GREEN PARK MATRIC HR.SEC.SCHOOL, SIRUVACHUR

INSIDE ONE MARK TEST (UNIT 1,2,3)

STD: XI **TIME: 30 MINUTES**

SUB: PHYSICS **MARKS: 30 MARKS**

I. CHOOSE THE BEST ANSWER. **1X30=30**

1. Which number of approaches in studying in physics? a) 2 b)3 c)4 d)5

2. The word physics is derived from ------ word . a) Latin b) Greek c) Arabian d)Italian

3. The name of physics was introduction by -------. a) Galileo b) Newton c) Aristotle d) None

4. Which of the following is the fundamental quantity? a)Area b)Mass c)Density d)volume

5. The ratio of the dimension of plank constant and that of moment of inertia is the dimension of-------.

a) Time b) Frequency c) Velocity d) Angular momentum

6. 1minute is = -------- rad. a) $1.745x10^{-2}$ b) $4.85x10^{-6}$ c) $1.91x10^{-4}$ d) $2.91x10^{-4}$

7. 1 CSL is the largest practical unit of---------. a) Time b) Mass c)Sound d)Temparature

8. The dimension of planks constant are same as------.

a) Energy b) Power c) Momentum d)Angular momentum

9. Length cannot be measured by --------? a) Fermi b) Micron c) Debye d) Light year

10. which one of the following is dimensional constant?

a) Refractive Index b)Poission ratio c)Gravitational constant d)Strian

11. Electric charge is an example for -------- quantity. a) Vector b)scalar c) both a&b d) None

12. A person performing a somersault is an example of --------- motion.

a) vibratory b)Circular c)Rotational d)Linear

13. The parallelogram law of vector addition is equivalent to------- method.

a) Polygon b) Coplanar c) Triangle d) Collinear

14. Vectors can be added-----? a)Algebraically b)Geometrically c)Graphically d) Both b&c

15.The Horizontal component of a vector is ----------.? a) R sinθ b) R cos θ c)R tanθ d) R cotθ

16. Which of the following changes when a particle moving with uniform velocity?

a) speed b) velocity c) acceleration d)position vector

17. The numerical ratio of average velocity to average speed ?

a) less than 1 b)greater than 1 c) less than = 1 d) greater than = 1

18. The path of the particle moving under the force fixed in magnitude and direction is ------

a) straight line b) circle c) parabola d) ellipse

19.The angle of projection for a projectile to cover maximum range is ------?

a) 30^0 b) 60^0 c) 0^0 d)45^0

20. The relation between linear and angular velocity is ------? a) $r = v\omega$ b) $\omega = r\, v$ c) $v = r\omega$ d) $r = \omega$

21. The condition for skidding is -------? a) $\tan\theta = \mu$ b) $\tan\theta < \mu$ c)$\tan\theta > \mu$ d)$\tan\theta = 0$

22. Which one of the following is not a force ? a) Impulse b) Tension c)Thrust d)Weight

23.Which of the following force tends to stop the moving object ?

a) Frictional b) Magnetic c) Elctric d) Gravitational

24.Newton 3rd law explains the concept of -------? a) Inertia b)Momentum c) Nature of force d) None

25. A large force is acting on a body for short time . The impulse imparted is equal to change in -------?

a) Accelaration b) Momentum c) Energy d) Velocity

26. When milk churned ,cream gets separated due to --------?

a) C_p force b) C_f force c)Frictional force d) Gravitational force

27. Increase a temperature ,the frictional force acting between two surfaces?

a) Increases b) Remains same c) Decreases d)Zero

28. The force required to stop a moving object depends on -----?

a) mass b)velocity c) a (or) b d) a& b

29. When the speed of a moving body is doubled?

a) Acceleration is doubled b)Momentum is doubled c) K.E is doubled d) P.E is doubled

30.The dimensional formulae of coefficient of friction---------?

