DAV PUBLIC SCHOOLS, DELHI NCR
MID TERM EXAMINATION (2026-27)
CLASS-VII
SUBJECT: SCIENCE
SAMPLE PAPER

TIME: 3 Hours **M.M:80**

General Instructions:

1. This question paper comprises 7 pages and five sections- A, B, C, D and E. There are 39 questions in 5 sections.

2. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

3. Section A consists of 20 objective type questions (Q. No. 1-20) carrying 1 mark each. These questions are MCQs and Assertion-Reason questions

4. Section B consists of 6 Very Short questions (Q. No. 21-26), carrying 02 marks each.

5. Section C consists of 7 Short Answer type questions (Q. No. 27-33), carrying 03 marks each.

6. Section D consists of 3 Long Answer type questions (Q. No. 34-36), carrying 05 marks each.

7. Section E (Q. No. 37-39) consists of 3 source-based/case-based units of assessment of 04 marks each with 5 sub-parts of one mark each, out of which only 4 are to be attempted.

8. Reading time of 15 minutes will be given to the students.

SECTION-A

1. Which of the following statements is/are correct? 1

   (i) All green plants can prepare their own food.

   (ii) Most animals are autotrophs.

   (iii) Carbon dioxide is not required for photosynthesis.

   (iv) Oxygen is liberated during photosynthesis.

   (A) (i) and (iv)

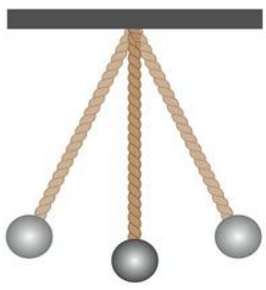
   (B) (ii) only

   (C) (ii) and (iii)

   (D) (i) and (ii)

2. Observe the given figure. 1

   The time period of a simple pendulum is the time taken by it to travel from:

   (A) A to B and back to A.

   (B) O to A, A to B and B to A.

   (C) B to A, A to B and B to O.

   (D) A to B.

3. Which of the below will give a blue-black colour when tested with iodine? 1

i. Boiled and mashed potato
ii. Glucose solution
iii. A slice of bread
iv. Mustard oil

(A) (i) and (ii)
(B) (i) and (iii)
(C) (ii) and (iii)
(D) (iii) and (iv)

4. Read carefully the terms given below. Which of the following sets is the correct combination of organs that do not carry out any digestive functions? 1

(A) Oesophagus, Large Intestine, Rectum
(B) Buccal cavity, Oesophagus, Rectum
(C) Buccal cavity, Oesophagus, Large Intestine
(D) Small Intestine, Large Intestine, Rectum

5. Which of the following pair of teeth differ in structure but are similar in function? 1

A) Canines and incisors
(B) Molars and premolars
(C) Premolars and canines
(D) Incisors and molars

6. A copper ball at 50°C dropped in a mug containing water at 50°C. The heat will: 1

(A) flows from the copper ball to water.
(B) not flow from copper ball to water or from water to copper ball.
(C) flows from water to copper ball.
(D) increase the temperature of both.

7. Priya wants to keep her hot soup warm for a long time during a winter trip. She wraps the outer surface of the metal container with a woolen cloth. Can she apply the exact same method to keep a glass of cold drink cool on a hot summer day? 1

(A) No, because wool creates heat and will warm up the cold drink.
(B) Yes, because wool is a thermal insulator and reduces heat transfer from the outside environment.
(C) No, wool only works for hot objects and has no effect on cold objects.
(D) Yes, because wool is a good conductor of heat and cools the glass faster.

8. In which mode of transfer of heat, molecules pass on heat energy to neighbouring molecules without actually moving from their positions? 1

(A) Radiation
(B) Conduction
(C) Convection
(D) Both B and C

9. A student wrote a chemical equation of the reaction between carbon monoxide and hydrogen as: 1

$CO_2 + 2H_2 \rightarrow CH_3OH$. How can the reaction be classified?

