

Sample question paper
Science and Technology
Class-VII (2025-26)

Time Allowed- 3 hours.

Max. Marks- 80

General Instructions:

- All questions are compulsory.
- Question numbers 1 to 19 are MCQs and Assertion Reason type questions which should be answered in one word or one sentence. They carry one mark each.
- Question numbers 20 to 25 are short answer type 1 questions which carry two marks each.
- Question numbers 26 to 31 are short answer type II questions which carry three marks each.
- Question numbers 32 to 34 are long answer type questions and carry 5 marks each.
- Question numbers 35 to 38 are case- study based questions and carry 4 Marks each.
- There is no overall choice in the question paper. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions

SECTION-A

Q1. Rohan is planning to go out for a walk. He felt very hot when he stood out in the sun. It is mainly due to _____.

- | | |
|----------------|-------------------------------------|
| a) Conduction. | b) Radiation |
| c) Convection. | d) Conduction as well as Convection |

Q2. Telephone wires are always hung loosely between the two poles to allow for

- | | |
|-----------------------------|------------------------------|
| a) The flow of electricity. | b) Lightning |
| c) Messages to be sent. | d) Expansion and Contraction |

Q3. Some stainless steel frying pans are provided with copper bottoms. The reason for this could be that.

- | | |
|---------------------------------------|---------------------------------|
| a) Copper is more durable. | b) Copper is good at appearance |
| c) Copper allows better flow of heat. | d) Copper is easier to clean |

Q4. The juice that is used for digestion of fats and stored in gallbladder:

- | | |
|----------------------|---------------------|
| a) Pancreatic Juice. | b) Gastric Juice |
| c) Bile Juice. | d) Intestinal Juice |

Q5. Arrange the following in the correct sequence:-

- i. Digestion
- ii. Assimilation
- iii. Ingestion
- iv. Egestion
- v. Absorption

Choose the correct option from the following:

- | | |
|-----------------------|----------------------|
| a) i, iv, iii, v, ii. | b) iii, i, v, ii, iv |
| c) ii, v, i, iii, iv. | d) iii, i, ii, v, iv |

Q6. Sting of bees, wasps causes a shooting pain due to presence of:

- | | |
|-------------------|----------------|
| a) Carbonic Acid. | b) Citric Acid |
|-------------------|----------------|

- c) Phosphoric Acid. d) Formic Acid
- Q7. Juice of China rose turns into magenta colour when dipped in
 a) Vinegar. b) Solution of Baking Soda
 c) Water. d) Soap Solution
- Q8. The animal that has tracheae as the respiratory organ
 a) Grasshopper. b) Fish
 c) Leech. d) Hydra
- Q9. The appropriate condition for a plant in which rate of photosynthesis and respiration rate is equal:
 a) Dark. b) Dim light
 c) Bright light. d) Noon
- Q10. The number of atoms of 'N' in $\text{Ca}(\text{NO}_3)_2$ is/are :-
 a) 1. b) 2. c) 3. d) 5
- Q11. Replace 'X' with the appropriate element in the given chemical reaction:-
 $\text{X}_2(\text{g}) + 3\text{H}_2(\text{g}) \longrightarrow 2\text{XH}_3(\text{g})$
 a) Al. b) Ca. c) Na. d) N
- Q12. Shivani is preparing chapatis for her family in the kitchen; in the following manner:-
 Step1 – Rolling the dough with a rolling pin
 Step2 – Baking the flattened dough on a griddle (tawa)
 The changes which these steps represent are :-
 1 Step1- Physical change, Step2- Chemical change
 b) Step1- Physical change, Step2- Physical change
 c) Step1- Chemical change, Step2- Chemical change
 d) Step1- Chemical change, Step2- Physical change
- Q13. Radhika took 3 hours to reach her work place, which is 270 km away from her home. Her average speed was:
 a) 27 km/h. b) 40 km/h. c) 90 km/h. d) 80 km/h
- Q14. The motion of Earth around the Sun is an example of:
 a) Oscillatory motion
 b) Non periodic motion
 c) Periodic motion
 d) Rotational motion
- Q15. Living organism that exhibits extracellular digestion is
 a) Cuscuta
 b) Mucor
 c) Amoeba
 d) Money plant

For questions 16 to 19, two statements are given-one labelled Assertion(A) and the other labelled Reason (R). Select the correct answers to these questions from the codes (i), (ii), (iii), (iv) as given below:

- (i) Both A and R are true and R is the correct explanation of Assertion.
 (ii) Both A and R are true and R is not the correct explanation of Assertion.
 (iii) A is true but R is false.
 (iv) A is false but R is true.

Q16. ASSERTION- Humans are not able to digest cellulose.

REASON- They do not have special bacteria which are possessed by ruminants.

Q17.ASSERTION- Sodium Acetate is an example of Acidic Salt.

REASON- It is formed by the reaction between strong base and weak acid.

Q18. ASSERTION- An automobile moving on a busy road is an example of non-uniform motion.

REASON- In non-uniform motion the object covers equal distance in equal intervals of time.

