



BOARD OF INTERMEDIATE & SECONDARY EDUCATION, HYDERABAD

Excellence – Equity – Empathy

Time: 2 Hrs

PHYSICS MODEL PAPER (XI)

Total Marks: 85

SECTION-A

Marks /43

MULTIPLE CHOICE QUESTIONS (MCQ's)

Q.No. 1 Choose the correct answer for each from the given options:-

1.  $ML^{-3}T^0$  is the dimensions for  
(a) Surface tension (b) Density (c) Viscosity (d) Weight
2. A vector in space contains, components.  
(a) 1 (b) 2 (c) 3 (d) All of these
3. If  $\vec{A} \times \vec{B}$  lies in positive y-axis then Vector  $\vec{A} \times \vec{B}$  are in  
(a) x – y plane (b) x – z plane (c) y – z plane (d) All of these
4. The magnitude of  $\hat{i} \cdot (\hat{j} \times \hat{k})$  is  
(a)  $\hat{i}$  (b) 1 (c) -1 (d) none of these
5. If no unbalanced force applied on a body then  
(a) It remains at rest (b) move with constant speed  
(c) No acceleration produces in it (d) All of them
6. The force of  $10^8$  dynes is equal to  
(a) 10N (b) 100N (c) 1000N (d) 10000N
7. The ball slides down with  $a = 4.9m/s^2$  on the inclined plane the angle will be  
(a)  $45^\circ$  (b)  $60^\circ$  (c)  $30^\circ$  (d)  $90^\circ$
8. The velocity of 32 ft/s is equal to  
(a) 98m/s (b) 9.8m/s (c) 10m/s (d) 15m/s
9. Two long jumpers have the same velocity, but the one has \_\_\_\_\_ angle will jump more.  
(a)  $30^\circ$  (b)  $60^\circ$  (c)  $45^\circ$  (d)  $55^\circ$
10. The average density of earth is  
(a)  $2.5 \times 10^3 \text{ Kg/m}^3$  (b)  $3.5 \times 10^3 \text{ Kg/m}^3$   
(c)  $5.5 \times 10^3 \text{ Kg/m}^3$  (d)  $10.5 \times 10^3 \text{ Kg/m}^3$
11. The dimensions of angular acceleration are  
(a)  $M^0L^0T^{-1}$  (b)  $M^0L^{-1}T^0$  (c)  $M^0L^0T^{-2}$  (d)  $M^{-2}L^0T^{-2}$
12. 2 radian is equal to  
(a)  $57.3^\circ$  (b)  $114.6^\circ$  (c)  $120^\circ$  (d)  $135^\circ$
13.  $\frac{2}{3}\pi$  radian is equal to  
(a)  $57.3^\circ$  (b)  $30^\circ$  (c)  $120^\circ$  (d)  $135^\circ$
14. The work done by centripetal force is  
(a) maximum (b)  $\frac{mv^2}{r} \cdot d$  (c) positive (d) zero
15. Which component of velocity does not change during projectile motion  
(a) horizontal (b) Vertical (c) resultant (d) N.O.T
16. At which angle  $V_{ox} = V_{oy}$   
(a)  $30^\circ$  (b)  $45^\circ$  (c)  $\pi/4$  rad (d) both b & c
17.  $ML^2T^{-2}$  are the dimensions of  
(a) Angular momentum (b) force (c) torque (d) Power
18. if  $\epsilon\tau = 0$ , body will be in  
(a) Translation equilibrium (b) rotational equilibrium  
(c) Complete equilibrium (d) N.O.T

