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

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

**Class: B.Sc 1st Sem and B.Sc 3rd Sem Name of the Teacher: Dr.Harjeet Kaur**

**Subject: Physics Period:**

**Paper: B,C Room No: 218 (1-2), 126(3-4), 129(5-6)**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 23-07-2019 to 27-07-2019 | SHM, Definitions, SHM as Projection of circular motion/ Rutherford Scattering, Constituents of nuclei, p-e theory, n-p theory |
| Week 2 | 29-07-2019 to 03-08-2019 | Characteristics of SHM, Graphical Rep., Differential equation of SHM /Nuclear size, shapes, mass, density, charge, wave mec. property |
| Week 3 | 05-08-2019 to 10-08-2019 | Energy of SHM, Diff equation of angular SHM, Compound Pendulum /Angular momentum, magnetic moment, electric quad. moment |
| Week 4 | 13-08-2019 to 17-08-2019 | Diff Eq of Torsional Pend, Transverse vib on String, Elec Osc., Energy Of Elec Osc./ Nuclear forces, mass defect, packing fraction |
| Week 5 | 19-08-2019 to 24-08-2019 | Compostion of Two perp SHM, In ration 1:1 and 1:2/ Binding Energy, Analogies with drop of liquid, Nuclear fission, Liquid drop Model |
| Week 6 | 26-08-2019 to 31-08-2019 | Damped Mec. Osc and its eq, Log Dec, Relax time, Q factor / LDM ctd., failures and its success, Shell Model, Success and its failures |
| Week 7 | 02-09-2019 to 07-09-2019 | Elec damped osc, Dead Beat galv./ Natural radioactivity, Properties of alpha beta gamma, Difference between gamma and x rays, Fundamental laws, Law of decay, Decay constant, half life |
| Week 8 | 09-09-2019 to 14-09-2019 | Forced osc and its eq, Behaviour of disp with freq / Average life, Activity, Series, Laws of Successive disintegeration |
| Week 9 | 16-09-2019 to 21-09-2019 | Vel and accel with frequency / Velocity, Range of alpha particles, Geiger Nuttal Law, Tunnel Effect, Gammows Theory, Beta Decay |
| Week 10 | 23-09-2019 to 28-09-2019  (Youth Festival 24-09-2019 to 27-09-2019) | Neutrino Postulate, Energy conservation, Internal Conservation |
| Week 11 | 30-09-2019 to 05-10-2019 | Elec osc and its behaviour , Power and Band Width / Types of Nuclear rxns, Kinematics of nuclear rxns |
| Mid Semester Exams | | |
| Week 12 | 16-10-2019 to 19-10-2019 | Q factor and band width and amplification factor / Nuclear cross-section, Compound nucleus, Artificial radioactivity, Radio isotopes |
| Week 13 | 21-10-2019 to 26-10-2019 | Coupled Osc, Normal co-ord, inphase out phase / Carbon dating, Energy classification of neutrons |
| Week 14 | 29-10-2019 to 02-11-2019 | Soln of Diff eq, Equation of normal modes / Rutherford scatt, Coulomb scatt. |
| Week 15 | 04-11-2019 to 09-11-2019 | Degrees of freedom, Significance of normal modes / Nuclear Reactors |
| Week 16 | 11-11-2019 to 16-11-2019 | Inductive Coupling of Elec osc / Nuclear Fusion |
| Week 17 | 18-11-2019 to 23-11-2019 | Revision, Numerical problems. |
| Week 18 | 25-11-2019 to 30-11-2019 | Revision, Numerical problems. |