SUMMARY OF LESSON PLANS OF COLLEGE FACULTY

Name of College: G.V.M. Girls College, Sonepat   **Academic Session:** 2017-18   **Semester:** Odd   **For the month of** July, 2017

S. No.	Name of Assistant/Associate Professor	Subject	Topics/Chapters to be covered	Academic activity to be organized	Topic of Assignments/Tests to be given to the students
	Dr. Sangeeta Singh	Paper I PHY-101 Mechanics Semester - I	Unit III Rotation of Rigid body, noment of inertia, torque, angular momentum, kinetic energy of rotation.	Class quiz on Basics of Classical Mechanics	

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	Dr. Sangeeta Singh	Paper I PHY-101 Mechanics Semester - I	Theorems of perpendicular and parallel axes with proof. Moment of inertia of solid sphere, hollow sphere, spherical shell, solid cylinder, hollow cylinder and solid bar of rectangular cross-section. Acceleration of a body rolling down on an inclined plane.		Test of rotation of rigid body, MOI Theorems, MOI of different shapes of the body

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	Dr. Sangeeta Singh	Paper I PHY-101 Mechanics Semester - I	Unit I Mechanics of single and system of particles, conservation of laws of linear momentum, angular momentum and mechanical energy, Centre of mass and equation of motion, constrained motion, degrees of freedom.	Concept of COM was discussed in the class using 3D objects of different shapes	Test of Conservation Laws and Constraints

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	Dr. Sangeeta Singh	Paper I PHY-101 Mechanics Semester - I	Unit II Generalised coordinates, displacement, velocity, acceleration, momentum, force and potential. Hamilton's variational principle , Lagrange's equation of motion from Hamilton's Principle.	Classroom discussion on Newtonian and Lagrangian Mechanics was done and advantages of Lagrangian mechanics were emphasized	Generalized Co-ordinates and Derivation of Lagrangian Equation

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	Dr. Sangeeta Singh	Paper I PHY-101 Mechanics Semester - I	Linear Harmonic oscillator, simple pendulum, Atwood's machine.	Revision of Syllabus and Classroom quiz on the same	Test of Applications of Lagrange's Equations

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	Dr. Sangeeta Singh	Paper I- PHY 502 : QUANTUM MECHANICS Semester - V	Unit-I Failure of (Classical) E.M. Theory. quantum theory of radiatio (old quantum theory), Photon	Classroom discussion was held on transition from classical to quantum mechanics	

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	Dr. Sangeeta Singh	Paper I- PHY 502 : QUANTUM MECHANICS Semester - V	Photoelectric effect and Einsteins photoelectric equation, compton effect (theory and result). Inadequancy of old quantum theory, de-Broglie hypothesis. Davisson and Germer experiment. G.P. Thomson experiment. Phase velocity group velocity, Heisenberg's uncertainty principle. Time-energy and angular momentum, position uncertainty Uncertainty principle from de-Broglie wave, (wave-partice duality).	Classroom quiz on Photoelectric effect and Einsteins photoelectric equation, compton effect Inadequancy of old quantum theory, de-Broglie hypothesis. Application of H.U.P.	Test on quantum theory of radiatio (old quantum theory), Photon, Davisson and Germer experiment. Heisenberg's uncertainty principle. Time-energy and angular momentum, position uncertainty

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	Dr. Sangeeta Singh	Paper I- PHY 502 : QUANTUM MECHANICS Semester - V	Gamma Ray Maciroscope, Electron diffraction from a slit. Unit-II Derivation of time dependent Schrodinger wave equation, eigen values, eigen functions, wave functions and its significance. Normalization of wave function, concept of observable and operator. Solution of Schrodinger equation for harmomic oscillator ground states and excited states.	Seminar on Schrodinger wave equation and its applications	Test on Derivation of time dependent Schrodinger wave equation, eigen values, eigen functions, wave functions and its significance. Normalization of wave function

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	Dr. Sangeeta Singh	Paper I- PHY 502 : QUANTUM MECHANICS Semester - V	Application of Schrodinger equation in the solution of the following one-dimensional problems : Free particle in one dimensional box (solution of schrodinger wave equation, eigen function, eigen values, quantization of energy and momentum, nodes and antinodes, zero point energy). i) One-dimensional potential barrie E>V0 (Reflection and Transmission coefficient.	Classroom discussion was held on quantum mechanical tunnelling and its applications in various fields	Test on applications of Schrodinger equation in the solution of various problems

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	Dr. Sangeeta Singh	Paper I- PHY 502 : QUANTUM MECHANICS Semester - V	ii) One-dimensional potential barrier, E>V 0 (Reflection Coefficient, penetration of leakage coefficient, penetration depth).	Revision of Syllabus and Classroom quiz on the same	