

2202E011

DIPLOMA OF VOCATION
Industrial Electronics
Subject: Applied Physics
Subject Code: PHY-301
Semester: First
February 2022
Theory (External): 35 Marks
Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10x1=10 Marks)

- A. Can a quantity have dimension but still have no units?
- B. Give the dimensional equation for Density and Pressure.
- C. What is Capillary action?
- D. What are Forced Vibrations?
- E. Explain – is light a wave or a particle?
- F. What happens to the viscosity of a liquid with increase in temperature?
- G. Why are the sweat pores more numerous on the palms?
- H. Why does dish soap break surface tension?
- I. Briefly explain which process of transfer of heat is the fastest?
- J. What are the two conditions necessary for the conduction of heat?

SECTION –B (ESSAY TYPE QUESTIONS)
(5x5=25 Marks)

- 1. Explain S.I base units, supplementary units and derived units.
- 2. What is Peltier Effect and explain how this technology works?
- 3. State Kirchoff's law of radiation and prove it theoretically.
- 4. Describe the theory, construction and working of an Epidiascope.
- 5. What is the relationship between reflection and refraction? Why does refraction occur?
- 6. How does mass affect vibration? Why damping happens during vibration?
- 7. What is the principle of resonance? What causes resonance to occur?
- 8. Explain the phenomenon of surface tension on the basis of molecular theory.

===END OF PAPER===