a) $[MLT^{-2}]$ b) $[M^0L^0T^0]$ C) $[M^2LT^2]$ D)$[M^2LT]$

GREENPARK MATRIC HR.SEC.SCHOOL, SIRUVACHUR

FIRST MID TERM TEST

STD: XI **TIME: 2.30 HRS**

SUB: PHYSICS **MARKS: 70 MARKS**

I. CHOOSE THE BEST ANSWER.

1. Which of the following pairs of physical quantities have same dimension?

a) Force and power b) Torque and energy c)both a & b d)None

2. If π =3.14, then the value of π^2 is --------?

a) 9.8596 b) 9.860 c) 9.86 d) 9.9

3. The dimensional formula of planks constant -------?

a) $[ML^2T^{-1}]$ b) $[ML^2T^{-3}]$ c) $[MLT^{-1}]$ d) $[ML^3T^{-3}]$

4. Triple point temperature of water is--------?

a) 273.16K b) 1/273.16 K c) 273.17K d)293.16K

5. The dimension of $(\mu_0 E_o)^{-1/2}$ is----------?

a) Length b) Time c) Velocity d) Force

6. If a particle has negative velocity and negative acceleration -----?

a) Increases b) Decreases c) Remains same d) Zero

7. Which one of the following physical quantities cannot be represented by a scalar?

a) Mass b) Length c) Momentum d) Magnitude of accelaration

8. The path of the projectile, projected horizontally is-----?

a) Hyperbola b) Parabola c) Straight line d) Circle

9. The unit angular velocity is -----?

a) rad/s^2 b) rad/s c) radian d) All the above

10. An object dropped in an unknown planet from height 50m,it reaches the ground in 2s. The acceleration due to gravity ------?

a) $g = 15ms^{-2}$ b) $g = 20ms^{-2}$ c) $g = 25ms^{-2}$ d) $g = 30ms^{-2}$

11.Two masses m_1 and m_2 are experiencing the same force where $m_1 < m_2$. The ratio of their acceleration a_1/a_2 is----? a) 1 b) < 1 c) > 1 d) All of these

12. Force acting on the particle moving with constant speed is ------?

a) Always zero b) Need not to be zero c) Always non zero d) Cannot be concluded

13. The centrifugal force appears to exist-----?

a) Inertial frame b) Rotating frame c) Accelarated frame d)Both (a) & (b)

14. The centripetal acceleration of moon towards the Earth is --------?

a) 0.0272 ms^{-2} b) 0.00272 ms^{-2} `c) 0.272 ms^{-2} d) None

15. If a person moving from pole to equator, the centrifugal force acting on him------?

a) Increases b) Decreases c) Remains same d) Both (a) & (b)

II. ANSWER ANY 6 QUESTION. Q.NO 19 IS COMPULSORY. 6x2=12

16. Define unit?

17. What are the Advantage of the system?

18. What are the general features of scientific method?

19. Calculate the area of the triangle for which A = 5i-3ĵ and B = 4i+6ĵ

20. Define vector? Give a example

21. Write down the kinematic equation for angular motion?

22. State Newton's Third law?

23. What is impulsive force? Give its unit?

24. Why is not possible to push a car from inside?

III. ANSWER THE ANY 6 QUESTION. Q.NO 29 IS COMPULSORY. 6X3=18

25. Using free body diagram show that it is easy to pull an object than to push it?

26. State Lami's Theorem?

27. Difference between static and kinetic friction?

28. Define Displacement and Distance?

29. A object is thrown with initial speed 5ms^{-1} with an angle projection 30^{0}. What is the height and Range reached by the particle?

30. Define radian?

31. What are the limitations of dimensional analysis?

32. Write the rules for determining significant figure?

33. Define SI unit of mass?

IV. ANSWER THE ALL QUESTIONS. 5X5=25

34. Explain in detail the various types of errors? **(OR)** What you meant by propagation of error?

Explain the propagation of errors in addition and multiplication?

35. Write a short notes on scalar product of two vectors? Discuss the properties of scalar products? **(OR)**

Drive the kinematic equation of motion for constant acceleration?

36. Explain the motion of blocks connected by a string in (i) Vertical motion (ii) Horizontal motion? **(OR**

Explain the similarities and difference on centrifugal and centripetal forces?

37. Describe the method of measuring angle of repose? **(OR)**

Derive the equation of motion, range and maximum height reached by the particle at an oblique angle θ with respect to the horizontal direction.

38. Explain in detail the triangle law of addition? **(OR)** State the Newton three laws and discuss their significance?

'' SCIENCE IS A METHOD FOR

DESCRIBING, CREATING AND

UNDERSTANDING HUMAN EXPERIENCE''.

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