



Name

1- ہر سوال کے سامنے چار دائرے دئے گئے ہیں، صرف صحیح جواب والا دائرہ بھریں۔

2- دائروں کو شیڈ (بھرنے) کے لئے نیلے یا کالے رنگ کا مارکر استعمال کریں۔

Roll No

3- جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہوگا۔

Time Allowed: 20 Minutes

SECTION – A

Marks : 18

- 1 For 1°C rise in temperature, speed of sound in air increases by.....
 1 m/s 2 m/s 0.61 m/s 0.61 cm/s.
- 2 Which one of the given property is common between light and sound?
 Nature of sound and light Polarization Medium Diffraction
- 3 The working principle of Michelson interferometer is based on division of.....
 Amplitude Wave front Wave length None
- 4 Maximum work can be obtained in the process called.....
 Cyclic Isothermal Adiabatic Isochoric
- 5 If temperature of the heat source is increased, the efficiency of a Carnot engine.....
 Increases Decreases Remains constant First increases then decreases
- 6 If the kinetic energy of 1 kg is 1 joule, its velocity is.....
 2 m/sec $\frac{1}{\sqrt{2}}$ m/sec 4 m/sec $\sqrt{2}$ 3.2 m/sec
- 7 The pressure will be low where the speed of the fluid is.....
 Zero High Low Constant
- 8 The equation of continuity for fluid flow can be derived from the conservation of.....
 Volume Mass Energy Pressure
- 9 The dot product of force and velocity is equal to
 Power Momentum Work Impulse
- 10 Which one is the dimension of strain?
 $[\text{M}^0\text{L}^0\text{T}^0]$ $[\text{MLT}^0]$ $[\text{M}^2\text{L}^0\text{T}^0]$ $[\text{M}^0\text{LT}^2]$
- 11 The percentage error in one side of cube is 2% than the percentage error in the volume of the cube is.....
 2% 4% 6% 3%
- 12 Which one of the given pairs of quantities contain one scalar and one vector quantities?
 Speed : acceleration Power : potential energy Velocity : force Displacement : momentum
- 13 Magnitude of the resultant of two vectors of equal magnitude is zero, then the angle between them is.....
 0° 90° 120° 180°
- 14 If a force of 8 Newton acts on a 5 kg object for 3 seconds the impulse acting on the object would be.....
 120 N s 40 N s 24 N s 3.3 N s
- 15 The rate of change in linear momentum for freely falling body is equal to
 Weight Power Inertia Impulse
- 16 The momentum of inertia of a sphere is.....
 MR^2 $\frac{1}{2}\text{MR}^2$ $\frac{2}{5}\text{MR}^2$ $\frac{1}{2}\text{MR}$
- 17 A spring of spring constant k is cut into three equal parts, the spring constant of each part will be.....
 3k 9k k $\frac{k}{3}$
- 18 The ratio of velocity of sound air at 1 atmosphere and 6 atmosphere is
 1 : 6 1 : 1 6 : 1 1 : 3

PHYSICS (New)

Inter Part – I

(Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 40 minutes.

Section – B

Marks: 40

Q-II Attempt any TEN parts. Each part carries FOUR marks.

1. Clearly Differentiate precision and accuracy for measurement?
2. Give the draw backs to use the period of simple pendulum as a time standard?
3. Name any four devices which works on the principle of moments?
4. Define elastic and in-elastic collision with examples?
5. Define the commercial unit of energy and its equivalence to Joule?
6. A soap bubble looks black when it burst, why?
7. What is moment of inertia? on what factors It depends.
8. Explain the critical velocity of a satellite around earth and find its value?
9. Why do many trucks used wind deflectors on the top of their cabs? How do such devices reduce fuel consumption.
10. Give one example of free and forced oscillation?
11. Explain why SHM the acceleration is zero when the velocity is greatest?
12. When two system are in thermal equilibrium, do they have same amount of K.E?
13. How would you justify that light waves are transverse?

Section – C

Marks: 27

Note: Attempt any THREE questions. All questions carry equal marks.

- Q-III (a) What is Escape velocity? Find expression for Escape velocity.
 (b) An object is traveling with a constant acceleration of 10 ms^{-2} . How much distance will it travel in 3rd second of its journey?
- Q-IV (a) State and Explain first law of thermodynamics? Also discuss its application.
 (b) Light is incident normally on grating which has 5000 lines per mm. At what angles does second order spectrum of the sodium yellow light of wavelength 589 nm occur?
- Q-V (a) Find Newton's formula for the velocity of sound in air?
 (b) Eight equal drops of oil are falling through air with steady velocity of 0.2 m.s^{-1} . If the drops recombine to form a single drop. What should be the new terminal velocity?
- Q-VI Write brief notes on any two of the following.
- (a) Blood Flow Meter
 - (b) Geo-stationary satellites.
 - (c) Equilibrium