

CLASS – IX

TIME : 3 hrs.

SCIENCE

M.M. 75

- Questions 1 to 5 carries 1 marks.
- Questions 6 to 10 carries 2 marks.
- Questions 11 to 17 carries 3 marks.
- Questions 18 to 20 carries 5 marks.
- Questions 21 to 23 carries 1 marks.
- Questions 24 to 25 carries 2 marks.
- Questions 26 to 29 carries 3 marks.
- Question 30 carry 5 marks.

**SECTION-A**

1. Which of the two solutions will scatter light:  
Soap solution or Sugar solution
2. Write the formula of Hydrochloric Acid.
3. What was the definition of meter at the time of International Treaty of Meter?
4. At what position, the bob of the pendulum has maximum kinetic energy?
5. Express the temperature 82k on Celsius scale.
6. The time period of a vibrating body is 0.1s. The waves produced by the body moves with a speed of 340 m/s. Find the Wavelength of the wave.
7. An Element has At. No. of 11 and contains 12 neutrons. How many protons and electrons does it contains and what is its mass number and also write the name of the Element.
8. Calculate the mass of oxygen which contains same number of atoms as are present in 4.6g of sodium (At. Mass of Na = 23, O = 16).
9. What is meant by Retardation? Why does it takes place?
10. Why does a gun recoil backward when a bullet is fired from it?
11. A Women pulls a bucket of total mass 5 kg from the well which is 10m deep in 10s. calculate the power.

12. Complete the following table:

Element	At. No.	Mass No.	Electrons	Protons	Neutrons
F	9	19	-	9	-
Na	-	23	11	11	-
Al	13	-	13	-	14

13. Write Brief notes on:

- (a) Isotopes
- (b) X-rays

14. How is Ethene gas prepared. Explain and draw a neat and labeled diagram showing the preparation of Ethene.
15. (a) Write the relationship between S.I. unit of energy and commercial unit of energy.  
(b) A 1000 W electric geyser is used for 2 hours daily. How many units of electrical energy will it consume in 30 days.
16. (a) State Newton's Second Law of Motion  
(b) Prove that  $F = ma$ .
17. Account for the reasons why:-

- (a) Time period of Pendulum becomes infinite at the centre of Earth.
  - (b) A cup of hot tea becomes cold after sometime if left open.
  - (c) Water is used as a cooling agent in the radiators of automobiles.
18. Why does the steam at 100 degree Celsius cause more severe burns than hot water at 100 degree Celsius.
19. What is the difference between evaporation and boiling.
20. State the factors on which heat gained or lost by a substance depends.

### *SECTION – B*

21. Why the new born babies are exposed to sunlight?
22. Expand IUCN.
23. Give one example each of Hemichordata and Urochordata.
24. Animal feed consist of Roughage and Concentrates. How these two differ from each other. Name one source of each for dairy animals.
25. A farmer uses urea in a pea crop. Is he correct or not? Give reason.
26. Why Food chain consist of limited number of steps? Why Sharp boundaries cannot be drawn between Ecosystems.
27. What is intercropping? How is it different from mixed cropping?
28. What is Crossing over? In which Cell division does it take place? Explain its significance.
29. What is food adulteration? What is Biodiversity.
30. It was diagnosed that body of a patient has lost its power of fighting any infection. Name the disease the patient has been suffering from. What type of microbe is responsible for this disease? How does it spreads from one person to another? Suggest two methods to prevent this disease.