

Roll No

Name

## Physics Paper - XI (01) (17)

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

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

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



Time Allowed: 20 Minutes

## SECTION - A

Marks : 18

In an isothermal change, internal energy.....	<input type="radio"/> Increases	<input type="radio"/> Decreases	<input checked="" type="radio"/> Remains constant	<input type="radio"/> Become zero
If the period of oscillation of mass (M) suspended from a spring is 2 seconds, then the period of mass 4 M will be....	<input type="radio"/> 4 seconds	<input type="radio"/> 3 seconds	<input type="radio"/> 2 seconds	<input type="radio"/> 1 second
One horse power is given by.....	<input type="radio"/> 746 KW	<input type="radio"/> 746 MW	<input checked="" type="radio"/> 746 watts	<input type="radio"/> 746 J
What is the ratio $\frac{1\mu m}{1Gm}$ ?	<input checked="" type="radio"/> $10^{-15}$	<input type="radio"/> $10^{-12}$	<input type="radio"/> $10^{-9}$	<input type="radio"/> $10^{-3}$
The critical velocity of an artificial satellite is.....	<input type="radio"/> 7.9 m/s	<input checked="" type="radio"/> 7.9 km/s	<input type="radio"/> 80 m/s	<input type="radio"/> None of these
Soap bubbles in sun light appears coloured due to .....	<input checked="" type="radio"/> Interference	<input type="radio"/> Diffraction	<input type="radio"/> Polarization	<input type="radio"/> Reflection
Which physical quantity produce angular acceleration?	<input type="radio"/> Force	<input type="radio"/> Power	<input type="radio"/> Torque	<input checked="" type="radio"/> None of these
A projectile travels the same range for the pair of angles .....	<input type="radio"/> $(10^\circ, 85^\circ)$	<input type="radio"/> $(65^\circ, 35^\circ)$	<input checked="" type="radio"/> $(40^\circ, 50^\circ)$	<input type="radio"/> None of these
Components of vector which makes an angle of .....with each other are called rectangular components.	<input type="radio"/> $45^\circ$	<input type="radio"/> $60^\circ$	<input type="radio"/> $90^\circ$	<input type="radio"/> $180^\circ$
For adiabatic process, which is true?	<input type="radio"/> $\Delta T = 0$	<input checked="" type="radio"/> $\Delta Q = 0$	<input type="radio"/> $\Delta V = 0$	<input type="radio"/> None of these
Work done will be negative when angle is.....	<input type="radio"/> $90^\circ$	<input type="radio"/> $45^\circ$	<input checked="" type="radio"/> $120^\circ$	<input type="radio"/> $0^\circ$
The time period of simple pendulum does not depend upon.....	<input type="radio"/> Gravity	<input type="radio"/> Length	<input checked="" type="radio"/> Mass	<input type="radio"/> Frequency
When sound waves travel from air to water, Which of these remains constant?	<input type="radio"/> Wavelength	<input type="radio"/> Amplitude	<input type="radio"/> Velocity	<input checked="" type="radio"/> Frequency
A projectile is thrown so that it travels a maximum range of 1000 m. How high will it rise?	<input type="radio"/> 400 m	<input type="radio"/> 800 m	<input type="radio"/> 500 m	<input checked="" type="radio"/> 250 m
For which angel the equation $ \vec{A} \cdot \vec{B}  =  \vec{A} \times \vec{B} $ is correct?	<input checked="" type="radio"/> $90^\circ$	<input type="radio"/> $60^\circ$	<input checked="" type="radio"/> $45^\circ$	<input type="radio"/> $30^\circ$
Which one is the least sub multiple?	<input type="radio"/> Pico	<input type="radio"/> Nano	<input type="radio"/> Femto	<input checked="" type="radio"/> Atto
With the increase of temperature viscosity of fluid.....	<input checked="" type="radio"/> Decreases	<input type="radio"/> Increases	<input type="radio"/> Remains same	<input type="radio"/> Doubles
At nodes velocity of vibrating particles is.....	<input type="radio"/> Maximum	<input type="radio"/> Minimum	<input checked="" type="radio"/> Zero	<input type="radio"/> Negative

**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. Find the dimensions of Kinetic Energy.
2. State the two conditions for equilibrium.
3. Aeroplane while horizontally drops a bomb when reaches exactly above the target., But missed it. Explain.
4. A man drops a cup from a certain height, which breaks into pieces, what energy changes are involved.
5. A body will be weightless when the elevator falls down Just like a free falling body. Explain.
6. How do the pulsations in pulse show the heart beat?
7. Give two applications in which resonance plays an important role.
8. Is it possible for an object which is vibrating transversely to produce sound wave?
9. A soap bubble looks black when it bursts. Why?
10. Write down four conditions to observe interference of light?
11. Entropy has often called as "Time arrow". Explain briefly.
12. Find the efficiency of a Carnot's heat engine working between the steam and ice points.
13. Why a car has oblong shape design?

**Section – C**

Marks: 27

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

- |           |   |   |
|-----------|---|---|
| Q-III (a) | Define centripetal acceleration. Also derive expression for centripetal acceleration.                   | 5 |
| (b)       | What is the moment of inertia of a 100 kg sphere whose radius is 50 cm?                                 | 4 |
| Q-IV (a)  | Prove that the projection of a body motion in a circle describes S.H.M.                                 | 5 |
| (b)       | What should be the length of simple pendulum whose time period is one second?                           | 4 |
| Q-V (a)   | Explain stationary waves.   | 5 |
| (b)       | Find the speed of sound in Helium gas at 27°C. ( $\gamma = 1.66$ and $R = 8334 \text{ J/K mol}$ ).      | 4 |
| Q-VI (a)  | Define linear momentum. Show that the rate of change of momentum is equal to the applied force.         | 5 |
| (b)       | A 1500 kg car has its velocity reduced from 20 m/s to 15 m/s in 30 s. How large is the retarding force. | 4 |