

SUBJECT: SCIENCE

MAX. MARKS : 80

CLASS : IX

DURATION : 3 HRS

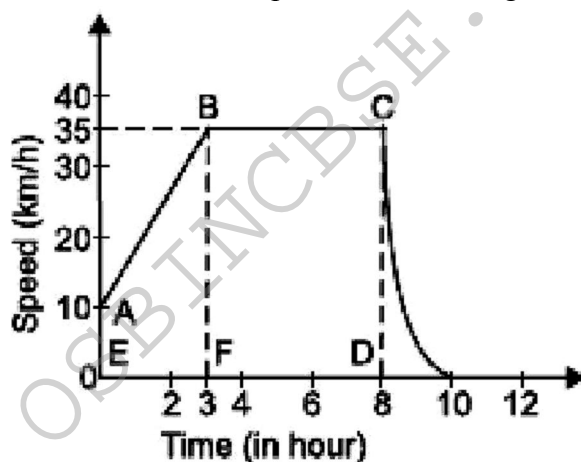
General Instructions:

1. All questions are compulsory.
2. The question paper comprises of **two Sections, A and B**. You are to attempt both the sections.
3. All questions of **Section-A** and **Section-B** are to be attempted separately.
4. Question number **1 to 2** in **Section-A** are **one mark** question. These are to be answered in **one word** or in **one sentence**.
5. Question numbers **3 to 5** in **Section-A** are **two marks** questions. These are to be answered in about **30 words** each.
6. Question numbers **6 to 15** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each.
7. Question numbers **16 to 21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
8. Question numbers **22 to 27** in **Section-B** are questions based on practical skills and are **two marks** questions.

SECTION – A

1. Give reasons to explain why it takes longer to dry wet clothes in humid weather?
2. Name the force which is responsible for change in position or state of an object.
3. A cricket player lowers his hands slightly while catching a ball. Explain it in the light of Newton's second law of motion.
4. What is mixed cropping? How does it help a farmer?
5. (a) Define matter and write its three states.
(b) Explain how these states of matter arise due to variation in the characteristics of the particles.
6. (a) Wax is heated in a china dish. How will the following change during heating– (i) kinetic energy of particle (ii) inter particle distance
(b) Melting points of three substances A, B, C are 52°C, 175°C and 80°C. Arrange them in the decreasing order of the interparticle force of attraction in each of them. Give reason for your answer.
7. What determines the state of a substance? Suggest a method to liquefy gases. Water droplets are observed on the outer surface of a glass tumbler containing ice cold water. Give reason.
8. Define solubility. How does solubility of a solid in water change with temperature?
9. What does DNA molecule contain? Name the functional segment of DNA. In which form is the DNA present in a cell when the cell is not dividing ?
10. Name the kinds of muscles found in your limbs and lungs. How do they differ from each other structurally and functionally?
11. (a) Define average speed.
(b) A bus travels a distance of 120 km with a speed of 40 km/h and returns with a speed of 30 km/h. Calculate the average speed for the entire journey.

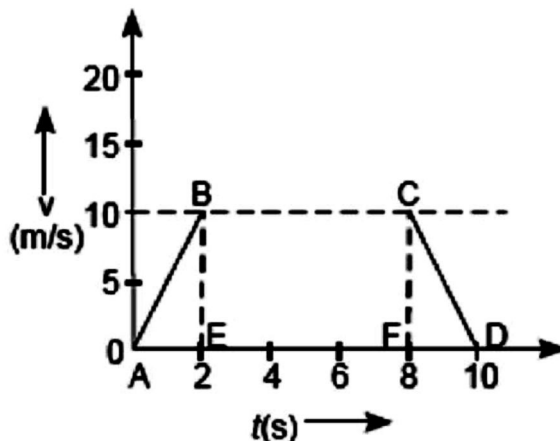
12. (a) State the law of conservation of momentum.
 (b) A body of mass 2 kg, initially moving with a velocity of 10 m/s, collides with another body of mass 5 kg at rest. After collision velocity of first body becomes 1 m/s. Find the velocity of second body.
13. A box has dimensions 15 cm × 20 cm × 25 cm. Calculate pressure exerted by box if it is rested on a surface at (a) 15 cm × 20 cm face (b) 20 cm × 25 cm face (c) 15 cm × 25 cm face, given mass of box = 20 kg. Arrange the pressure in ascending order of their magnitude.
14. Define animal husbandry. Why live stock production needs to be improved?
15. Reena used to take water from the fridge; she got sore throat, cough and cold. Seema, her friend suggested her to take water from earthen pots, now Reena is feeling far better.
 (a) What are the values shown by Seema?
 (b) How do the earthen pots keep the water cool?
 (c) Why we find wetness on the outer surface of the pot.
16. (a) List any four properties of a colloid and mention any two properties in which colloids differ from suspension.
 (b) State what is Tyndall effect? Which of the following solutions will show Tyndall effect? Starch solution, sodium chloride solution, Tincture iodine, air.
17. (a) How much water should be added to 15 g of salt to obtain 15% salt solution?
 (b) What is the main difference between aqueous solution and non-aqueous solution?
 (c) Why does solution of sodium chloride not show Tyndall effect where as the mixture of water and milk shows?
18. Describe the structure of nucleus.
19. (a) Explain the formation of complex permanent tissue in plants. Mention two types of complex tissues and write their functions.
 (b) How simple permanent tissues are different from complex permanent tissues?
20. The graph given alongside shows how the speed of a car changes with time.



- (i) What is the initial speed of the car?
 (ii) What is the maximum speed attained by the car?
 (iii) Which part of the graph shows zero acceleration?
 (iv) Which part of the graph shows varying retardation?
 (v) Find the distance travelled in first 8 hours.
21. State universal law of gravitation. Explain its significance. Mass of an object is 20 kg. Find its weight on earth and on moon.

SECTION – B

22. Identify and explain the factor responsible for changed rate of evaporation in the following situations: (a) While putting clothes for drying, we spread them out. (b) Water coolers are not effective on a rainy day.
23. A brine solution of 5% and 12% are kept in a container separated by a semi-permeable membrane. What will you observe after few hours?
24. (a) Label sieve tube and sieve plate in the diagram of a phloem tissue. (b) Differentiate between the function of Xylem and Phloem.
25. Find the displacement of a body whose velocity time graph is shown below :



26. Take a test tube of good quality glass material and put a small amount of water in it. Place a stop cork at the mouth of it. Now suspend the test tube horizontally by two strings or wires as shown in the figure. Heat the test tube with a burner until water vaporises and the cork blows out. Write any two of your observations.



27. Your father bought few fruits from the market and asked everybody to wash it properly before eating. Your sister was in a hurry and hence she ate an apple without washing it.
- (i) Why did your father ask to wash the fruits before eating?
- (ii) How will you know that pesticide residues are available on a fruit or vegetable?
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