(A) The reaction is an example of a combination reaction as a compound separate into two compounds.
(B) The reaction is an example of a decomposition reaction as a compound dissociates into two compounds.
(C) The reaction is an example of a combination reaction as two compounds react to form a single compound.
(D) The reaction is an example of a decomposition reaction as two compounds react to form a single compound.

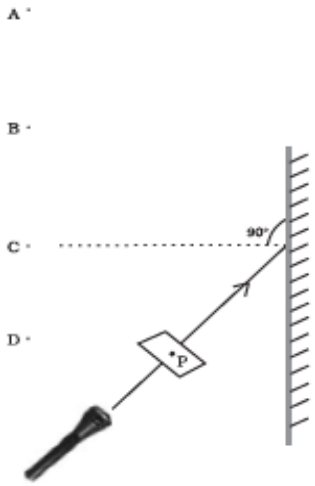
10. Sodium and chlorine are reacted, and as a result, sodium chloride is formed, which is also called table salt. Which option gives the reactants and products of the reaction? 1
(A) Reactant– sodium; product – chlorine
(B) Reactant– sodium and table salt; product – chlorine
(C) Reactant – tables salt; products– sodium and chlorine
(D) Reactants – sodium and chlorine; product – sodium chloride

11. Two organisms are good friends and live together. One provides shelter, water and nutrients while the other prepares and provides food. Such an association of organisms is termed as: 1
(A) saprophyte
(B) parasite
(C) autotroph
(D) symbiosis

12. Rahul walks to his school which is 3 km from his home in 30 min. On reaching, he finds that the school is closed and comes back by bicycle with his friend and reaches home in 20 min. His average speed in km/h is- 1
(A) 8.3 Km/h
(B) 7.2Km/h
(C) 5 Km/h
(D) 3.6 Km/h

13. A small hole P is made in a piece of cardboard. The hole is illuminated by a torch as shown in Figure. A ray of light coming out of the hole falls onto a mirror. 1

At which point should the eye be placed so that the hole can be seen?
(A) A
(B) B
(C) C
(D) D

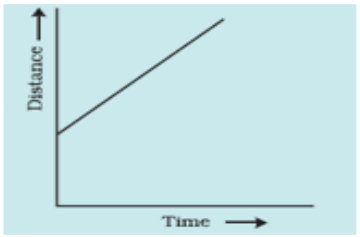


14. What type of image is formed by a plane mirror? 1
(A) Real and erect
(B) Real and inverted
(C) Virtual and erect
(D) Virtual and inverted

15. The laws of reflection hold true for: 1
(A) plane mirrors only
(B) concave mirrors only
(C) convex mirrors only
(D) all reflecting surface

16. Which of the following distance-time graphs shows a truck moving with speed which is not constant? 1

(A)



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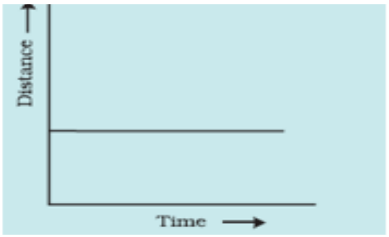

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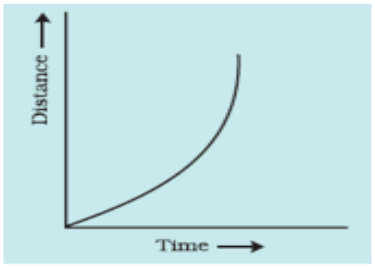
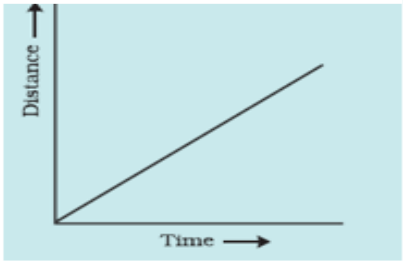


(D)



Q.No. 17 to 20 are Assertion- Reasoning based questions. These consist of two statements- Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true and R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

17. **Assertion (A):** Lichen is a parasitic relationship between alga and fungus. 1
Reason (R): Fungus absorbs water and minerals and alga prepares food by photosynthesis.

