

CBSE Class 10 Science - 04

Sample / Practice Paper - 2025-26

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Time allowed: 3 hours

Maximum marks: 80

General Instructions:

1. This question paper consists of 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 carrying 1 mark each.
4. Section B consists of 6 Very Short Answer questions carrying 2 marks each. Answers to these questions should be in the range of 30 to 50 words.
5. Section C consists of 7 Short Answer questions carrying 3 marks each. Answers to these questions should be in the range of 50 to 80 words.
6. Section D consists of 3 Long Answer questions carrying 5 marks each. Answers to these questions should be in the range of 80 to 120 words.
7. Section E consists of 3 source-based/case-based questions carrying 4 marks each with sub-parts.

Section A (Objective Type Questions - 1 mark each)

1. Which of the following is a strong acid?
(a) Acetic acid
(b) Citric acid
(c) Nitric acid
(d) Tartaric acid
2. The breakdown of pyruvate to give carbon dioxide, water, and energy takes place in:
(a) Cytoplasm
(b) Mitochondria
(c) Chloroplast
(d) Nucleus
3. The SI unit of power is:
(a) Joule
(b) Watt

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- (c) Ampere
(d) Volt
4. The fusion of male and female gametes is called:
(a) Pollination
(b) Fertilization
(c) Germination
(d) Regeneration
5. The most abundant metal in the earth's crust is:
(a) Iron
(b) Aluminium
(c) Calcium
(d) Sodium
6. The far point of a normal human eye is:
(a) 25 cm
(b) 1 m
(c) 100 m
(d) Infinity
7. The decomposition of vegetable matter into compost is an example of:
(a) Exothermic reaction
(b) Endothermic reaction
(c) Displacement reaction
(d) Double displacement reaction
8. The magnetic effect of current was discovered by:
(a) Faraday
(b) Oersted
(c) Maxwell
(d) Fleming
9. The growth of a pollen tube towards the ovule is an example of:
(a) Geotropism
(b) Hydrotropism
(c) Chemotropism
(d) Phototropism
10. A charge of 150 C flows through a wire in 2 minutes. The electric current flowing through it is:
(a) 1.25 A
(b) 2.5 A
(c) 5 A
(d) 75 A
11. The general formula for alkanes is:
(a) C_nH_{2n}
(b) C_nH_{2n+2}
(c) C_nH_{2n-2}
(d) C_nH_n
12. The blood vessel that carries deoxygenated blood from the body to the heart is:
(a) Aorta
(b) Pulmonary artery

- (c) Vena cava
- (d) Pulmonary vein
- 13. The decomposers in an ecosystem:
 - (a) convert inorganic material to simpler forms
 - (b) convert organic material to inorganic forms
 - (c) convert inorganic material to organic forms
 - (d) do not break down organic compounds
- 14. The wings of a bird and the wings of an insect are:
 - (a) Homologous organs
 - (b) Analogous organs
 - (c) Vestigial organs
 - (d) Fossils
- 15. The image formed by a plane mirror is:
 - (a) Real and erect
 - (b) Virtual and erect
 - (c) Real and inverted
 - (d) Virtual and inverted
- 16. The energy source that is not derived from the sun is:
 - (a) Wind energy
 - (b) Geothermal energy
 - (c) Biomass energy
 - (d) Ocean thermal energy

For Questions 17 to 20, two statements are given – one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but 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): The magnetic field lines never intersect each other.
Reason (R): If they intersect, there would be two directions of the magnetic field at that point, which is not possible.
- 18. Assertion (A): The flow of energy in a food chain is unidirectional.
Reason (R): The energy captured by the producers does not revert to the sun.
- 19. Assertion (A): The traits acquired during the lifetime of an individual are not inherited.
Reason (R): Acquired traits do not bring any change in the DNA of the germ cells.
- 20. Assertion (A): A concave mirror is used as a shaving mirror.
Reason (R): A concave mirror forms a magnified and erect image when the object is placed between the pole and the focus.

