FIRST REVISION TEST - 2025

Standard XI
CHEMISTRY
Part – I

Reg No ☐☐☐☐☐☐

Time : 3.00 hrs   Marks : 70

I. Choose the correct answer: 15 × 1 = 15

1. Which of the following compound(s) has / have percentage of carbon same as that in ethylene (C_2H_6)
   - a) Propene
   - b) Ethyne
   - c) Benzene
   - d) Ethane

2. What would be the IUPAC name for an element with atomic number 222?
   - a) bibiblium
   - b) bididium
   - c) didibium
   - d) bibibium

3. Compressibility factor for CO_2 at 400 K and 71.0 bar is 0.8697. The molar volume of CO_2 under these conditions is
   - a) 22.04 dm^3
   - b) 2.24 dm^3
   - c) 0.41 dm^3
   - d) 19.5 dm^3

4. If K_b and K_f for a reversible reaction are 0.8×10^{-5} and 1.6×10^{-4} respectively, the value of the equilibrium constant is
   - a) 0.05
   - b) 20
   - c) none of these
   - d) 0.2×10^{-1}

5. The total number of orbitals associated with the principle quantum number n = 3 is
   - a) 8
   - b) 7
   - c) 9
   - d) 5

6. Sodium nitropruside reacts with sulphide ion to give a purple colour due to the formation of
   - a) $[Fe(CN)_5 NO]^{3-}$
   - b) $[Fe(CN)_5 NOS]^{4-}$
   - c) $[Fe(CN)_5 NOS]^{3-}$
   - d) $[Fe(NO)_5 CN]^+$

7. What is the hybridisation state of benzyl carbonium ion?
   - a) sp^2d
   - b) sp^3
   - c) spd^2
   - d) sp^2

8. Water is a
   - a) Basic oxide
   - b) Acidic oxide
   - c) Atmophoteric oxide
   - d) None of these

9. The raw material for Rasching process
   - a) Chloro benzene
   - b) Phenol
   - c) Benzene
   - d) Anisole

10. Which of the following is not a thermodynamic function?
   - a) Internal energy
   - b) Enthalpy
   - c) Entropy
   - d) Frictional energy

11. Sodium is stored in
   - a) Water
   - b) Kerosene
   - c) Alcohol
   - d) None of these

12. Bhopal gas tragedy is a case of
   - a) Thermal pollution
   - b) Air pollution
   - c) Nuclear pollution
   - d) Land pollution

13. Flame colour of potassium salt in bunsens burner
   - a) