SHRI RAMSWAROOP MEMORIAL UNIVERSITY

End Semester Examination (2021-22)-Odd Semester

DIPLOMA (CS/EC/ME) – I Year (I Sem)	
Course Name: Physics	**Code: DPH1001**
Time: 02 Hours	**Max Marks: 60**

University Roll No.															
(To be filled by the Student)															

Note: Please read instructions carefully:

a) The question paper has 03 sections and it is compulsory to attempt all sections.

b) All questions of Section A are compulsory; questions in Section B and C contain choice.

Section A: Very Short Answer type Questions **Attempt all the questions.**		**BL**	**CLO**	**Marks (10)**
1.	Define Science and Physics.	BL1	CLO1	02
2.	What are Newton's first law and second law?	BL1	CLO2	02
3.	Define surface tension and viscosity.	BL1	CLO2	02
4.	What is Boyle's law and Charles's?	BL1	CLO3	02
5.	Distinguish between reflection and refraction.	BL4	CLO4	02
Section B: Short Answer Type Questions **Attempt any 03 out of 06 questions.**		**BL**	**CLO**	**Marks (30)**
1.	Explain the use and limitation of dimensional analysis.	BL2	CLO1	10
2.	What are angular velocity and angular acceleration? Give the relation between angular variable and rotational variables.	BL1	CLO2	10
3.	Explain Newton's law of viscosity.	BL2	CLO2	10
4.	Distinguish between isothermal and adiabatic process.	BL4	CLO3	10
5.	Explain the construction and working principle of He-Ne laser.	BL2	CLO4	10
6.	Explain poisson ratio. What is linear and lateral Strain?	BL2	CLO4	10
Section C: Long Answer Type Questions/Case Study **Attempt any 01 out of 04 questions.**		**BL**	**CLO**	**Marks (20)**
1.	In successive measurement of time period of oscillation of a simple pendulum. The readings are 1.29s, 1.33s, 1.34s, 1.35s, 1.32s, 1.36s, 1.30s and 1.33s. Calculate the absolute error, relative error and percentage error.	BL3	CLO1	20
2.	What is surface tension? A soap film is formed on a rectangular frame of wire of size 3cm x 3cm. If the size of the film is changed to 3cm x 4cm, then calculate the work done in this process. The surface tension of soap film is 3×10^{-2} N/m.	BL3	CLO2	20

3.	What is Coefficient of thermal conductivity? The length of a rod of aluminium is 1.0m and its area of cross section is 5.0cm^2. Its one end is kept at 250^{0}C and other end at 50^{0}C. Calculate the heat flow in the rod in 5 minutes. K for Al = 2.0 x 10^{-1} kilo-joule/(meter-second-^{0}C).	BL3	CLO2	20
4.	Illustrate Plank's Quantum theory. Calculate frequency and energy of a photon having wavelength 6000 angstrom.	BL3	CLO4	20