19. If the magnitude of masses and distance is same then  
 (a)  $F_g = 2G$  (b)  $F_g = \frac{1}{2}G$  (c)  $F_g = G$  (d)  $F_g = 0$
20. The dimensions of acceleration is  
 (a)  $M^0L^{-1}T^{-2}$  (b)  $M^0LT^{-2}$  (c)  $M^{-2}L^{-1}T$  (d)  $M^2LT^{-2}$
21. The value of 'g' on the surface of moon is  
 (a)  $9.8m/s^2$  (b)  $1.62m/s^2$  (c)  $1.8m/s^2$  (d)  $16.2m/s^2$
22. If the acceleration of a body is uniform then what is wrong in the following.  
 (a) Speed is uniform (b) direction is uniform  
 (c) velocity uniform (d) N.O.T
23. The nature of gravitational force is  
 (a) repulsive (b) reactive (c) impulsive (d) attractive
24. When speed of body reduces two times K.E becomes  
 (a) Twice (b) Half (c) 4 times (d)  $\frac{1}{4}$  th
25. Which can be used to distinguish between different musical instrument of the same frequency.  
 (a) quality (b) intensity (c) Speed (d) Pitch
26. Time period of a simple pendulum at a planet where  $g = 39.2 \text{ m/s}^2$  is  
 (a)  $\frac{1}{2} T$  (b)  $T$  (c)  $2T$  (d)  $4T$
27. The S.I Unit of electric current is \_\_\_\_\_  
 (a) Coulomb (b) Farad (c) ampere (d) volt
28. Which is only vector among the following \_\_\_\_\_  
 (a) Distance (b) Force (c) Speed (d) Work
29. Dot product of two vectors is zero at an angle \_\_\_\_\_.  
 (a)  $90^\circ$  (b)  $60^\circ$  (c)  $45^\circ$  (d)  $0^\circ$
30. At which angle of the following motion of an object upon a friction less incline surface is maximum.  
 (a)  $0^\circ$  (b)  $30^\circ$  (c)  $45^\circ$  (d)  $60^\circ$
31. Which of the following is time independent in projectile motion \_\_\_\_\_.  
 (a) Horizontal distance (b) Horizontal velocity  
 (c) Vertical velocity (d) Vertical distance
32. Radian is SI unit of \_\_\_\_\_.  
 (a) Displacement (b) angular acceleration  
 (c) angular displacement (d) angular velocity
33. Torque produces \_\_\_\_\_ is in object.  
 (a) Linear motion (b) rotation motion (c) rest (d) both A & B
34. If no linear or angular acceleration is produced in an object then it is in \_\_\_\_\_ equilibrium.  
 (a) Rotational (b) Translational (c) both a and b (d) N.O.T
35. Average mass of earth is  
 (a)  $5.98 \times 10^{22} \text{ Kg}$  (b)  $5.98 \times 10^{23} \text{ Kg}$  (c)  $5.98 \times 10^{24} \text{ Kg}$  (d)  $5.98 \times 10^{25} \text{ Kg}$
36. Value of "g" at a depth equal to radius of earth will be \_\_\_\_\_.  
 (a)  $9.8m/s^2$  (b)  $4.9 \text{ m/s}^2$  (c)  $2.45m/s^2$  (d) zero
37. Power is the \_\_\_\_\_ product of force and velocity. '  
 (a) Dot (b) Cross (c) Simple (d) N.O.T
38. In S.H.M acceleration is directly proportional to \_\_\_\_\_.  
 (a) Force applied (b) Displacement (c) Velocity (d) both A & B
39. The sound of intensity  $10w/m^2$  has intensity level of \_\_\_\_\_.  
 (a) 50db (b) 60db (c) 70db (d) 80 db
40. Frequency of second pendulum is \_\_\_\_\_.  
 (a) 1 Hz (b) 2 Hz (c) 0.5 Hz (d) Zero
41. The distance through which moveable mirror of Michelson's interferometer always moves \_\_\_\_\_.  
 (a)  $\lambda/2$  (b)  $\lambda/4$  (c)  $\lambda$  (d)  $2\lambda$
42. Young's double slit experiment is the experimental evidence of \_\_\_\_\_ of light  
 (a) Interference (b) Reflection (c) refraction (d) Dispersion
43. The unit of power of lens is \_\_\_\_\_.  
 (a) Meter (b) Dipoters (c) Debye (d) Rydberg

(THE END)



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**PHYSICS MODEL PAPER (XI)**

**Total Marks: 85**

**SECTION – B**

**Marks /24**

**SHORT QUESTION**

**Note:-Attempt any SIX of the following question. Each question carries equal marks.**

**Q2 Find the unit vector parallel to the vector**

$$\vec{A} = 7\hat{i} - 4\hat{j} + 4\hat{k}$$

**Q3 Find the acceleration in the masses hanging vertically by string passing over pulley if one mass is one third the other?**

**Q4 Find the speed of locust which jumps to 70 cm when launched itself at 45°?**

**Q5 Prove that (i)  $V = R\omega$  (ii)  $a = R\alpha$ ?**

**Q6 Can work be negative? Explain it with example?**

**Q7 If speed of sound at 0° C is 332 m/s, find it at 37° C?**

**Q8 Give a brief description about any two applications of Doppler's effect in our life?**

**Q9 If Screen of double slit experiment is 80 cm away find the fringe spacing for light of 589 nm. Slit are 1.5 mm away from each other?**

**Q10 If 50 gm bullet is fired from 5 Kg gun with speed 200 m/s find the speed of recoil of gun?**

**SECTION-C**

**Marks /18**

**Descriptive Part**

**Note: Attempt any TWO of the following questions. Each question carries equal marks.**

**Q11 Explain law of conservation of linear momentum and prove  $m_1u_1 + m_2u_2 = m_1v_1 + m_2v_2$**

**Q12 What is simple pendulum? Find the equation for its time period?**

**Q13 Write notes on any One of the following**

**(A) Centripetal acceleration**

**(B) Newton's law of gravitational**

**(C) Scalar product of two vectors**

**(THE END)**