Q19. ASSERTION- Land breeze is a flow of air from land to sea. .

REASON- The air above the land in day time gets heated up more quickly than the air above the sea.

SECTION-B

Q20. Name the finger-like projections present on the inner wall of the small intestine. State its function.

Q21. Differentiate between milk teeth and permanent teeth.(any two)

Q22a) Identify the plant shown in the picture.

b) What is the function of the plant



OR

a) Why is nitrogen important to plants?

b) How does Nitrogen present in the air be taken up by plants?

Q23 Mercury is preferred in ordinary thermometers. Give two reasons.

Q24 Take some crystals of copper sulphate in a beaker. Dissolve them in 50ml of water. A blue coloured solution is obtained. Put an iron nail in the solution and keep it there for 5-10 minutes.

a. Write the chemical equation for the reaction involved.

b. List any two observations in the above reaction.

Q25 Fill in the missing data of the following table.

S.no.	Name of the salt	Salt obtained from base	Salt obtained from acid	Nature of Salt
1.	Calcium carbonate	Calcium hydroxide	a. _____	b. _____
2.	Sodium chloride	c. _____	Hydrochloric acid	Neutral
3.	Potassium nitrate	Potassium hydroxide	Nitric acid	d. _____

SECTION-C

Q26. Rajan is doing vigorous exercise to stay fit for the last 1 week. He is experiencing muscle cramps in his legs.

- What is the cause of muscle cramps in his legs
- How does breathing faster help him to feel normal again.

Q27.a) Overwatering the plant does not support its survival . Justify.

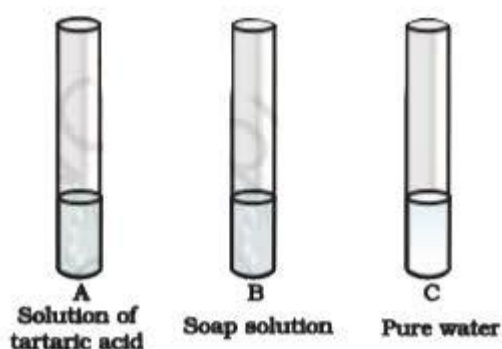
- How do exchange of gases occur in woody branches of the plant having dead cells?

Q28 I am the widest part of the alimentary canal. My inner lining secretes gastric juices, which are composed of X, Y and Z components. Name and state one function of each.

Q29. a) Write the symbol of Oxide ion.

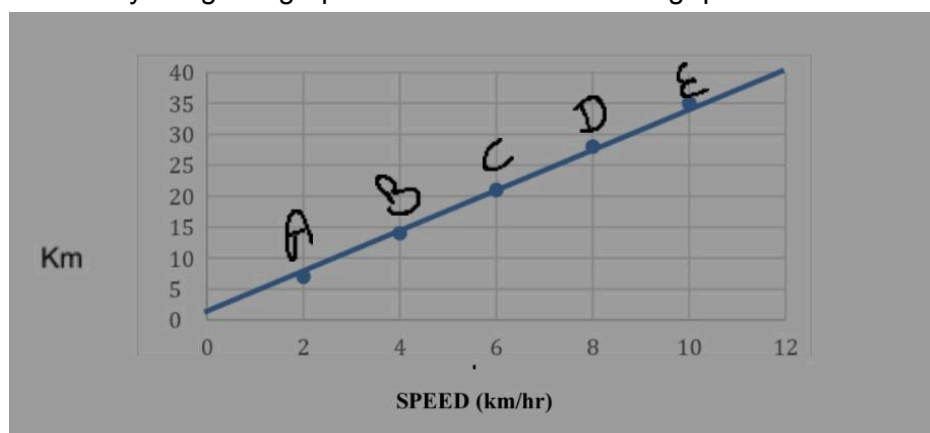
- Derive the chemical formula of Magnesium Nitrate by criss-cross method.

Q30. Look at the figure which shows solutions taken in test tubes A, B and C what colour is expected, when a piece of red litmus paper is dropped in each test tube and complete the following table.



Test tube	Nature of solution	Change in colour
A		
B		
C		

Q31.Study the given graph and answer the following questions.



- Calculate the time taken to reach point E.
- Name a device used to measure distance in vehicles.

c) Identify the type of motion depicted in the given graph.

OR

a) Draw a distance-time graph for a car standing in a parking lot.

b) Calculate the speed of a car when its odometer's reading changes from 25768 km to 25792 km in 2 hours.

SECTION-D

Q32. Sheena has taken two similar plants A and B. She kept A in the sunlight and B in the dark room for a few days. She observed certain changes in both the plants.

a) Write any one change that occurs in each plant.

b) Which process will not occur in plant B and why?

c) Mention the raw materials needed for the above process and also mention how do plants get them?

d) Name the initial products of the above process?

OR

Two different species of plants X and Y live together as if they are parts of the same plants Z. The plant X is an autotroph whereas plant Y is a saprophyte. The plant Y supplies water and minerals to plant X. The plant X makes food by photosynthesis and shares it with plant Y.

a) Identify (i) X (ii) Y, and (iii) Z ?

b) Which of the two plants, X or Y, is green?

c) What is the relationship exhibited by plants X and Y known as?

d) Define the above relationship.

e) Give another example of this type of relationship.

