

Standard XII

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CHEMISTRY

Marks : 70

15 x 1 = 15

Time : 3.00 hrs

Part - I

- I. Choose the Best answer:
- Which of the following is used for concentrating ore in metallurgy?
a) leaching b) roasting c) froth floatation d) both (a) and (c)
 - The colour of the vapour burns in ethyl borate test is
a) red b) violet c) green d) yellow
 - Most easily liquefiable gas is
a) Ar b) Ne c) He d) Kr
 - The colour of the vapour of chromyl chloride is
a) blue b) orange red c) brown d) deep violet
 - A magnetic moment of 1.73 BM will be shown by one among the following
a) $TiCl_4$ b) $[CoCl_6]^{4-}$ c) $[Cu(NH_3)_4]^{2+}$ d) $[Ni(CN)_4]^{2-}$
 - The vacant space in fcc unit cell is
a) 26% b) 32% c) 48% d) 74%
 - If 75% of a first order reaction was completed in 60 minutes, 50% of the same reaction under the same conditions would be completed in
a) 20 minutes b) 30 minutes c) 35 minutes d) 75 minutes
 - The pH of 0.001 M HCl solution is
a) 3 b) 4 c) 2 d) 1
 - Which of the following electrolytic solution has the least specific conductance?
a) 2 N b) 0.002 N c) 0.02 N d) 0.2 N
 - Hair cream is
a) gel b) emulsion c) solid sol d) sol
 - Fenton's reagent is
a) NaOBr b) $FeSO_4 + H_2O_2$ c) $KHSO_4$ d) HIO_4
 - The reagent used to distinguish between acetaldehyde and benzaldehyde is
a) Tollens reagent b) Fehling's solution
c) 2,4-dinitrophenyl hydrazine d) semicarbazide
 - The oil of mirbane is
a) nitro methane b) nitro ethane c) nitro propane d) nitro benzene
 - Insulin, a hormone chemically is
a) fat b) steroid c) protein d) carbohydrate
 - Which of the following is an analgesic?
a) streptomycin b) chloromycetin c) aspirin d) penicillin

Part - II

II. Answer any 6 questions. (Q.No.24 is compulsory)

6 x 2 = 12

- What is inert pair effect?
- Write the uses of Helium.
- What are the limitations of VBT?
- Define Half life period.
- What is molar conductance?
- Write Schotton-Baumann reaction?

22. Write any 3 differences between DNA and RNA.

23. How is Teflon prepared?

24. Find the pH of a buffer solution containing 0.2 mol/lit sodium acetate and 0.18 mol/lit acetic acid? (The PKa value is 4.74)

Part - III

III. Answer any 6 questions. (Q.No.33 is compulsory)

6 x 3 = 18

25. Explain gravity separation process.

26. List out the uses of oxygen.

27. What is Lanthanide contraction?

28. Write Bragg's equation.

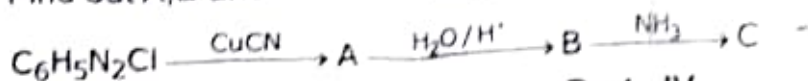
29. Define Kohlraush's law.

30. What are promoters?

31. Write Clemmensen reduction.

32. What are anti oxidants?

33. Find out A, B and C in the following reaction.



Part - IV

5 x 5 = 25

IV. Answer all the questions.

34. a) i) What are the limitations of Ellingham diagram? (2)

ii) Write the uses of silicones. (3)

(OR)

b) i) Write the test for sulphuric acid. (3)

ii) Transition elements have variable oxidation states. Why? (2)

35. a) i) What is coordination number? (2)

ii) Write short notes on Graphene. (3)

(OR)

b) i) What is Bayer's reagent? (2)

ii) Derive Ostwald's dilution law. (3)

36. a) i) Write any 3 differences between chemical adsorption and physical adsorption. (3)

ii) Derive integrated rate law for a zero order reaction. $\text{A} \rightarrow \text{Product}$ (2)

(OR)

b) i) Explain Daniel cell. (3)

ii) What is negative catalysis? (2)

37. a) i) Calculate the percentage efficiency of packing in case of body centered cubic crystal. (3)

ii) What is electro osmosis? (2)

(OR)

b) i) How is picric acid obtained from phenol? (2)

ii) Write Swern oxidation. (3)

38. a) i) Write mustard oil reaction. (3)

ii) Write Sandmeyer reaction. (2)

(OR)

b) i) Explain the structure of fructose. (3)

ii) What are disinfectants? (2)

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