A–17

Roll No.....

Total No. of Questions : 9]

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HSE1T2KN17

15517

PHYSICS

(Term–2nd)

Time : 2½ Hours]

[Maximum Marks : 25

(Long Answer Type Questions)

1. What do you mean by the term, wavelength, frequency and Amplitude of wave motion? Prove that $c = \gamma\lambda$ where c is the velocity of the wave, λ is the wavelength and v is the frequency ?

Or

Define simple Harmonic motion. Derive an expression for :

(a) Displacement

(b) Velocity and

(c) Acceleration of a particle executing S.H.M.

2. What do you mean by Elasticity ? Define.

(a) Young's Modulus of Elasticity

(b) Bulk Modulus of Elasticity and

(c) Modulus of Rigidity.

Or

State and prove Bernoulli's theorem.

(Short Answer Type Questions)

3. Define acceleration due to gravity (g). Discuss how the value of (g) varies with altitude.

4. What is the kinetic Interpretation of temperature ?

(Very Short Answer Type Questions)

5. What are reversible and irreversible processes?

6. State and explain 1st law of thermodynamics.

7. Human heart beats 80 times in 60 seconds what is the frequency and time period of the heart beat?

8. What are beats ?

(Multiple Choice Questions)

9. Choose the correct/most appropriate answer and write it in your answer book.

(i) The force of attraction between the Earth and body of mass 1 kg is :

(a) 9.8 N

(b) 98 N

(c) 980 N

(d) 0.98 N.

(ii) Stress has the dimensions same as that of :

(a) Energy

(b) Pressure

(c) Torque

(d) Power

(iii) The Pressure P of an Ideal gas and its kinetic Energy per unit volume are related as :

(a) P = 1/2 K.E.

(b) P = K.E.

(c) P = 3/5 K.E.

(d) P = 2/3 K.E.