

Common Instructions

- 15 minutes is given as cool-off time.
- This time is to be spent for reading the question paper
- Attempt questions according to the instructions

Question 1 to 5 Carry 1 Score each. Answer any four of them.

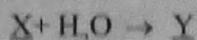
1. What is the basis of classification of elements in the modern periodic table?
2. When a burning splinter is introduced in to a gas, the splinter burned with a glowy flame. Identify the gas.
3. Which among the following can be the pH of lime juice?
(1/ 4/ 7/ 10)
4. Which is the substance used in the laboratory to ~~to~~ remove traces of water vapour in ammonia?
5. Number of hydroxide ions is increased ~~in~~ dissolving a substance 'X' in water. To which category does the substance ~~it~~ belong? (4 x 1 = 4)

Question 6 to 10 Carry 2 Scores each. Answer any four of them.

6. Correct the wrong statements, if any, from those given below.
 - a) Normally the electrogativity values of non-metals are high.
 - b) Alkali metal has the highest ionization energy in a period.
 - c) Usually the oxidation number of metals will be negative.
 - d) Lanthanoids are known as rare earths.
7. Match the details in columns A, B & C suitably (2)

A	B	C
Scientist	Attempts of classification	Major disadvantage
Dobereiner	Metals and Non-Metals	Not able to classify Metalloids
Mendeleev	Triads	Not able to classify all elements
	Periodic table	Not able to keep the actual increasing order of atomic mass.

8. The equations of ionisation reactions when hydrochloric acid dissolves in water are given below.



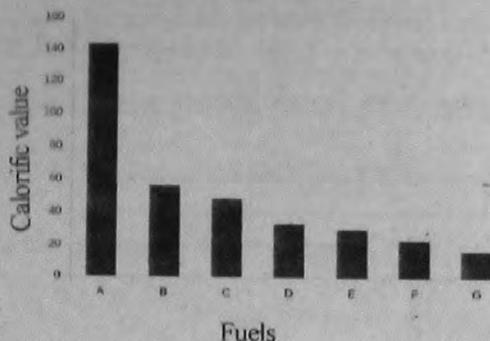
Identify X and Y

9. The p^{H} of a soil is measured during soil testing.
- a) Why the p^{H} of soil is measured? (1)
- b) Suggest a method to increase the P^{H} of a soil with $\text{P}^{\text{H}} = 5$ (1)
10. a) What are the Chemicals used to prepare ammonia in the laboratory? (1)
- b) What will be the colour of a moist litmus paper when shown in Ammonia gas? (1)
- (4 x 2 = 8)

Question 11 to 15 Carry 3 Scores each. Answer any four of them.

11. The electronic configuration of sodium is 2,8,1.
- a) What is the name of the path in which electrons revolve around the nucleus? (1)
- b) Electron of which shell has the highest energy? (1)
- c) What is the maximum number of electrons that can be accommodated in M shell? (1)
12. The electronegativity values of three elements are given (Symbols are not real)
- | | | |
|----------|----------|----------|
| A = 0.93 | B = 3.44 | C = 3.04 |
|----------|----------|----------|
- a) Name the type of chemical bond usually formed between A & B. (1)
- b) Which of these elements can form Covalent bond? (1)
- c) Write down the formula of the compound formed by A and B (1)
- (Valency : A = 1, B = 2)
13. The formula of Copper Sulphate is CuSO_4
- a) Which is the major anion in its aqueous solution? (1)
- b) Which is the acid that forms this salt? (1)
- c) Write down any one use of this compound. (1)

14. The graph showing the calorific values of some fuels is given



- a) Which among these fuels is Hydrogen ? (1)
 b) Atmospheric pollution does not occur when Hydrogen is used as a fuel. Why? (1)
 c) Usually Hydrogen is not used as a fuel. Why? (1)

15. The nuclear charges of some elements of the second period of the Periodic Table are given below

B	C	N	O	F
(5 ⁺)	(6 ⁺)	(7 ⁺)	(8 ⁺)	(9 ⁺)

- a) Which among these is the largest atom? (1)
 b) Which element has the highest ionisation energy? (1)
 c) Which element among these has the lowest electronegativity? (1)

(4x3=12)

Question 16 to 20 Carry 4 Scores each. Answer any four of them.

16. Oxygen gas is essential for life on the earth.
 a) How is Oxygen prepared in the Laboratory? (1)
 b) The compound formed by the reaction of Oxygen with Deuterium, an isotope of Hydrogen, is commonly known as..... (1)
 c) Ozone is an allotrope of oxygen. What is the role of Ozone in the atmosphere? (1)
 d) What are the main substances causing the depletion of Ozone layer? (1)
17. A part of the periodic table is given (Symbols are not real)

A	₆ B	C
₁₃ P	Q	R

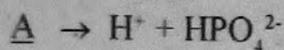
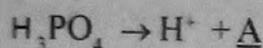
- a) Write down the electronic configuration of R. (1)
 b) What is the atomic number of the last element of the period to which C belongs? (1)
 c) Which of the given elements has the highest metallic character? (1)
 d) Write down the electronic configuration of the first element of the period to which P belongs. (1)

18. Some chemicals available are given

NaCl	Con. HCl	Zn	KMnO ₄	K ₂ SO ₄	CuSO ₄
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- a) Choose the chemicals from the box that are used for the laboratory preparation of Chlorine. (1)
- b) Chlorine formed is usually passed through concentrated Sulphuric acid. Why? (1)
- c) Bleaching powder is used as a source of Chlorine for different purposes. How is bleaching powder prepared? (1)
- d) Write down any two other uses of Chlorine. (1)

19. Ionisation equations of Phosphoric acid are given.



- a) Write down the formulae of ions **A** and **B**. (2)
- b) Which type of acid is Phosphoric acid?
(Monobasic, Dibasic, Tribasic) (1)
- c) How many types of salts are formed by Phosphoric acid? (1)
20. a) Write down the procedure of the experiment to prove that the reaction between Sodium hydroxide and Hydrochloric acid is a neutralisation reaction. (2)
- b) Write down the equation representing this reaction. (1)
- c) Name the salt formed, if you use Sulphuric acid instead of Hydrochloric acid? (1)

(4x4=16)
