

Padasalai.Net's Quarterly Exam 2022 – Model Question Paper

Std XII
Chemistry

Max.Mark:70
Time: 3:00

I. Choose the correct answer

15 X 1 = 15

1. Wolframite ore is separated from tinstone by the process of
(a) Smelting (b) Calcination (c) Roasting **(d) Electromagnetic separation**
2. Ignition mixture used in aluminothermic process is
(a) Mg + BaO₂ (b) MgO + BaO (c) Al₂O₃ + Mg (d) Al₂O₃ + BaO₂
3. An aqueous solution of borax is
(a) neutral (b) acidic **(c) basic** (d) amphoteric
4. Syn gas is
(a) CO + N₂ **(b) CO + H₂** (c) CO₂ + H₂ (d) CO₂ + N₂
5. The correct order of the thermal stability of hydrogen halide is
(a) HI > HBr > HCl > HF **(b) HF > HCl > HBr > HI**
(c) HCl > HF > HBr > HI (d) HI > HCl > HF > HBr
6. Sulphuric acid can be manufactured by
(a) Ostwald's process **(b) Lead chamber process**
(c) Deacon's process (d) Haber's process
7. The actinoid elements which show the highest oxidation state of +7 are
a) Np, Pu, Am (b) U, Fm, Th (c) U, Th, Md (d) Es, No, Lr
8. In which of the following arrangements octahedral voids are formed ?
(i) *hcp* (ii) *bcc* (iii) simple cubic (iv) *fcc*
a) (i), (ii) **b) (i), (iv)** (c) (iii) (d) (ii), (iv)
9. A reaction is 50% completed in 2 hours and 75% completed in 4 hours. Then the order of the reaction is
(a) first order (b) zero order (c) second order (d) third order
10. Which one of the following is the unit of rate of reaction?
(a) s⁻¹ (b) mol s⁻¹ **(c) mol L⁻¹ s⁻¹** (d) mol L s
11. The aqueous solutions of sodium formate, anilinium chloride and potassium cyanide are respectively
(a) acidic, acidic, basic **(b) basic, acidic, basic**
(c) basic, neutral, basic (d) none of these
12. Hydroboration of an alkene follows
a) Saytzeff's rule (b) Markownikoff's rule
c) anti Markownikoff's rule (d) Popoff's rule
13. Carboic acid is
(a) Phenol (b) Picric acid (c) benzoic acid (d) phenylacetic acid
14. Formaldehyde reacts with ammonia to form
a) aldimine (b) diacetone amine **c) hexamethylene tetramine** (d) formaldehyde ammonia
15. Which is used in medicine as an urinary antiseptic?
a) formic acid (b) acetic acid **c) benzoic acid** (d) acetyl chloride

II. Answer any six questions. (Question no 24 is compulsory)

6 X 2 = 12

16. Which type of ores can be concentrated by froth floatation method? Give two examples for such ores.
17. What is phosgene?
18. What is the inert pair effect?

19. Calculate the number of atoms in a fcc unit cell.
20. Write Arrhenius equation and explain the terms involved
21. What are Lewis acids and bases? Give two examples for each.
22. Explain common ion effect with an example.
23. Write briefly about halofom reaction
24. Explain Kolbe's reaction

III. Answer any six questions. (Question no 33 is compulsory) 6 X 3 = 18

25. Give the limitations of Ellingham diagram.
26. Give the structure of CO and CO₂.
27. Write a short note on Rhombic sulphur?
28. Define average rate and instantaneous rate.
29. Differentiate crystalline Solids and Amorphous solids
30. Define solubility product.
31. What is Benzoin Condensation?
32. What happens when ethylene glycol is reacted with PCl₃?
33. Convert phenol into (i) 1, 4 - benzoquinone (ii) cyclohexanol

IV. Answer all the questions

5 X 5 = 25

34. a. Explain froth floatation process.
Or
b) Describe the structure of diborane.
35. a. i. Bleaching action of chlorine is permanent. Justify this statement.
ii. What is lanthanide contraction and what are the effects of lanthanide contraction?
Or
b. Write the preparation of potassium dichromate?
36. a. i. Calculate the packing efficiency in fcc unit cell?
ii. What are ionic solids? Give their characteristics.
Or
b) Explain the rate-determining step with an example.
37. a. Derive an expression for Ostwald's dilution law.
Or
b. Derive Henderson-Hasselbalch equation.
38. a. i. Write about the oxidation of ethylene glycol
ii. Write a note on Swern Oxidation.
Or
b. i. What is Urotropine? How is it prepared?
ii. Explain the mechanism of aldol condensation

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