18. **Assertion (A):** Our mouth has salivary glands which secrete saliva. 1
Reason (R): Saliva does not break down starch into sugar.

19. **Assertion (A):** All hot bodies radiate heat. 1
Reason (R): When heat falls on an object, a part of it is reflected and a part is absorbed.

20. **Assertion (A):** A concave mirror diverges the rays of light falling on it. 1
Reason(R): A concave mirror forms, virtual and erect image when object is placed between pole and focus.

SECTION –B

21. Name the parts of the alimentary canal where: 2
(A) water gets absorbed from undigested food.
(B) digested food gets absorbed.
(C) taste of the food is perceived.
(D) bile juice is secreted.

OR

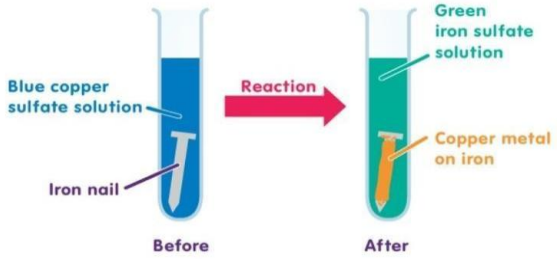
List two functions of pseudopodia.

22. (A) Insectivorous plants can perform photosynthesis still they feed on insects. Why? 2
(B) Why is life not possible on earth without the process of photosynthesis?

23. A farmer grows peas in one field and wheat in another. The pea plants grow well without much nitrogen fertilizer. Explain why? 2

24. Derive the chemical formula of Calcium Phosphate. 2

25. Observe the given picture and answer the questions: 2
(A) What causes brown deposition on iron nail?
(B) Write the equation involved in the above reaction.



26. How can a concave mirror be used to burn a piece of paper? Explain in simple words. 2

SECTION-C

27. (A) How can water and minerals be transported in plants? 3
(B) What will happen if we apply a thin coat of Vaseline on a leaf?

28. Explain how complete digestion of food takes place in small intestine? 3

29. (A) Differentiate between element and compound by giving examples. 3
(B) Write the symbol of ions: (i) Copper (ii) Nitrate

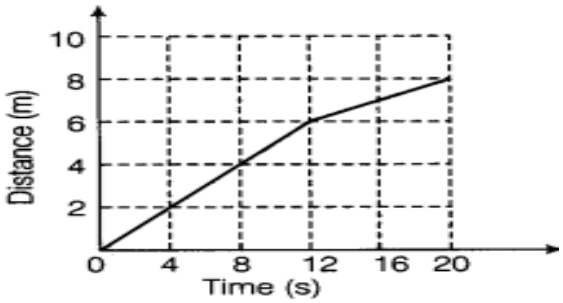
30. (A) Explain the process of transfer of heat in the given picture. 3
(B) What is the normal temperature of human body?
(C) What is the range of a clinical thermometer?

31. (A) In places of hot climate, it is advised that the outer walls of houses be painted white. Explain. 3
(B) A beggar covered himself with a few layers of newspaper on a cold winter night. Why?
(C) Why are gaps left between railway tracks?

32. Given below is the distance-time graph of the motion of an object- 3
(A) What will be the position of the object at 20 s?

(B)What will be the distance travelled by the object in 12 s?

(C) What is the average speed of the object?



33. Observe the following pictures and write the name of the mirror used for following purposes and why? 3

OR

Explain focal length of concave and convex mirror by drawing ray diagram.

SECTION-D

34. (A) Assume, a person is standing in front of a plane mirror. The distance between the mirror and his image is 6 m. If the person moves 2 m towards the plane mirror, what would be the distance between the person and his image? 5

(B) Write down the characteristics of an image formed by a plane mirror. (Any three)

OR

(A) State the Laws of Reflection by drawing ray diagram.

