

Inter (Part-I) 2019

Physics	Group-II	PAPER: I
Time: 20 Minutes	(OBJECTIVE TYPE)	Marks: 17

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

- 1-1- Rocket ejects the burnt gases at a speed of over (consuming fuel at rate of 10000 kg / s):
(a) 4000 m/s ✓ (b) 400 m/s
(c) 4000 cm/s (d) 400 cm/s
- 2- Equation of continuity gives the conservation of the:
(a) Mass (b) Energy ✓
(c) Speed (d) Volume
- 3- Fringe spacing increases, if we use:
(a) Red light ✓ (b) Blue light
(c) Yellow light (d) Green light
- 4- Efficiency of diesel engine is:
(a) 25% to 30% (b) 30% to 35%
(c) 35% to 40% ✓ (d) 40% to 50%
- 5- The quantity 1 (km)^2 is equal to:
(a) $1 \times 10^6 \text{ m}^2$ ✓ (b) $1 \times 10^5 \text{ m}^2$
(c) $1 \times 10^7 \text{ m}^2$ (d) $1 \times 10^4 \text{ m}^2$
- 6- In order to double period of a simple pendulum, the length of the pendulum should be increased by:
(a) Four times ✓ (b) Three times
(c) Two times (d) Eight times

- 7- If R_x and R_y both are negative, then resultant lies in the quadrant:
- (a) 1st (b) 2nd
(c) 3rd ✓ (d) 4th
- 8- Distance between adjacent node and antinode is:
- (a) λ (b) $\frac{\lambda}{2}$ ✓
(c) $\frac{\lambda}{4}$ (d) $\frac{\lambda}{3}$
- 9- Difference between C_p and C_v is equal to:
- (a) Avogadro's number
(b) Planck's constant
(c) Universal gas constant ✓
(d) Boltzman's constant
- 10- Ratio of disk velocity to hoop velocity (in case of rotational kinetic energy) is:
- (a) $\sqrt{\frac{4}{3}}$ ✓ (b) $\frac{1}{2}$
(c) 2 (d) $\sqrt{\frac{3}{4}}$
- 11- Which pair has same unit:
- (a) Work and power
(b) Momentum and impulse ✓
(c) Force and torque
(d) Torque and power
- 12- The expression for centripetal force is given by:
- (a) $\frac{mv^2}{r^2}$ (b) $\frac{m^2v^2}{r}$
(c) $\frac{m^2v^2}{r^2}$ (d) $mr \omega^2$ ✓

- 13- The ratio between orbital velocity and escape velocity is:
- (a) 1 (b) $\frac{1}{2}$
- (c) $\sqrt{\frac{1}{2}}$ (d) $\sqrt{2} \sqrt{v}$
- 14- 1 torr is equal to:
- (a) 133.3 Nm^{-2} (b) 133.3 Nm^2
- (c) $133.3 \text{ Nm} \sqrt{v}$ (d) $133.3 \text{ N}^2\text{m}$
- 15- Cross product of $\hat{j} \times \hat{k}$ is:
- (a) Zero (b) 1
- (c) \hat{i} (d) $-\hat{i} \sqrt{v}$
- 16- Types of wave used in sonar are:
- (a) Sound waves \sqrt{v} (b) Light waves
- (c) Heat waves (d) Water waves
- 17- Product of number of rulings "N" and the order of diffraction "m" is equal to:
- (a) Resolving power \sqrt{v}
- (b) Magnification
- (c) Near point
- (d) Magnifying power