

11th Periodic Classification – Model Question Paper

Std : XI

Chemistry

Marks : 70

I. Choose the correct answer :**15X1=15**

1. Which of the following is the least electronegative element?
a) Bromine b) chlorine c) Iodine d) Hydrogen
2. In a given shell the order of screening effect is -----
a) $s > p > d > f$ b) $s > p > f > d$ c) $f > d > p > s$ d) $f > p > s > d$
3. The element with positive electron gain enthalpy is -----
a) Hydrogen b) sodium c) Argon d) Fluorine
4. What would be the IUPAC name for an element with atomic number 222?
a) bibibium b) bididium c) didibium d) bibibium
5. The law of octaves was proposed by -----
a) lother mayer b) Newland c) Mendeleev d) chancourtois
6. Eka - aluminium is -----
a) the lower isotope of aluminium b) the higher isotope of aluminium
c) Gallium d) germanium
7. The atomic number of unnilquadium
a) 101 b) 102 c) 103 d) 104
8. The modern periodic table contains
a) 7 groups & 18 periods b) 7 periods & 18 groups
c) 7 periods & 7 groups d) 18 groups & 18 periods
9. Ionic hydrides are formed by -----
a) halogens b) chalcogens c) inert gases d) group one elements
10. In acidic medium H_2O_2 is -----
a) dehydrating agent b) oxidizing agent c) reducing agent d) desulphurising agent
11. The No. of Neutron present in tritium is -----
a) 1 b) 0 c) 2 d) 3
12. Which is used as rocket fuel? -----
a) hydrogen b) deuterium c) heavy water d) tritium
13. The cause of permanent hardness of water is due to -----
a) $Ca(HCO_3)_2$ b) $Mg(HCO_3)_2$ c) $CaCl_2$ d) $MgCO_3$
14. Zeolite used to soften hardness of water is hydrated -----
a) sodium aluminium silicate b) calcium aluminium silicate
c) zinc aluminium borate d) lithium aluminium hydride
15. Water is a -----
a) basic oxide b) acidic oxide c) amphoteric oxide d) None of these

II. Answer the following any 6 questions (Q.No : 22 is compulsory)**6X2=12**

16. What are isoelectric ions? Give examples.
17. What is effective nuclear charge?
18. Give the general electronic configuration of lanthanides and actinides?
19. Define modern periodic law.
20. Define periodicity.
21. Give the uses of heavy water.
22. What is water - gas shift reaction.
23. Laboratory preparation of hydrogen explain
24. What are isotopes? Write the names of isotopes of hydrogen.

III. Answer the following questions (Q.No : 28 is compulsory) (any 6)**6X3=18**

25. Define electronegativity.
26. What is screening effect?
27. Why halogens act as oxidising agent?
28. Energy of an electron in the ground state of the hydrogen atom is -2.18×10^{-18} J. Calculate the ionisation enthalpy of atomic hydrogen in terms of $KJ\ mol^{-1}$.
29. Complete the following chemical reactions and classify them into
a) hydrolysis b) redox c) hydration reactions
i) $KMnO_4 + H_2O_2 \rightarrow$ ii) $CrCl_3 + H_2O \rightarrow$ iii) $CaO + H_2O \rightarrow$
30. Compare the structures of H_2O and H_2O_2
31. Explain the exchange reactions of deuterium
32. Explain diagonal relationship
33. What is meant by Intramolecular hydrogen bond?

IV. Answer the following questions (any 5)**5X5=25**

34. Explain Pauling's method of determination of ionic radius.
35. State the trends in the variation of electro negativity in group and periods.
36. Explain the following give appropriate reasons.
(i) Ionisation potential of N is greater than that of O.
(ii) First ionisation potential of C - atom is greater than that of B atom, where as the reverse is true for second ionisation potential.
37. A group - 1 metal (A) which is present in common salt reacts with (B) to give compound (C) in which hydrogen is present in -1 oxidation state. (B) on reaction with a gas to give universal solvent (D). The compound (D) on reacts with (A) to give (E) a strong base. Identify A, B, C, D & E Explain the reactions.
38. How do you convert para hydrogen into ortho hydrogen
39. a) Hydrogen peroxide can function as an oxidising agent as well as reducing agent. Substantiate this statement with suitable examples (3)
b) Do you think that heavy water can be used for drinking purposes? (2)

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