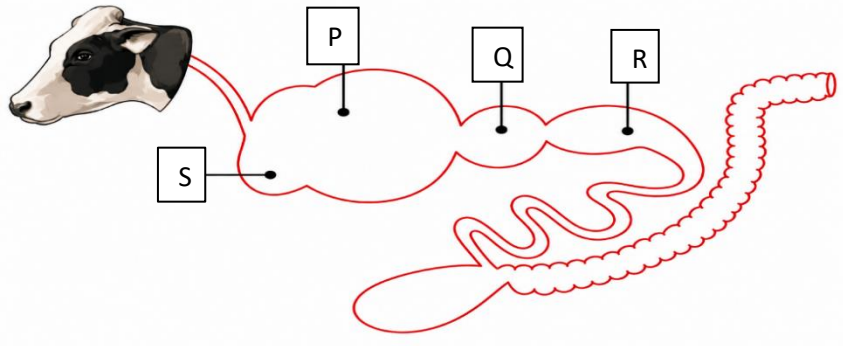
(B) Draw ray diagram of image formation by concave mirror when the object is between the focus and the pole of the mirror.

35. Study the given diagram and answer the following questions: 5

(A) Identify and name the four chambers marked P, Q, R and S.

(B) State one important function of rumen and caecum.

(C) Why is the digestive system of a cow specially adapted for digesting cellulose-rich food?



OR

(A) Name the finger-like projections present on the inner walls of small intestine.

(B) Explain with the help of diagram, how feeding and digestion in Amoeba takes place.

36. (A) What will happen when acid and base react together? Write the balance equation for the reaction between hydrochloric acid and sodium hydroxide. Name the salt formed. 5

(B) What will happen on heating limestone? Write balanced chemical equation.

OR

(A) Balance the following reaction:

$$BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + HCl$$

(B) On passing an electric current, water breaks up into hydrogen and oxygen gases. Identify the type of chemical reaction. Write a balanced chemical equation for the reaction.

SECTION-E

37. Read the passage given below and answer the following questions: 4

During the rainy season, Sneha noticed fungus growing on bread and leather. Her teacher told her that these organisms are fungi and they feed on decaying matter. In the school lab, students observed fungi under the microscope and learned about saprotrophic nutrition.

(A) Define saprotrophic mode of nutrition.

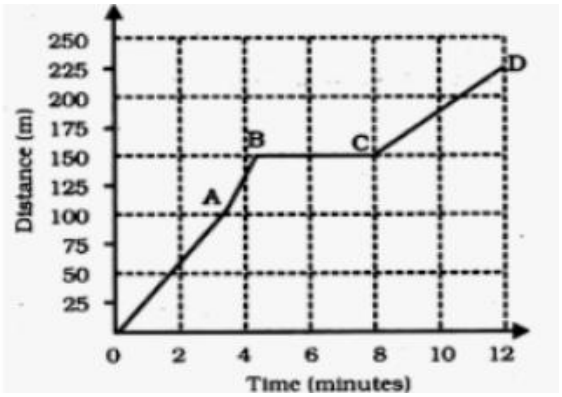
(B) Give two examples of saprotrophs.

(C) Mention conditions help fungi grow.

(D) Name the term used for organisms that feed on dead and decaying matter.

(E) How do these organisms digest their food?

38. Rahul goes to the ground to play football. The distance-time graph of his journey from his home to the ground is given below in a graph. 4



(A) What does the graph between points B and C indicate about the motion of Rahul?

(B) Is the motion between 0 to 4 minutes uniform or non-uniform?

(C) What is his speed between 8 and 12 minutes of his journey?

(D) Calculate the average speed of the object from A to D.

(E) Compare the speed in the intervals AB and CD. Which is greater and why?

39. During a science activity, Riya took two cups containing equal amounts of water. She placed one cup in direct sunlight and kept the other in a shaded room. After some time, she measured their temperatures using thermometers. The water kept in sunlight was warmer. She then placed a steel spoon and a wooden spoon in hot water. After a few minutes, the steel spoon felt much hotter than the wooden spoon. 4

(A) Define temperature.

(B) Why did the water kept in sunlight become warmer?

(C) Which spoon is a better conductor of heat—steel or wood? Give a reason.

(D) Riya wants to hold the hot steel spoon safely. Which material would be suitable for making its handle: steel or wood? Why?

(E) Name the instrument used to measure the temperature of water.