Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Voc. (Building Construction and Technology) (Sem.–1)

APPLIED PHYSICS

Subject Code : BVBCT-101-20

M.Code : 79021

Date of Examination : 14-01-23

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a) Define the term viscosity.

b) Write any two uses of dimensional analysis.

c) What do you understand by decimal multiples of the SI system of units? Explain using a suitable example.

d) Define Surface tension. State its units and give its significance.

e) Define resonance.

f) What is a pyrometer? How it is different from a conventional thermometer?

g) Define the first and second moment of inertia.

h) Write laws of radiation.

i) Show that the expression v-at, where v represents speed, a acceleration, and t an instant of time, is dimensionally correct.

j) If an equation is dimensionally correct, does that mean that the equation must be true? Justify.

SECTION-B

2. Define molecular forces. Also, explain the molecular theory of surface tension.

3. Discuss the nature of light. Explain with proper diagrams the refraction of a wave from a plane surface.

4. Differentiate between the following terms:

   a) Static and kinetic friction

   b) Sliding and rolling friction.

5. Is temperature absolute? Explain using various examples. Also, discuss how temperature is measured using any two instruments.

6. Define resonance. What are the effects of vibrations on buildings and bridges? Explain.

SECTION-C

7. a) Give the characteristic of frictional force. *Friction is a necessary evil*. Comment on the validity of this statement.

   b) A body weighing 300 N is resting on a rough horizontal surface. A pull of 100 N is applied at an angle of l degrees with the horizontal surface just cause the body to move over the table. Calculate the normal reaction and coefficient of friction.

8. Discuss the principle and working of the overhead projector and Epidiascope.

9. Write the principle and discuss the construction of the viscometer in detail.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.