation  of passive circuit elements R,L and C |
| Week 14 | 22/04/2019 –  27/04/2019 | Ionoshere //analysis of simple circuit in s- domains of simple circuit in s- domain |
| Week 15 | 29 /04/2019 –  3/05/2019 | Relation between electric and magnetic field vector// transfer function  ,poles and zeros , stability of circuit |