Summary of Lesson Plan of College Faculty

Name of College: Govt. College for Women, Bastara, Karnal **Academic Session 2020-21** **Semester: Odd**
Name of Asstt./Ass. Prof : Dr. Hitender Kumar
Class: B.Sc. Physics (Pass Course 3rd Semester)
Name of Subject: Wave and optics I (PH 302)

28th Nov 2020 to 20th Feb 2021	
Month (November)	
Week 1	**Unit-1: Interference I** Interference by Division of Wave front: Young's double slit experiment, Coherence, Conditions of interference
Month (December)	
Week 2	Fresnel's biprism and its applications to determine the wavelength of sodium light and thickness of a mica sheet, Lloyd's mirror
Week 3	Difference between Bi-prism and Llyod mirror fringes
Week 4	**Unit 2: Interference II** Interference by Division of Amplitude: Plane parallel thin film, production of colors in thin films
Week 5	classification of fringes in films, Interference due to transmitted light and reflected light, wedge shaped film, Newton's rings,
Week 6	Interferometer: Michelson's interferometer and its applications to (i) Standardization of a meter (ii) determination of wavelength. **Assignment**
Month (January)	
Week 7	**Unit- 3: Diffraction I** Fresnel's diffraction: Fresnel's assumptions and half period zones
Week 8	rectilinear propagation of light, zone plate, diffraction at a straight edge
Week 9	rectangular slit and circular aperture, diffraction due to a narrow slit and wire.
Week 10	**Unit -4: Diffraction II** Fraunhoffer diffraction: single-slit diffraction,
Week 11	double-slit diffraction, N-slit diffraction,
	Month (February)
Week 12	plane transmission granting spectrum, dispersive power of grating,.
Week 13	limit of resolution, Rayleigh's criterion, resolving power of telescope and a grating
Week 14	Differences between prism and grating spectra **Revision, Assignment and Test**

Text and Reference Books:

1.Optics by Ajay Ghatak, Tata McGraw Hill 1977.
2 Subrahmanyam N, Lal B, Avadhanulu M N, A Text Book of Optics, S Chand & Co, New Delhi