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Roll No. _____ to be filled in by the candidate.

Inter. (Part-I)-A-2022

(For all Sessions)

Paper Code	6	4	7	2

Physics (Objective Type)

Time: 20 Minutes **Group-II** **Marks:17**

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank.

1. 1. $\left[M^{o}LT^{-2}\right]$ are the dimensions of:

   (A) Force (B) Velocity (C) Pressure (D) Acceleration

2. The number 0.00320 can be expressed in scientific notation as:

   (A) 3.20×10^{-2} (B) 3.20×10^{-4} (C) 3.20×10^{-3} (D) 3.20×10^{3}

3. $\left(\hat{i} \times \hat{j}\right).\hat{k}$ is equal to:

   (A) 1 (B) 0 (C) $\hat{i}$ (D) $\hat{K}$

4. Cross product of two antiparallel vectors $\vec{A}$ and $\vec{B}$ is:

   (A) $AB\cos\theta$ (B) AB (C) 0 (D) -AB

5. The quantity impulse has the same units as that of:

   (A) Force (B) Momentum (C) Power (D) Work done

6. The speed of the gases ejected by a typical rocket is:

   (A) 3900 m/s (B) 4100 m/s (C) 4000 m/s (D) 4200 m/s

7. Which force is non – conservative force?

   (A) Gravitational (B) Frictional (C) Electric (D) Magnetic

8. Venturi meter is a device used to measure:

   (A) Pressure of fluid (B) speed of fluid (C) Density of fluid (D) Viscosity of fluid

9. 1 radian is equal to:

   (A) 45° (B) 60° (C) 57.3° (D) 73.3°

10. If moment of inertia of a body becomes double, then angular momentum becomes:

    (A) One half (B) Doubled (C) Three times (D) Four times

11. The product of frequency (f) and time period (T) is equal to:

    (A) 2.5 (B) 0.5 (C) 2 (D) 1

12. If organ pipe is open at both ends, the frequency of fundamental harmonic is:

    (A) $\frac{v}{2l}$ (B) $\frac{2v}{l}$ (C) $\frac{v}{4l}$ (D) $\frac{4v}{l}$

13. The speed of sound in air is 332 m/s at Oc°. Its speed at 2C° is:

    (A) 331.22 m/s (B) 332.22 m/s (C) 333.22 m/s (D) 332 m/s

14. Colourful pattern produced by a thin soap film is due to _____ of light:

    (A) dispersion (B) polarization (C) diffraction (D) interference

15. Magnification of simple microscope can be expressed as:

    (A) 1 + f/d (B) 1 – f/d (C) 1 + d/f (D) 1 – f/d

16. For an adiabatic process, first law of thermodynamics takes the form:

    (A) $Q = \Delta U + W$ (B) Q = W (C) $Q = \Delta U$ (D) $W = -\Delta U$

17. If the temperature of sources is two times the temperature of sink, the efficiency of heat engine will be:

    (A) 0.2 (B) 0.3 (C) 0.5 (D) 1