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

**Teaching Plan Session Odd Semester**

**(2017-18)**

**Class: B.Sc 1st /B.Sc 5th (Semester) Name of the Teacher:Rajwinder Singh**

**Subject: Physics Period :3rd/3rd**

**Paper : A/A Room No : 29/33**

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| **S. No** | **Date From** | **Date Upto** | | **Topics to be covered** |
| Week 1 | July 22 & July 24 2017 | July 29, 2017 | | Cartesian and spherical polar co-ordinate systems,  Band Theory of solids, periodic potential and Blochtheorem |
| Week 2 | July 31 2017 | Aug 5, 2017 | | Two- and three-dimensional coordinate systems  Band Theory of solids, periodic potential and Bloch theorem |
| Week 3 | Aug 7, 2017 | Aug 12, 2017 | | Area, volume, displacement, velocity, and acceleration in  these systems  Kronig-Penney model |
| Week 4 | Aug 14, 2017 | Aug 19, 2017 | | Solid angle.  Kronig-Penney model |
| Week 5 | Aug 21, 2017 | Aug 26, 2017 | | Centre of mass, linear momentum, angular momentum,  Band gaps, band  structures in conductors |
| Week 6 | Aug 28, 2017 | Sept 2, 2017 | | Torque, potential energy and kinetic energy of a system of particles.  Band gaps, band  structures in conductors |
| Week 7 | Sept 4, 2017 | Sept 9, 2017 | | Relationship of conservation laws of linear momentum, angular momentum and energy, and symmetries  of space and time.  Direct and indirect semiconductors and insulators. |
| Week 8 | Sept 11, 2017 | Sept 16, 2017 | | Relationship of conservation laws of linear momentum, angular momentum and energy, and symmetries of space and time contd.  Free electron theory of metals, effective mass |
| Week 9 | Sept 18, 2017 | Sept 23, 2017 | | Various forces in nature, relative strengths and spatial dependence,  Free electron theory of metals, effective mass |
| Week 10 | Sept 25, 2017 | Sept 29, 2017 | | Motion under force obeying inverse square law  Drift current, mobility and conductivity (carrier  concentration and mobility of carriers) |
| **Autumn Break (30 Sept 2017- 09 Oct 2017)**  **Mid Semester Exam (10 Oct 2017 – 17 Oct 2017)** | | | | |
| Week 11 | Oct 18, 2017 | | Oct 21, 2017 | Equivalent one body problem.  Drift current, mobility and conductivity (carrier  concentration and mobility of carriers) |
| Week 12 | Oct 23, 2017 | | Oct 28, 2017 | Motion under central forces, equation of motion under central force,  Variation of conductivity with temperature in semi-conductors |
| Week 13 | Oct 30, 2017 | | Nov 4, 2017 | Equation of orbit and turning  points,  Variation of conductivity with temperature in semi-conductors |
| Week 14 | Nov 6, 2017 | | Nov 11, 2017 | Kepler’s Laws  Fermi level positions in intrinsic and extrinsic semiconductors |
| Week 15 | Nov 13, 2017 | | Nov 18, 2017 | Elastic collision in Lab. and C.M. systems,  Fermi level positions in intrinsic and extrinsic semiconductors |
| Week 16 | Nov 20, 2017 | | Nov 25, 2017 | Relationships of velocities, angles, and kinetic energies in Lab & C.M. system  Wiedemann-Franz law, Hall effect in metals and semiconductors. |
| Week 17 | Nov 27, 2017 | | Dec 1, 2017 | Cross section of elastic scattering,  Rutherford scattering.  Wiedemann-Franz law, Hall effect in metals and semiconductors. |