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

**Teaching Plan (Odd Semester) Session (2019-2020)**

**Class: B.Sc.III/I**   **Name of the Teacher: Suresh Kumar**

**Subject: Physics Period: 6th,2nd /5th**

**Paper: II/I Room No: 126**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 23-07-2019 to 27-07-2019 | Concept of current and voltage sources, Thevenin’s theorem/Cartesian and spherical polar coordinate systems, two and three-dimensional coordinate systems |
| Week 2 | 29-07-2019 to 03-08-2019 | Norton’s theorem, sources conversion/area, volume, displacement ,velocity |
| Week 3 | 05-08-2019 to 10-08-2019 | CRO, Block diagram, construction and principle of working/ acceleration in these systems |
| Week 4 | 13-08-2019 to 17-08-2019 | Use of CRO for frequency, time period/ solid angle, centre of mass |
| Week 5 | 19-08-2019 to 24-08-2019 | Special features of dual trace phase measurements/ linear and angular momentum |
| Week 6 | 26-08-2019 to 31-08-2019 | Energy band diagrams in semiconductors, direct and indirect semiconductors/torque, potential and kinetic energy of a system of particles |
| Week 7 | 02-09-2019 to 07-09-2019 | Formula to calculate position of Fermi level in p and n semiconductors, Barrier formation/ relationship of conservation laws of linear momentum |
| Week 8 | 09-09-2019 to 14-09-2019 | Energy band diagram of p-n junction, formula for depletion width, qualitative ideas of current flow mechanism in forward and reverse biased diode/angular momentum and energy |
| Week 9 | 16-09-2019 to 21-09-2019 | VI characteristics , static and dynamic resistance, depletion and diffusion capacitance, Zener diode, LED, photodiode and solar cell/ symmetries of space and time |
| Week 10 | 23-09-2019 to 28-09-2019  (Youth Festival 24-09-2019 to 27-09-2019) | Diode circuit ,clipping circuits /various forces in nature |
| Week 11 | 30-09-2019 to 05-10-2019 | Rectification: half wave, full wave and bridge rectifiers/various forces in nature relative strengths |
| Mid Semester Exams | | |  | Voltage multiplier circuit, BJT: Structure and working, different current in transistor, switching action/ motion under force obeying inverse square law |
| Week 12 | 16-10-2019 to 19-10-2019 | Filter circuits(C, LC and π-filters), rectification efficiency and ripple factor in LC filter, voltage regulation circuit using Zener diode voltage multiplier circuits/ relative strengths and spatial dependence |
| Week 13 | 21-10-2019 to 26-10-2019 | BJT structure and working different currents in transistor, switching action, Characteristics of CB, CE and CC configuration, active, cut off and saturation region/ equivalent one body problem |
| Week 14 | 29-10-2019 to 02-11-2019 | Load line analysis of transistors, Q-point, transistor biasing and stabilization of operating point, fixed bias/ motion under central forces, equation of motion under central force |
| Week 15 | 04-11-2019 to 09-11-2019 | Collector to base bias, bias circuit with emitter resistor, voltage divider biasing circuit/ equation of orbit and turning points, Kepler’s Laws |
| Week 16 | 11-11-2019 to 16-11-2019 | Working and analysis of CE amplifier using h-parameters, current, voltage and power gain, input and output impedance/ elastic collision in Lab. and C.M. systems, relationships of velocities, angles |
| Week 17 | 18-11-2019 to 23-11-2019 | Class A,B amplifiers/kinetic energies in these two systems, cross section of elastic scattering |
| Week 18 | 25-11-2019 to 30-11-2019 | ClassC amplifier/ Rutherford scattering. |