

CBSE Class 9 Science

# SAMPLE QUESTION PAPER - 1

Solved \_\_\_\_\_

Time : 3 Hours

Maximum Marks : 90

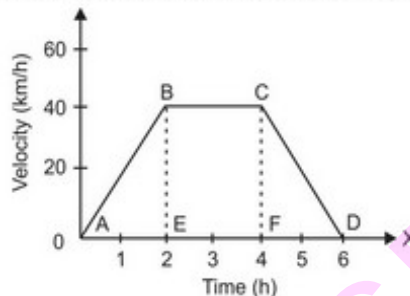
**General Instructions :**

1. The question paper comprises of two sections, A and B. You have to attempt both the sections.
2. All questions are compulsory.
3. All questions of Section A and all questions of Section B are to be attempted separately.
4. Question numbers 1 to 3 in Section A are one mark questions. These are to be answered in one word or one sentence.
5. Question numbers 4 to 6 in Section A are two marks questions, to be answered in about 30 words.
6. Question numbers 7 to 18 in Section A are three marks questions, to be answered in about 50 words.
7. Question numbers 19 to 24 in Section A are five marks questions, to be answered in about 70 words.
8. Question numbers 25 to 36 in Section B are based on practical skills. Question 25 to 33 carry one mark each and Question numbers 34 to 36 carry two marks each.

**SECTION 'A'**

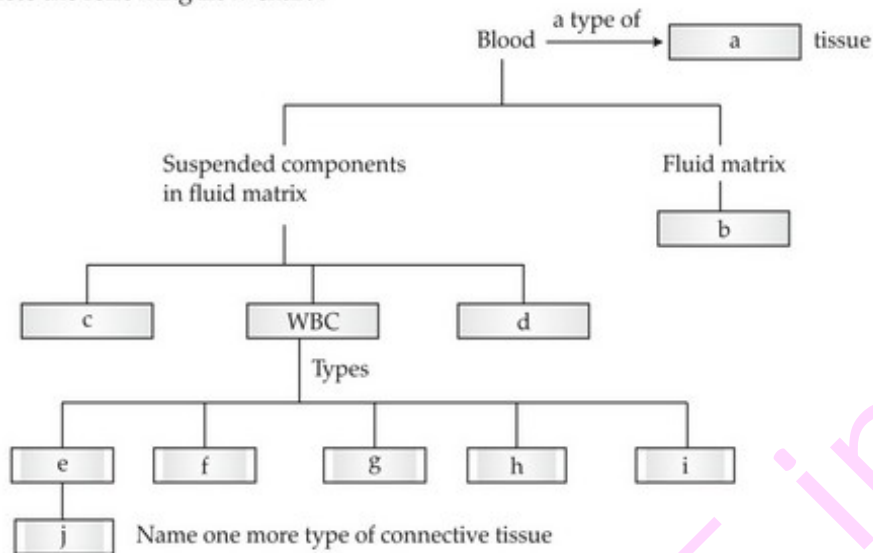
1. Name the following tissues :
  - (a) found in the iris of the eye.
  - (b) that connects two bones. 1
2. An object travels a distance of 16 m in 4 s and then another 16 m in 2 s. What is the average speed of the object ? 1
3. If a balloon filled with air and its mouth untied, the air is released from its mouth in the downward direction, and balloon moves upwards. Identify action and reaction in this case. 1
4. Give reason for the following observations :
  - (a) Naphthalene balls disappear with time without leaving any solid.
  - (b) A gas fills the vessel completely. 2
5. Give one word for the following :
  - (a) Group of cells with similar structure and designed to give highest efficiency of function.
  - (b) The process of taking up a permanent shape and size to perform a specific function by a cell. 2
6. Explain an activity to show that, during a free fall heavier and lighter objects accelerate at the same rate. 2
7. (a) Illustrate with an example that physical and chemical changes can take place together.

- (b) Which of the following are chemical changes :
- Mixing of Iron filing and sand
  - Growth of plant
  - Rusting of Iron
  - Freezing of water
8. (a) State the difference between a pure substance and a mixture. Give one example of each.  
 (b) Identify homogeneous mixtures from the following :
- Smoke
  - Brass
  - Tincture of iodine
  - Milk
9. Neha's mother is a good cook. She uses natural colours to give colours to different foods. She uses turmeric for yellow colour, spinach for green colour and pomegranate for red colour. She always avoids synthetic colours. Answer the following questions based on above information :
- Name the technique used to separate pigments from natural colours.
  - Write the principle of that technique.
  - Explain the values that are displayed by Neha's mother.
10. (a) Differentiate between epidermal and cork cells.  
 (b) Why are they called protective tissues ?
11. List two characteristics of cork. How is it formed ? Mention its role in trees.
- 12.