Q33. Give reasons for the following:

a) Ice boxes are often made as double walled containers.

b) Tea or coffee pots are often made shining bright.

c) The bottom of cooking utensils are often kept black.

d) When a glass of hot water is left on a table, it becomes lukewarm after some time.

e) A clinical thermometer has a slight bend or kink, in its capillary tube.

OR

a) Classify the following materials into conductors and insulators of heat:

Copper, air, glass, aluminium

b) Name the method of transfer of heat in the following situations;

i. When a metal rod is left out in the sun on a hot summer day.

ii. The movement of winds between two different latitudes.

c) Name the device to measure temperature.

Q34. a. Classify the following materials into pure substances and mixtures- lemonade, silver, oxygen, soil

b. Classify the given reaction into different types with reasons:-

i) $\text{CaO} + \text{SiO}_2 \longrightarrow \text{CaSiO}_3$

ii) $\text{CaCO}_3 \longrightarrow \text{CaO} + \text{CO}_2$

OR

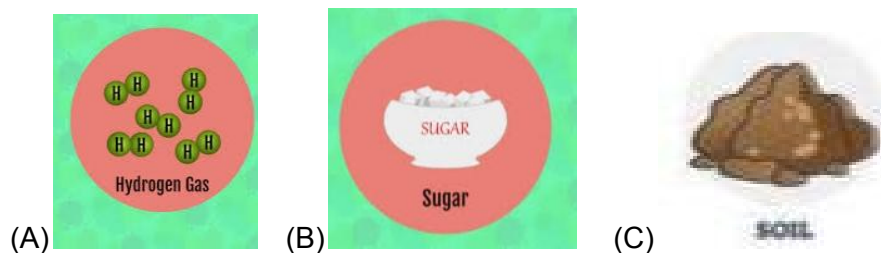
I. Balance the given chemical equations:-

a) $\text{H}_2\text{SO}_4 + \text{NaOH} \longrightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$

b) $\text{Na} + \text{Cl}_2 \longrightarrow \text{NaCl}$

c) $\text{Cu} + \text{AgNO}_3 \longrightarrow \text{Cu}(\text{NO}_3)_2 + \text{Ag}$

II. Which of the following substances are pure substances. Give Reasons.



SECTION-E

Question numbers 35 to 38 are case study-based questions and contain five sub parts each. You are expected to answer any four sub parts in these questions.

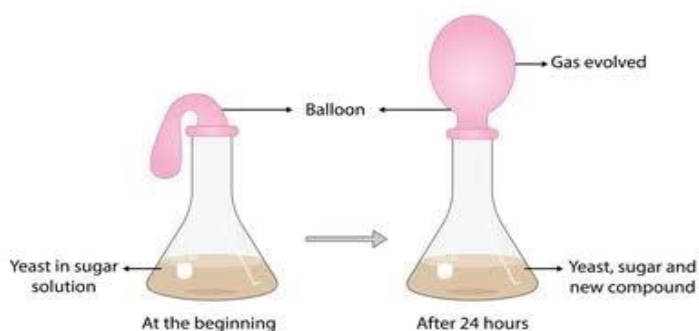
Q35. Rahul is a young boy. He often eats street food during Monsoon. Meanwhile, Rahul's elder brother Rohan is the complete opposite, he always eats nutritious food. One fine day Rahul suffers severe abdominal pain. Doctor remarked – the stomach is unable to secrete gastric juices and bad bacteria are growing so he should take care of his eating habits.

- Whose health will be in better condition – Rahul or Rohan and Why?
- How will the habit of eating street food affect the stomach lining of Rahul?
- Suggest any two eating habits to Rahul.

Q36. Vedika and her family visited a botanical garden where Vedika observed a group of trees that were having a canopy of yellow plants covering them around the trunk and branches. Vedika asked her mother about the plants. Her mother replied it is 'Amarbel'.

- What type of plant was Vedika talking about?
- Why is it not green in colour?
- Why was it covering the tree?
- What term is given to the plant on which it grows?
- Why is this kind of nutrition called heterotrophic?

Q37.



Observe the above given picture and answer the following questions:

- Why did the balloon not inflate in case A?
- Name the gas which inflated the balloon in case B.
- Which biochemical process is depicted in the above experiment .
- Also name one product which will be formed along with the gas in case B.
- Predict your observation if yeast is not added in both the cases A and B.

Q38 Rita tested a few materials like HCl, salt solution, soda water, milk, lemon juice in her school science laboratory to categorise their nature as acidic, basic, and

neutral by using litmus paper. But unfortunately she forgot to make an observation table.

a) Complete the table using above data :

Name of substance	Colour with litmus
A	Blue to red
B	Red to blue

b) Name the material which does not change its colour in both the cases.

c) Why litmus paper is used in the above experimentation.

d) Predict the nature of salt solution and soda water.

e) Give one example of such material that can replace litmus paper.