

MAR THOMA RESIDENTIAL SCHOOL, TIRUVALLA
FIRST TERMINAL EXAMINATION 2019-'20

STD VII

PHYSICS

MARK:80

TIME:3h

I. Name the following:

(1* 10 =10)

1. The amount of surface covered by an object.
2. Splitting of the nucleus of an atom.
3. The energy of flowing water.
4. 1 Kgf =
5. Motion of a car taking a turn on the road.
6. The fuel obtained when biomass is decomposed in the absence of oxygen.
7. The mass per unit volume of a substance.
8. The motion of the earth about its axis
9. The ultimate source of energy on the Earth.
10. The energy from sea waves

II. Rewrite the correct sentence:

(1* 6= 6)

1. Equal volumes of two substances can have the same mass.
2. Weight of a body remains constant everywhere.
3. Motor converts mechanical energy to light energy.
4. Solar cell converts electrical energy to light energy.
5. The energy produced by vibrating which causes sensation of hearing is called mechanical energy.
6. All periodic motions are oscillatory motions.

III Answer the following questions:

1. i) What is volume? State its SI unit. (1 ½)
ii) The length of one side of a cube is 5m. Calculate its volume? (1)
2. i) Define density.
ii) State its SI unit. (2)
3. Taking density of copper as 9.5 g/cm^3 . Find the
i) Mass of 5 cm^3 and
ii) Volume of 75 g copper. (2)
4. Weight of an object is 27N. State whether it increases, decreases or remains the same.
i) at poles
ii) at equator (2)

5. i) Define energy? State its SI unit. (1 ½)
 ii) State the unit in which heat energy is usually measured. How is it related to SI unit of energy? (1)
6. i) $1 \text{ m}^3 = \dots\dots\dots \text{ cm}^3$.
 ii) Which method is used to measure the volume of irregular solids? What is the principle behind it? (1 ½)
7. i) Is rest & motion are relative terms. Why? (1/2)
 ii) Differentiate between mass & weight. (4 points) (2)
8. i) What is the most powerful form of energy? (1/2)
 ii) How is energy obtained to generate electricity in nuclear power plants? (2)
9. i) What is the value of acceleration due to gravity? (1/2)
 ii) A butterfly covers a distance of 6m in 42 s. Find the
 a) speed of the butterfly.
 b) Time it will take to cover 10 m. (2)
10. i) What are fossil fuel? (1)
 ii) Differentiate between nuclear fission & nuclear fusion. (2)
11. i) Name the instrument used to measure weight? (1/2)
 ii) How does the spring balance measure weight. Explain? (2)
12. i) Does food have chemical energy. Why? (1)
 ii) How do we hear sound? (2)
13. i) Define speed? State its SI unit. (1 ½)
 ii) A car is running at a constant speed of 8 m/s. Find the time taken to cover distance of 100 m. (1)
 iii) A bus starting from Bengaluru covers a distance of 300 Km in 6 hrs on Friday evening, and returns to Bengaluru in 4 hrs early next morning. Find its average speed. (1 ½)
14. i) Define meniscus. (1)
 ii) Write the formula for calculating the volume of a regular & irregular solids? (1)
 iii) Differentiate between concave meniscus & convex meniscus. (2)
 iv) Find the volume of a stone in cm^3 , if the water level rises from 20 ml to 32 ml on immersing it in water (1 ½)

15. Name the form of mechanical energy possess by a 'moving cricket ball'.Define it? (2)
16. i)Name the kind of motion executed by a 'spinning top '.Define it? (2)
ii) Difference between uniform and non-uniform speed? (4)
- 17 .i) Define mechanical energy .Name & define different types of it ? (3)
ii) Explain how electricity is generated from flowing water ? (3)
- 18.. Name the kind of motion in the following:
a) A car taking a turn on a road. b) A potter's wheel.
c)When the string of the sitar is plucked (3)
- 19 . i) What do you mean by transformation of energy ? (1)
ii) Give one example of electrical energy being converted to
a)Sound Energy b) Light Energy c) Chemical Energy
d) Heat energy e) Mechanical Energy (4)
20. What is the energy conversion in the following:
a)Microphone b) Battery (while it is using) c)Solar cell
d) Dynamo (4)