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

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

**Session (2020-2021)**

**Class: B.Sc. 1st /BTH 1st Name of the Teacher: Suresh Kumar**

**Subject: Physics Paper: A**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 01/09/2020-05/09/2020 | Cartesian and spherical polar coordinate systems, two and three-dimensional coordinate systems Science, physics and life science and introduction to append differences and underlying overlap(Atomic nature of matter) |
| Week 2 | 07/09/2020-12/09/2020 | Area, volume, displacement,velocity Science, physics and life science and introduction to append differences and underlying overlap(Atomic nature of matter) |
| Week 3 | 14/09/2020-19/09/2020 | Acceleration in these systems Science, physics and life science and introduction to append differences and underlying overlap(Atomic nature of matter) |
| Week 4 | 21/09/2020-26/09/2020 | Solid angle, centre of mass Units of measurement and range from smallest to largest known for different physical quantities viz. mass, length, time |
| Week 5 | 28/09/2020-03/10/2020 | Linear and angular momentum Units of measurement and range from smallest to largest known for different physical quantities viz. mass, length, time |
| Week 6 | 05/10/2020-10/10/2020 | Torque, potential and kinetic energy of a system of particles Units of measurement and range from smallest to largest known for different physical quantities viz. mass, length, time |
| Week 7 | 12/10/2020-16/10/2020 | Relationship of conservation laws of linear momentum Units of measurement and range from smallest to largest known for different physical quantities viz. current, temperature, luminosity, etc. with suitable examples from bio/ physical science |
| Week 8 | 19/10/2020-24/10/2020 | Angular momentum and energy  Units of measurement and range from smallest to largest known for different physical quantities viz. current, temperature, luminosity, etc. with suitable examples from bio/ physical science |
| Week 9 | 27/10/2020-30/10/2020 | Symmetries of space and time Units of measurement and range from smallest to largest known for different physical quantities viz. current, temperature, luminosity, etc. with suitable examples from bio/ physical science |
| Week 10 | 03/11/2020 – 07/11/2020 | Various forces in nature Interference of waves, phase and path difference, Theory of interference fringes |
| Week 11 | 09/11/2020 – 12/11/2020 | Various forces in nature relative strengths Young’s experiment, Coherent sources |
| Week 12 | 16/11/2020 – 21/11/2020 | Relative strengths and spatial dependence Llyod’s mirror, Fresnel by prism, Intensities of maxima and minima |
| Week 13 | 23/11/2020 – 28/11/2020 | Equivalent one body problem Diffraction of light, Rectilinear propagation, Fresnel and Fraunhofer diffraction at single slit |
| Week 14 | 01/12/2020 – 05/12/2020 | Motion under central forces, equation of motion under central force Rayleigh criterion for resolving power, resolving power of telescope |
| Week 15 | 07/12/2020 – 12/12/2020 | Equation of orbit and turning points, Kepler’s Laws Resolving power of microscope, compound microscope (principle construction, ray diagram, formula for magnifying power) |
| Week 16 | 14/12/2020 – 18/12/2020 | Elastic collision in Lab. and C.M. systems, relationships of velocities, angles&kinetic energies in these two systems Compound microscope (principle construction, ray diagram, formula for magnifying power), Fluorescent microscope (concept only) |
| Week 17 | 21/12/2020 – 26/12/2020 | Cross section of elastic scattering, Rutherford Scattering Polarization introduction |

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

**Teaching Plan for Bachelors (Third and Fifth Semester) and Post Graduate (Third Semester)**

**Session (2020-2021)**

**Class: B.Sc. 3rd**  **Name of the Teacher: Suresh Kumar**

**Subject: Physics Paper: B**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 03/08/2020 – 08/08/2020 | Concept of current and voltage sources, Thevenin’s theorem |
| Week 2 | 10/08/2020 – 14/08/2020 | Norton’s theorem, sources conversion |
| Week 3 | 17/08/2020 – 22/08/2020 | CRO, Block diagram, construction and principle of working |
| Week 4 | 24/08/2020 – 29/08/2020 | Use of CRO for frequency, time period |
| Week 5 | 31/08/2020- 05/09/2020 | Special features of dual trace phase measurements |
| Week 6 | 07/09/2020- 12/09/2020 | Energy band diagrams in semiconductors, direct and indirect semiconductors |
| Week 7 | 14/09/2020- 19/09/2020 | Formula to calculate position of Fermi level in p and n semiconductors, Barrier formation |
| Week 8 | 21/09/2020- 26/09/2020 | Energy band diagram of p-n junction, formula for depletion width, qualitative ideas of current flow mechanism in forward and reverse biased diode |
| Week 9 | 28/09/2020- 03/10/2020 | VI characteristics, static and dynamic resistance, depletion and diffusion capacitance, Zener diode, LED, photodiode and solar cell |
| Week 10 | 05/10/2020- 10/10/2020 | Diode circuit,clipping circuits |
| Week 11 | 12/10/2020- 16/10/2020 | Rectification: half wave, full wave and bridge rectifiers |
| Week 12 | 19/10/2020- 24/10/2020 | Filter circuits(C, LC and π-filters), rectification efficiency and ripple factor in LC filter, voltage regulation circuit using Zener diode voltage multiplier circuits |
| Week 13 | 27/10/2020- 30/10/2020 | BJT structure and working different currents in transistor, switching action, Characteristics of CB, CE and CC configuration, active, cut off and saturation region |
| Week 14 | 03/11/2020- 07/11/2020 | Load line analysis of transistors, Q-point, transistor biasing and stabilization of operating point, fixed bias |
| Week 15 | 09/11/2020- 12/11/2020 | Collector to base bias, bias circuit with emitter resistor, voltage divider biasing circuit |
| Week 16 | 16/11/2020- 21/11/2020 | Working and analysis of CE amplifier using h-parameters, current, voltage and power gain, input and output impedance |
| Week 17 | 23/11/2020- 28/11/2020 | Class A,B and C amplifiers. |