CBSE Sample Paper
Class: X
Science and Technology

General Instructions:

1. The question paper consists of two **sections A and B.** You are to attempt both the sections and all questions are compulsory.
2. The candidates are advised to attempt all the questions of **section A** separately and **section B** separately.
3. Marks allocated to every question are indicated against it.
4. Question no**. 1- 4 in section A** and **17** and **18 in section B** are to be answered in one word or one sentence.
5. Question no: **5-8 in section A** and **19** and **20 in section B** are to be answered in 30-40 words each.
6. Question no**: 9-14 in section A** and **21- 23 in section B** are to be answered in 40 to 50 words each.
7. Question no: **15 and 16 in section A** and **24 in section B** are to be answered in 70 words each.

SECTION-A

Q.1. Will the lateral displacement increase or decrease , if the glass block is made thicker. (1M)

Q.2. Give one example of a strong acid and one example of a weak base. (1M)

Q.3. What is the desirable property of a fuse wire. Name the material with which fuse wires can be made. (1M)

Q.4. Give the constituent of the alloy - Bronze. (1M)

Q.5. (i) What do you understand by power of accommodation of the eyes.
(ii)Give two causes for the eye defect occurring due to myopia. (2M)

Q.6. (i) What is the effect of temperature , on a chemical reaction?

(ii) Show graphically , the rate of the reaction between granulated zinc and dilute HCl at 293K and 308K. (2M)

Q.7 (i) Draw a diagram to show how two resistors R_1 and R_2 are connected in series .

(ii) In a circuit , if the two resistors of 5Ω and 10Ω are connected in series , how does the current passing through the resistors , compare.

Q.8.An organic compound 'A' has a molecular formula C_3H_6O. It reacts with HCN to form a cyanohydrin, but does not reduce Tollen's reagent.

(i) What is compound ‘A’ .

(ii) What happens when it reacts in the presence of Na BH_4. Give the equation. (2M)

Q.9 (i) What is multi stage launch vehicle ?

(ii) What does the steady state theory tell about the origin of the universe?

(iii) A particular satellite revolves round the earth in an orbit, such that it passes over place at around 2P.M. every day. What kind of satellite is it ? And what name is given to it’s orbit. (3M)

Q.10. (i) Give reason why tartaric acid is a component of baking powder.

(ii)Why should bleaching powder be stored in air tight containers?

(iii) Name the component that is added along with the other ingredients of glass manufacture , to make it durable and thermal shock resistant .
What is this glass called as? (3M)

Q.11. (i) The magnification of a convex lens for an object is one At what distance should the object be placed if the focal length of the convex lens is 10cms.

(ii) A concave lens of power - 4D is used to form an image of an object of size 9cms placed at a distance of 25cms from it. Find the position of the image.(3M)

Q.12. (i)Name the organic compound that is used for preserving biological specimens and give it’s formula.

(ii)What happens when ethanol is oxidized in the presence of chromic anhydride. Give the equation

.

(iii) What is Decarboxylation? Write an equation to support the answer. (3M)

Q.13.What are renewable and non-renewable energy sources. How has this classification proved to be advantageous to man. (3M)

Q.14.(i) Give the reactions in proper sequence that take place during the manufacture of sulphuric acid by contact process.

(ii) what happens when concentrated sulphuric acid is added to Sulphur. Give equation also. (3M)

Q.15. (i) What is nuclear fission ?

(ii) Trace the pathway of obtaining $^{239}Pu_{94}$ from $^{235}U_{92}$.

(iii) Draw the diagram of the boiler type of nuclear reactor and label the parts.

OR

(i) What is nuclear chain reaction ?

(ii) Complete the equation –

$$^{9}Be_{4} + {}^{4}He_{2} \rightarrow \text{----------} + {}^{1}n_{0}$$

(iii) Draw the diagram of the boiler type of nuclear reactor and label the parts. (5M)

Q.16.A metal which is high up in the reactivity series needs to be extracted . This metal is produced cheaply by "NALCO".

(i) Identify the metal and name it's main ore from which extraction is done.

(ii)Name the process of it's extraction from it's enriched ore.

(iii)Why is another compound of the same metal added during the process of it's extraction.

(iv)Draw a labeled diagram to show the process of extraction from it's enriched ore.

OR

(i) Give the principle for the processes of liquation and hydraulic washing.

(ii)Why is it necessary to convert metal sulphides and carbonates to oxides?

(iii)What are the two important conditions that causes rusting?

(iv) Draw diagrams to show the experimental set up that can prove the conditions under which rusting can occur. (5M)

SECTION - B

Q.17. Name the substance that emits electrons during the light reaction in photosynthesis. (1M)

Q.18. Why is the testis extra –abdominal in position? (1M)

Q.19. (i) differentiate tropic and nastic movements in plants.

(ii) Which hormone is responsible for the development of moustache and beard in man? (2M)

Q.20. Distinguish between metacentric and acro centric chromosomes based on the position of centromere and the arms .

OR

What is the evolutionary significance of the fossil archeopterix? (2M)

Q.21. (i) Which occupational disorder is considered to lead to cancer?

(ii) How are the industrial wastes like metals , plastics and paper disposed off?

(iii) What method should be adopted to clear oil slicks?

Q.22. (i) What is asexual reproduction?

(ii) Draw diagram to show the regeneration in Planaria.

(iii) What is syngamy .

OR

(i) What is parthenogenesis?

(ii) Draw diagram to show budding in Hydra.
(iii) What is gametogenesis? (3M)

Q.23. Given below are two organisms . Mention their specific modes of nutrition also define it . a) Round worm b) Frog (3M)

Q.24.(i) Name the blood vessel that brings oxygenated blood to the human heart and the blood vessel that supplies the blood to the cardiac muscle fibres .

(ii) What happens when both the right and the left ventricles contract?

(iii)Why is the blood group 'AB' considered to be universal recipient and the blood group 'O' considered to universal donor? (1+2+2=5M)