

Time: 2 Hour

Total Marks: 70

Class : X

Subject : Science

MCQ SINGLE CORRECT

1. Which of the following are exothermic processes?

- (i) Reaction of water with quick lime
- (ii) Dilution of an acid
- (iii) Evaporation of water
- (iv) Sublimation of camphor (crystals)

(a) (i) and (ii)

(b) (ii) and (iii)

(c) (i) and (iv)

(d) (iii) and (iv)

2. Which of the following is(are) an endothermic process(es)?

- (i) Dilution of sulphuric acid
- (ii) Sublimation of dry ice
- (iii) Condensation of water vapours
- (iv) Evaporation of water

(a) (i) and (iii)

(b) (ii) only

(c) (iii) only

(d) (ii) and (iv)

3. A student requires hard water for an experiment in his laboratory which is not available in the neighbouring area. In the laboratory there are some salts, which when dissolved in distilled water can convert it into hard water. Select from the following groups of salts, a group, each salt of which when dissolved in distilled water will make it hard.

(a) Sodium chloride, Potassium chloride

(b) Sodium sulphate, Potassium sulphate

(c) Sodium sulphate, Calcium sulphate

(d) Calcium sulphate, Calcium chloride

MCQ MULTIPLE CORRECT

4. Which of the following are correct about the field lines?

(a) they move from South Pole to North Pole

(b) their relative strength is shown by their closeness

(c) the overlap of field lines indicate the presence of a strong alloy

(d) they move from North Pole to South Pole

5. What is meant by denatured alcohol? What is the need of denature alcohol?

(a) Denatured alcohol is 95% ethanol. To avoid misuse of ethanol for drinking purposes, it is made unfit by mixing it with some poisonous substances such as methanol, pyridine, copper sulphate etc. This process is called

(b) Denatured alcohol is 5% ethanol. To clean ethanol for drinking purposes, it is made fit by removing poisonous substances such as methanol, pyridine, copper sulphate etc. This process is called denaturing of alcohol thus formed is called denatured alcohol.

All The Best!!!

denaturing of alcohol thus formed is called denatured alcohol.

- (c) To avoid misuse of ethanol for drinking purposes. (d) To clean alcohol for drinking purposes.

TRUE/FALSE

6. An electric motor converts mechanical energy into electric energy.
(a) True (b) False
7. An electric generator works on the principle of electromagnetic induction.
(a) True (b) False

FILL IN THE BLANKS

8. Oxygen and sulphur belong to same ----
9. Along a period, the metallic character of the elements -----
10. A solution has a pH of 4. The solution will turn _____ litmus to _____

VERY SHORT DESC

11. Write the molecular formula of the 2nd and the 3rd member of the homologous series whose first member is methane.
12. Describe the alimentary canal of man.
13. Iodine is necessary for the synthesis of which hormone?
14. How do leaves of plants help in excretion?
15. Explain the importance of soil for plant growth.

SHORT DESC - 25 WORDS

16. Write one equation each for decomposition reactions where energy is supplied in the form of heat, light or electricity.
17. Draw in sequence (showing the four stages), the process of binary fission in Amoeba.
18. Write the structural formula of ethanol. What happens when it is heated with excess of conc. H_2SO_4 at 443 K ? Write the chemical equation for the reaction stating the role of conc. H_2SO_4 in this reaction.
19. Leaves of a healthy potted plant were coated with vaseline. Will this plant remain healthy for long? Give reasons for your answer.
20. Draw a ray diagram showing the dispersion through a prism when a narrow beam of white light is incident on one of its refracting surfaces. Also indicate the order of the colours of the spectrum obtained.

MED DESC - 50 WORDS

21. How did Mendel explain that it is possible that a trait is inherited but not expressed in an organism ?
22. Na, Mg and Al are the elements of the 3rd period of the Modern Periodic Table having group number 1, 2 and 13 respectively. Which one of these elements has the (a) highest valency, (b) largest atomic radius, and (c) maximum chemical reactivity ? Justify your answer stating the reason for each.
23. If the image formed by a mirror for all positions of the object placed in front of it is always diminished, erect and virtual, state the type of the mirror and also draw a ray diagram to justify your answer. Write one use such mirrors are put to and why.
(b) Define the radius of curvature of spherical mirrors. Find the nature and focal length of a spherical mirror whose radius of curvature is + 24 cm.
24. Why are certain compounds called hydrocarbons ? Write the general formula for homologous series of alkanes, alkenes and alkynes and also draw the structure of the first member of each series. Write the name of the reaction that converts alkenes into alkanes and also write a chemical equation to show the necessary conditions for the reaction to occur.
25. With the help of one example for each, distinguish between the acquired traits and the inherited traits. Why are the traits/experiences acquired during the entire lifetime of an individual not inherited in the next generation ? Explain the reason of this fact with an example.

LONG DESC - 100 WORDS

26. Why is it difficult to draw sharp boundaries between ecosystems?
27. You are given a hammer, a battery, a bulb, wires and a switch.
a) How could you use them to distinguish between samples of metals and non-metals.
b) Assess the usefulness of these tests in distinguishing between metals and non-metals.
28. State Mendel's Laws of inheritance.
29. What is lens formula ? Give its sign conventions and assumptions.
30. What is the information conveyed by a chemical equation ?