

**PAST QUESTION PAPERS  
FOR  
CLASS – X**

**YEAR – 2018**

**SCIENCE**

Full Marks – 80

Pass Marks – 20

Time : Three hours

Answer all questions.

**SECTION – A**

**(CHEMISTRY) – 26 Marks**

*Answer Question Nos. 1 to 4 in a sentence, a word, or a phrase each.*

1. What valency will be shown by the element having sixteen protons in its nucleus ? 1
2. Define covalency 1
3. Write the formula of the acid salt formed by the reaction of sodium hydroxide and carbonic acid. 1
4. Double displacement reaction does not take place when aqueous solutions of  $\text{NaNO}_3$  and  $\text{KCl}$  are mixed together. Give reason. 1

*Answer Question Nos. 5 and 8 in about 30 words each.*

5. Which of the two solutions of same concentration, hydrochloric acid and acetic acid will have higher pH ? Give reason. 2
6. Draw a labelled diagram showing the aggregates of anions around a cation in  $\text{NaCl}$  crystal. 2
7. In a metallurgy process;  $\text{HgO}$ ,  $\text{MgO}$  and  $\text{Al}_2\text{O}_3$  are separately heated with Zinc metal. Which one of the metals will be extracted ? Give reason. 2
8. Explain how washing with water sterilized with Bleaching powder affect coloured linen and cotton clothes. 2

*Answer Question Nos. 9 to 11 in about 50-60 words or as per directions.*

9. Elements A, B and C form a Dobereiner's triad given as follows :

Element	Atomic mass
A	7
B	23
C	x

Calculate "x". Does the triad also exist in Newland's Octaves ?

10. What are redox reaction ? Give an example and identify the reducing agent in the reaction. 3
11. What are alloys ? Give the compositions of solder and Zinc amalgam. 3

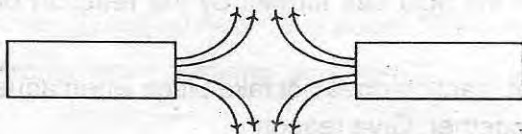
*Answer Question Nos. 12 in about 100 word or as per directives.*

12. Write the structure and IUPAC name of the structural isomers with molecular formula  $C_3H_6$ . Which one of the isomers can't be a homologue of the unsaturated hydrocarbon series ? How can the isomers be distinguished by a simple chemical test ? 5

**SECTION – B**  
**(PHYSICS) – 26 Marks**

*Answer Question Nos. 13 to 16 in a word or sentence each.*

13. Why is electricity considered as the most convenient form of energy ? 1
14. Magnetic lines of force of two bar magnets are shown as follows. Name the poles of magnets facing each other. 1



15. What is role of brushes in an electric motor ? 1
16. Draw a ray diagram to show the position of the image formed when the object is placed at infinity from a convex lens. 1

*Answer Question Nos. 17 to 20 in about 30 words each.*

17. Connected wires used in electric heater are thicker than used in electric bulb. Why ? 2
18. Why does dispersion of light occur in a prism but not in a rectangular glass slab ? 2
19. Mention two disadvantages of burning of fossil fuels. 2
20. What is meant by solar constant ? Give its value. 2

*Answer Question Nos. 21 to 23 in about 50 words.*

21. Two resistances are in the ratio 1 : 2. If these are connected in parallel, their equivalent resistance becomes  $8 \Omega$ . Calculate the value of each resistance. 3
22. State three advantages of an electromagnet over a permanent magnet. 3
23. A concave mirror produces three times enlarged real image of an object placed 10 cm in front of it. Calculate the radius of curvature of the mirror. 3

*Answer Question Nos. 24 in about 100 words.*

24. Draw a schematic diagram of an A.C. generator with the help of this diagram and explain the construction of it. 1+4=5

**SECTION – C**  
**(BIOLOGY) – 28 Marks**

*Answer Question Nos. 25 to 28 in one sentence each.*

25. Write the overall equation for photosynthesis. 1
26. Define apical dominance. 1
27. What is ozone shield ? 1
28. Why is CNG considered as a better fuel than diesel for automobiles ? 1

*Answer Question Nos. 29 to 33 in about 30 words each.*

29. Give two functions of adrenaline. 2
30. What are the advantages of superation of oxygenated and deoxygenated blood in birds and mammals ? Give two points. 2
31. Draw a neat diagram of a neuron and label axon and dentrite. 2
32. How does seed germinates ? 2
33. Give two points of differences between Social forestry and Agroforestry. 2

*Answer Question Nos. 34 to 36 in about 50 words each.*

34. "If the tails of a group of mice are surgically removed, the offsprings of those tailless mice have tails." Justify the statement. 3
35. "Forest acts as a regular of hydrological cycle." Explain in three points. 3
36. List three environmental impacts of big-dams at the upstream level. 3

*Answer Question Nos. 37 in about 100 words.*

37. Give five points of differenced between axexual and sexual reproduction. 5