Section B (Very Short Answer Questions - 2 marks each)

21. What is an amalgam? Give an example.
 22. What is regeneration? Give an example of an organism that shows regeneration.
 23. Two lamps, one rated 100 W at 220 V, and the other 60 W at 220 V, are connected in parallel to the electric mains supply. What current is drawn from the line if the supply voltage is 220 V?
 24. What are the limitations of harnessing wind energy?
 25. What is placenta? Write its two functions.
 26. Why does the sky appear dark to an astronaut?
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Section C (Short Answer Questions - 3 marks each)

27. What is the difference between soap and detergent?
 28. What are the causes of variation in a population?
 29. A convex lens forms a real and inverted image of a needle at a distance of 50 cm from it. Where is the needle placed in front of the convex lens if the image is equal to the size of the object?
Also, find the power of the lens.
 30. Draw a diagram of the structure of a nephron and label the following parts:
 - (a) Bowman's capsule
 - (b) Glomerulus
 - (c) Collecting duct
 31. Give reasons for the following:
 - (a) Ionic compounds are soluble in water.
 - (b) Metals are used for making cooking utensils.
 - (c) The stars appear higher than they actually are.
 32. What is cataract? How is it treated?
 33. How does the embryo get nourishment inside the mother's body?
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Section D (Long Answer Questions - 5 marks each)

34. (a) What is electromagnetic induction?
(b) Describe an experiment to demonstrate electromagnetic induction.
(c) State Fleming's right-hand rule.

OR

- (a) What is a fuse?
 - (b) What is the function of a fuse in a domestic circuit?
 - (c) What is short-circuiting and overloading?
35. (a) What are hormones?
- (b) Name the hormone secreted by the following endocrine glands and state their function:
- (i) Thyroid gland
 - (ii) Pancreas
 - (iii) Adrenal gland
 - (iv) Pituitary gland
36. (a) What are amphoteric oxides? Give two examples.
- (b) What is the reactivity series of metals?
- (c) How do metals react with water? Give an example.

Section E (Case-Based Questions - 4 marks each)

37. Read the following and answer any four questions from 37 (i) to 37 (v).

Carbon is a versatile element that forms the basis for all living organisms and many of the things we use. This is because it can form strong covalent bonds with other carbon atoms and with other elements. The self-linking property of carbon is called catenation. Carbon can form single, double, and triple bonds.

- (i) What is the valency of carbon?
- (ii) What is catenation?
- (iii) Why does carbon form covalent bonds?
- (iv) What are the different types of bonds that carbon can form?
- (v) What are hydrocarbons?

38. Read the following and answer any four questions from 38 (i) to 38 (v).

The human heart is a muscular organ that pumps blood throughout the body. It has four chambers: two atria and two ventricles. The right side of the heart receives deoxygenated blood from the body and pumps it to the lungs for oxygenation. The left side of the heart receives oxygenated blood from the lungs and pumps it to the rest of the body.

- (i) How many chambers are there in the human heart?
- (ii) What is the function of the heart?

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(iii) Which side of the heart receives deoxygenated blood?

(iv) What is the function of the ventricles?

(v) What is double circulation?

39. Read the following and answer any four questions from 39 (i) to 39 (v).

The heating effect of electric current is used in many appliances like electric heaters, electric irons, and electric bulbs. The heat produced in a conductor is directly proportional to the square of the current, the resistance of the conductor, and the time for which the current flows. This is known as Joule's law of heating.

(i) State Joule's law of heating.

(ii) Name two appliances that work on the heating effect of electric current.

(iii) Why is the filament of an electric bulb made of tungsten?

(iv) Why is an electric fuse made of a material of low melting point?

(v) An electric iron of resistance $20\ \Omega$ takes a current of 5 A. Calculate the heat developed in 30 s.

