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

**Teaching Plan Session Even Semester**

**(2017-18)**

**Class: B.Sc 2nd /B.Sc6th (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 | Jan 08, 2018 | Jan 13, 2018 | | Rigid Body motion; Rotational motion  Dielectric constant & polarizability, electric susceptibility, | |
| Week 2 | Jan 15, 2018 | Jan 20, 2018 | | Principal moments and  Axes  Dielectric constant & polarizability, electric susceptibility, frequency  dependence | |
| Week 3 | Jan 22, 2018 | Jan 27, 2018 | | Euler’s equations  Clausius Mosotti equation, | |
| Week 4 | Jan 29, 2018 | Feb 3, 2018 | | Precession and elementary gyroscope  Clausius Mosotti equation, | |
| Week 5 | Feb 5, 2018 | Feb 10, 2018 | | Galilean transformations and Invariance  Ferroelectrics and Piezoelectrics | |
| Week 6 | Feb 12, 2018 | Feb 17, 2018 | | Transformation equations for inertial frames inclined to  each other  Ferroelectrics and Piezoelectrics | |
| Week 7 | Feb 19, 2018 | Feb 24, 2018 | | Non-Inertial frames. Fictitious forces in a rotating frames of reference  Liquid crystals, various types and properties. Applications. | |
| Week 8 | Feb 26, 2018 | Mar 03 , 2018 | | Centrifugal and Coriolis forces due to rotation of earth  Liquid crystals, various types and properties. Applications. | |
| **2nd week March (Mid Semester Exam)** | | | | | |
| Week 9 | March 15, 2018 | | March 17, 2018 | | Foucault’s pendulum.  Superconductivity: Meisner effect, London’s equation and penetration depth, critical magnetic field and  temperature |
| Week 10 | March 19 , 2018 | | March 24, 2018 | | Concept of stationery universal frame of reference and ether  Superconductivity: Meisner effect, London’s equation and penetration depth, critical magnetic field and  temperature |
| Week 11 | March 26, 2018 | | March 31, 2018 | | Michelson-Morley experiment and its results.  DC and AC Josephson effect, BCS theory(formation of cooper pairs), ground state and energy gap. |
| Week 12 | April 02, 2018 | | April 07, 2018 | | Postulates of special theory of relativity, Lorentz transform  ations,  DC and AC Josephson effect, BCS theory (formation of cooper pairs), ground state and energy gap. |
| Week 13 | April 09, 2018 | | April 14 , 2018 | | Kinematical consequences of  Lorentz transformations – length contraction and time dilation,  Difference from bulk material properties, Nanoparticles, introd  uction to fabrication and characterization techniques |
| Week 14 | April 16, 2018 | | April 21, 2018 | | Twin paradox, Transformation of  velocities, Simultaneity of relativity, Velocity of light in moving fluid,  Difference from bulk material properties, Nanoparticles, introduction  to fabrication and characterization techniques |
| Week 15 | April 23, 2018 | | April 28, 2018 | | Relativistic Doppler effect.  Variation of mass with velocity, mass-energy equivalence, rest  mass in an inelastic collision,  Carbon Nanostructures - nanotubes, grapheme. Applications  of nanotechnology in various fields. |
| Week 16 | April 30, 2018 | | May 05, 2018 | | Relativistic momentum & energy, their transformation, concepts of Minkowski space, four vector  formulation.  Carbon Nanostructures - nanotubes, grapheme. Applications  of nanotechnology in various fields. |