

Tsi11P

Tenkasi District Common Examinations
Second Revision Test - February 2023



20-02-2023

Standard 11

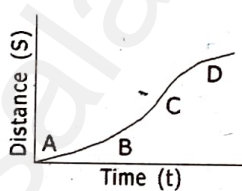
Time Allowed: 3.00 Hours

PHYSICS

Maximum Marks: 70

Section - A**Choose the correct answer and write it:****15×1=15**

- 1) Which of the following pairs of physical quantities have same dimension?
 - a) force and power
 - b) torque and energy
 - c) torque and power
 - d) force and torque
- 2) If a particle executes uniform circular motion in the xy plane in clock wise direction, then the angular velocity is in
 - a) +y direction
 - b) +z direction
 - c) -z direction
 - d) -x direction
- 3) If a person moving from pole to equator, the centrifugal force acting on him
 - a) increases
 - b) decreases
 - d) remains the same
 - d) increases and then decreases
- 4) The work done by the conservative force for a closed path is
 - a) always negative
 - b) zero
 - c) always positive
 - d) not defined
- 5) A particle shows distance - time curve as given in this figure. The maximum instantaneous velocity of the particle is around the point



 - a) D
 - b) A
 - c) B
 - d) C
- 6) If a person moves from Chennai to Trichy, his weight
 - a) increases
 - b) decreases
 - c) remains same
 - d) increases and then decreases
- 7) The Young's modulus for a perfect rigid body is
 - a) 0
 - b) 1
 - c) 0.5
 - d) infinity
- 8) In an isochoric process, we have
 - a) $W = 0$
 - b) $Q = 0$
 - c) $\Delta U = 0$
 - d) $\Delta T = 0$
- 9) If the temperature and pressure of a Gas is doubled the mean free path of the gas molecules
 - a) Remains same
 - b) Doubled
 - c) tripled
 - d) Quadra poled
- 10) In a simple harmonic oscillation, the Acceleration against displacement for one complete oscillation will be
 - a) An ellipse
 - b) a circle
 - c) A parabola
 - d) a straight line
- 11) A sound wave whose frequency is 5000 Hz travels in air and then hits the water surface. The ratio of its wavelength in water and air is
 - a) 4.30
 - b) 0.23
 - c) 5.30
 - d) 1.23
- 12) An air column in a pipe which is closed at one end, will be in resonance with the vibrating body of frequency 83 hz. Then the length of the air column is
 - a) 1.5 m
 - b) 0.5 m
 - c) 1.0 m
 - d) 2.0 m
- 13) The wettability of a surface by a liquid depends primarily on
 - a) viscosity
 - b) surface tension
 - c) density
 - d) angle of contact between the surface and the liquid
- 14) The work done by the Sun's gravitational Force on the Earth is
 - a) Always zero
 - b) Always Positive
 - c) can be positive or negative
 - d) always negative
- 15) Which one of the following Physical Quantities cannot be represented by a Scalar?
 - a) Mass
 - b) Length
 - c) Momentum
 - d) Magnitude of acceleration

Tsi12P

2

Section - B**Answer ANY SIX questions. Question No. 24 is compulsory:****6×2=12**

- 16) Define displacement and distance.
- 17) State Newton's Second Law.
- 18) Consider two trains A and B moving along parallel tracks with same velocity in of each train be 50/hr due east calculate the relative velocities of the trains the relative velocities of the trains. *SIVAKUMAR.M.*
- 19) State principle of moment.
- 20) State Newton's Universal Law of Gravitation. *SOI RAM MATHIA HSS*
- 21) Define coefficient of viscosity of a Liquid. *Vallam-627809*
- 22) Why moon has no atmosphere? *Tenkasi District.*
- 23) Describe the formation of beats.
- 24) A mobile phone tower transmits a wave singal of frequency 900 MHz. the length of the waves transmitted from the mobile phone tower.

Section - C**Answer ANY SIX questions. Question No. 33 is compulsory:****6×3=18**

- 25) What are the limitations of dimensional analysis?
- 26) Calculate the energy consumed in electrical units when a 75 w fan is used for 8 hours daily for one month (30 days)
- 27) Write down the expression for angle made by resultant acceleration and Radius vector in then on uniform circular motion.
- 28) Under what condition will a car skid on a leveled circular road?
- 29) Explain the characteristics of elastic and inelastic collision.
- 30) What is the relation between torque and angular momentum?
- 31) Explain damped oscillation. Give an example.
- 32) What is Wien's law?
- 33) During a does work cyclic process, a heat engine absorbs 500 J of heat from a hot reservoir, and ejects an amount of heat 300 J into the surroundings (cold receiver) calculate the efficiency of the heat engine.

Section - D**Answer ALL the questions:****5×5=25**

- 34) i) Explain the use of screw gauge and vernier caliper in measuring small-Er distances.
- ii) Write a note on triangulation method and radar method to measure larger distances.

(OR)

Explain the need for banking of tracks.

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

(OR)

State and explain work energy principle. Mention any three examples.

- 36) Explain the variation of g with latitude.

(OR)

Discuss the law of transverse vibrations in stretched strings.

- 37) Derive the expression for the terminal velocity of a sphere moving in a high viscous fluid using stokes force.

(OR)

Derive the expression for mean free path of the gas.

- 38) State and prove parallel axis theorem.

(OR)

Describe the vertical oscillations of a spring.