- Study the given graph and answer the following questions from it.
- Which part of the graph shows accelerated motion ? Calculate the acceleration.
  - Which part of graph shows retardation (negative acceleration) ? Calculate the retardation.
  - Calculate the distance travelled by the body in first 2 hours of journey graphically.
13. A body can have zero average velocity but not zero average speed. Justify giving an example.
14. Name the physical quantities denoted by :
- the slope of the distance-time graph
  - the area under velocity-time graph
  - the slope of velocity-time graph
15. A motor cycle moving with a speed of 5 m/s if applied an acceleration of  $0.2 \text{ m/s}^2$ . Calculate the speed of the motor cycle after 10 seconds, and the distance travelled by it in this time.
16. Two boys dropped sheets of paper from the top of the tower. One boy dropped his sheet of paper as such, while the other boy dropped it by changing it in the shape of a ball. Which sheet of paper will reach the ground first ? Explain why ? (Assume air-resistance negligible)
17. Vinod visited his ancestral village. He found that farmers in a village were facing problems like stagnant crop yields, pollution of soil and water bodies due to pesticides, increasing cost of fertilizers, reducing soil fertility, pest infestation. Vinod understood their problems and took them to agricultural department. The officials suggested organic farming.
- What is meant by sustainable agriculture ?
  - What can be done to reduce soil pollution and maintain soil fertility ?
  - What values farmers must have so that they do not harm the environment ?
18. State the meaning of Layers. Why limestone is added in their diet ? Name one other dietary requirement of poultry birds.

19. Which separation techniques you will apply for the separation of the following mixtures ?
- Oil from water
  - Camphor from sand
  - Sodium chloride from its solution in water
  - Metal pieces from engine oil of a car
  - Cream from milk
20. (a) Define evaporation. Out of nylon and cotton clothes, which will be more comfortable during summer and why ?
- (b) Is evaporation and boiling are same ? If not then why ?
21. Complete the following flow chart :



22. (a) How is the force of attraction dependent on the masses of objects and distance between them ?
- (b) The mass of earth is  $6 \times 10^{24}$  kg and that of a natural satellite is  $6.5 \times 10^{20}$  kg. If the distance between them is  $3.35 \times 10^6$  km. Calculate the force exerted by earth on it. ( $G = 6.7 \times 10^{-11} \text{ Nm}^2\text{kg}^{-2}$ )
23. State with reasons, if it is possible or impossible, for an object in motion to have :
- Zero distance covered and may have non zero displacement.
  - Zero speed at an instant but non zero acceleration at the same time.
  - Zero speed and may have non zero velocity.
  - Acceleration opposite to the direction of motion.
  - Positive acceleration while speeding up.
24. "Continuous use of fertilizers destroys soil fertility". Hence long term use of fertilizers is substituted by different cropping pattern. Discuss three new techniques of cropping pattern and their significance.

## SECTION 'B'

Choose the correct option :

25. A student added a few drops of iodine solution to potato extract and a few drops of conc. hydrochloric acid to yellow dal mixed with water in two test-tubes A and B respectively. He will observe the presence of :
- Sugar in test-tube A, starch in test-tube B
  - Metanil yellow in test-tube A, starch in test-tube B
  - Proteins in test-tube A, starch in test-tube B
  - Starch in test-tube A, Metanil yellow in test-tube B

26. Stored form of Carbohydrates in plants generally are :  
(a) Vitamins (b) Glycogen  
(c) Amino acids (d) Starch 1
27. Which among the following statement is **incorrect** for sulphur powder ?  
(a) It is a yellow powder with low melting point.  
(b) It is soluble in water.  
(c) It is soluble in carbon disulphide.  
(d) It is insoluble in water. 1
28. A mixture containing iron filings and sulphur powder is spread on the white paper and a magnet is rolled in it. The particles which cling to the magnet are :  
(a) Sulphur (b) Iron particles  
(c) Iron sulphide (d) Mixture of iron and sulphur 1
29. An iron nail was dipped in a salt solution of 'A'. After some time a brown substance was deposited on the iron nail. The salt A could be :  
(a) Silver chloride (b) Iron sulphate  
(c) Copper sulphate (d) Silver nitrate 1
30. While preparing a temporary mount of onion peel, cells are stained to :  
(a) Highlight the cell organ (b) Make the cells turgid  
(c) Moisten the cell (d) Help in cell division 1
31. In transverse section parenchyma cells show :  
(a) Thickening of walls due to deposition of lignin  
(b) Dead cells  
(c) Living cells with thin walls and intercellular spaces  
(d) Absence of intercellular spaces and vacuoles 1
32. Out of the following, the substance which does not undergo sublimation is :  
(a) Sugar (b) Camphor  
(c) Iodine (d) Naphthalene 1
33. Two opposite forces of same magnitude acting on a body that do not change its state of rest or motion are called :  
(a) Balanced force (b) Unbalanced force  
(c) Frictional force (d) Gravitational force 1
- Answer the following :**
34. Identify two clear and transparent solutions from the following mixtures :  
(a) Milk and water  
(b) Sugar and water  
(c) Chalk powder and water  
(d) Starch powder and water  
(e) Glucose and water 2
35. In an experiment to determine the boiling point of water, the stop watch used to note down the temperature of water at different intervals of time has 20 divisions between 0 to 10s marks. Find the least count of the stop watch. 2
36. Before placing the raisins in water, it was weighed 10 g. The raisins were then removed, wiped well and the weight was found 12.5 g. Determine the percentage of water absorbed by raisins. 2