

MODEL PAPER PHYSICS CLASS 9

NOTE: Attempt all questions from Section A by filling the corresponding bubble on the MCQs RESPONSE SHEET. it is mandatory to return the attempted MCQs sheet to the Superintendent within given time.

SECTION –A

Time: 20 Minutes

Marks: 12

1. The number of significant digits in 0.0096800 is
 - a. 2
 - b. 3
 - c. 4
 - d. 5
2. Car is moving along the straight road with velocity 10 m/s, after 4s its velocity becomes 30 m/s, the acceleration of car is:
 - a. 5 m/s^2
 - b. 10 m/s^2
 - c. 80 m/s^2
 - d. 160 m/s^2
3. The centripetal acceleration of body of mass 1.5 kg moving with velocity 3 m/s in circle of radius 3 m is:
 - a. 6 m/s^2
 - b. 4 m/s^2
 - c. 3 m/s^2
 - d. 0.5 m/s^2
4. The unit of coefficient of friction is:
 - a. m/s
 - b. m/s^2
 - c. N-m
 - d. Unit less quantity
5. The second condition of Equilibrium is:
 - a. $\sum T=0$
 - b. $\sum F=0$
 - c. $\sum P =0$
 - d. $\sum W=0$
6. The angle between rectangular components of force is:
 - a. 30°
 - b. 45°
 - c. 60°
 - d. 90°

7. Which of the following quantity will change when a body moves from sea level to mountain?
- Mass
 - Volume
 - Weight
 - Density
8. A boy of mass 45 kg runs up on stairs of height 4m in 5sec, the power in boy ($g=10\text{m/s}^2$) is:
- 450 watts
 - 360 watts
 - 36 watts
 - 24.5 watts
9. The energy due to motion of body is:
- Kinetic energy
 - Potential energy
 - Chemical energy
 - Thermal energy
10. The hydraulic brakes of heavy vehicles operate on:
- Archimedes Principle
 - Pascal's principle
 - Work energy principle
 - Principle of moment arm
11. The temperature of human body is 37°C , the same temperature in Fahrenheit will be:
- 96.6°F
 - 97.6°F
 - 98.6°F
 - 99.6°F
12. The transfer of heat from the sun to earth is due to:
- Radiation
 - Convection
 - Conduction
 - Absorption

SECTION –B

Time: 2 Hours 40 Minutes

Marks: 32

1. Briefly attempt any Eight of following short questions, each carry 4 marks

- i. Describe **Four** crucial roles of Physics in daily life.
- ii. Differentiate scalars and vectors with suitable examples.
- iii. Define momentum along with its mathematical form and unit. Also write at least **Two** factors on which it depends.
- iv. Define friction and write at least **Three** methods to reduce friction.
- v. Calculate the mass of earth by using Newton's law of gravitation.
- vi. Define heat and temperature. Write at least two differences between heat and temperatures.
- vii. Derive K. $E = \frac{1}{2} mv^2$
- viii. Define power along with its mathematical form and unit.
- ix. State Pascal 's Law and also write **Three** applications in daily life.
- x. Define pressure. Show that liquid pressure $P = \rho g h$
- xi. Define transfer of heat by convection, and give three examples from daily life.

SECTION –C

Marks: 21

NOTE: Attempt any THREE of the following questions, each carry 7 marks

2.
 - i. State Newton's second law of motion. 2+3+2
 - ii. Prove that time rate of linear momentum is equal to net force acting on body.
 - iii. The momentum of bullet fired from gun is 0.732 ns and velocity is 62 m/s. Find the mass of bullet.
3.
 - i. Define and explain turning effect of force by relating it to everyday life. 4+3
 - ii. The force applied to open door is 12 N at 30° . Find the horizontal and vertical components of force.
4.
 - i. Define work and its units. 4+3
 - ii. A Girl is pulling trolley school bag by applying a force of 15 N at 45° and covers a distance of 100 m. Calculate the work done.
5.
 - i. Describe the thermal expansion of solid. 4+3
 - ii. Explain why evaporation causes cooling?