CLASS: BTECH   SEMESTER : II
BRANCH: CSE/AI&ML/ECE/EEE   SESSION : SP/2023

SUBJECT: PH113 PHYSICS

TIME: 02 Hours   FULL MARKS: 25

INSTRUCTIONS:
1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

----

			CO	BL
Q.1(a)	Distinguish between interference and diffraction.	[2]	1	IV
Q.1(b)	Show that the diameters of Newton's dark rings are proportional to the square roots of natural numbers (BTII)(CO1)	[3]	1	II
Q.2(a)	Show that the separation between two consecutive dark fringes in wedge shaped film is independent of thickness t	[2]	1	II
Q.2(b)	Explain the phenomenon of Fraunhofer diffraction due to double slit. Obtain the condition for maxima and minima.	[3]	1	V
Q.3(a)	Show that electrostatic field is conservative in nature.	[2]	2	II
Q.3(b)	State and define Gauss law in integral and differential form.	[3]	2	I
Q.4(a)	Find the electric field at a point P outside a uniformly charged sphere.	[2]	2	I
Q.4(b)	Show how polarization relates the electric field E and electric displacement D.	[3]	2	II
Q.5(a)	Distinguish between inertial and non-inertial frame of reference with suitable example.	[2]	3	IV
Q.5(b)	Develop Lorentz transformation equations of space and time.	[3]	3	VI

::::::25/05/2023::::::M