STEM SCHOOL
VIDYA NAGAR - GUNTUR
Affiliated to ICSE, New Delhi | Affiliation No : AP116

QUARTERLY EXAMINATION – 2024-2025
SUBJECT: PHYSICS
GRADE: VII

DATE:24-09-2024 **TIME: $2\frac{1}{2}$ HOURS**

NAME OF THE STUDENT & SEC: _____ **Max. MARKS: 80**

- *This question paper contains two sections which is 80Marks.*
- *SECTION A contains 40Marks (Attempt all the questions from this section)*
  I) Choose the correct answers to the questions from the given options: [15M]
  (II) Answer for all the following questions: [25M]
- *SECTION B contains 40 Marks (Attempt any four questions from this section)*

SECTION A- 40 Marks
(Attempt all the questions from this section)

Question 1:

Choose the correct answers to the questions from the given options: [15M]

1. One litre is equal to _____
   a) 1 cm^3 b) 1 m^3 c) 10^{-3} cm^3 d) 10^{-3} m^3
2. March past of soldiers in a parade on a straight road is an example of _____
   a) Oscillatory b) linear c) circular d) rotatory
3. When work is done on a body, its energy_____
   a) increases b) decrease c) remains same d) does not change
4. The amount of surface occupied by a body is called _____
   a) Area b) volume c) density d) mass
5. A ball falls down vertically, its motion is _____
   a) Periodic b) linear c) circular d) vibratory
6. A book lying on a table is an example of:
   a) a body at rest b) a body in motion
   c) a body neither at rest nor in motion d) both b and c
7. Water is lifted from ground floor to overhead tank at the second floor. The work done is stored in the form of:
   a) kinetic energy b) chemical energy c) mechanical energy d) potential energy
8. The S.I unit of speed is _____
   a) ms^{-1} b) km h^{-1} c) m h^{-1} d) cm s^{-1}
9. The ability to do work is called_____
   a) Force b) work done c) area d) energy
10. A foot ball rolling on the ground possesses _____
    a) kinetic energy b) potential energy c) heat energy d) chemical energy

11. The _____is the major source of energy.

a) Earth b) Moon c) Satellites d) Sun

12. The movement of our chest while breathing:

a) translatory motion b) Periodic motion

c) oscillatory motion d) random motion

13. Equal masses of different substances have _____.

a) different areas b) different volumes c) different weights d) different densities

14. The motion of a particle of a liquid or a gas is _____

a) Zig-Zag b) random c) irregular d) All of the above

15. The energy possessed by the flowing water is called _____

a) chemical energy b) tidal energy c) hydro energy d) mechanical energy

Question 2:

Answer the following questions:

(i) Complete the following: **[6M]**

a) The energy stored in food items_____. (chemical energy, heat energy)

b) The weight of a body is 60 kgf. Its mass will be _____. (60N, 60 kg)

c) Green plants convert _____(light energy, heat energy) into chemical energy.

d) In circular motion, the distance of a point of the body from a fixed point always remains _____. (different, same)

e) One two and for motion of a pendulum clock takes time =_____(2s, 4s)

f) The _____ (thermometer, barometer) is used to measure the atmospheric pressure.

(ii) A train travels a distance of 300 km with an average speed of 60 km h^{-1}. How much time does it take to cover the distance? **[2M]**

(iii) Define oscillatory motion give an example? **[2M]**

Question 3:

Answer the following questions:

a) Write three differences between mass and weight. **[3M]**

b) Name different types of motion. **[2M]**

c) Define energy and state its S.I unit. **[2M]**

d) What is rectilinear motion. Give two examples. **[2M]**

e) A cork has a volume 25 cm^3.The density of cork is 0.25 g cm^{-3}. Find the mass of the cork. **[2M]**

f) Match the following: **[4M]**

Column A	**Column B**
(a) Sound energy	(i) measuring cylinder
(b) Zig Zag motion	(ii) Vibrations
(c) Volume of a liquid	(ii)atom bomb
(d) Nuclear energy	(iv) motion of particle
	(v) heat energy

SECTION B-40 Marks

*(Attempt **any Four** questions from this section)*

Question 4:

1. (a) Define kinetic energy. **[3M]**

   (b) State the factors affecting the kinetic energy of a body.

2. Name six different forms of energy. **[3M]**

3. Give one example for each of the following transformation of energy: **[4M]**

   (a) Electrical energy to mechanical energy

   (b) Chemical energy to heat energy

   (c) Electrical energy to sound energy

   (d) Light energy to chemical energy

Question 5:

1. A stone is made to fall freely from a certain height. State the kind/kinds of energy possessed by the stone when it is: **[3M]**

   (a) At the ground

   (b) At the highest point

   (c) Just in the middle

2. Can a body possess energy even when it is not in motion. Explain your answer with an example. **[3M]**

3. Explain the terms rest and motion. State two examples of each. **[4M]**

Question 6:

1. (a) What is speed? State its S.I. unit. **[3M]**

   (b) How to determine the average speed of a body in case of non-uniform motion?

2. A car travels with a speed of 10 m s^{-1} for 20 minute. How much distance does he travel? **[3M]**

3. (a) What is mixed motion? **[4M]**

   (b) Give two examples to illustrate that a body can have two or more types of motion simultaneously.

Question 7:

1. (a) State the effect of change of place on mass and weight. **[3M]**

   (b) What is vibratory motion? Give one example.

2. Explain rectilinear and curvilinear motion. Give two examples for each. **[3M]**

3. State the type of motion for the following: **[4M]**

   (a) A plucked string of a guitar

   (b) Carpenter's saw

   (c) Motion of the earth around the sun

   (d) Dust particles in air

Question 8:

1. (a) Define density. State its S.I unit. **[3M]**

   (b) State the relation between S.I and C.G.S unit of density.

2. How can you determine the volume of an irregular solid? Explain with the help of a neat diagram. **[3M]**

3. (a) What is the density of water at 4^0C. How does density effect solids, liquids and gases. **[4M]**

   (b) State and define the S.I unit of volume.

Question 9:

1. What do you mean by conservation of mechanical energy? State the condition when it holds. **[3M]**
2. Draw a neat labelled diagram of production of hydroelectricity. **[3M]**
3. A car travels 100 km with a speed of 50 km h^{-1} and another 200 km with speed of 20 km h^{-1}. Find the average speed of the car. Describe the type of motion. **[4M]**

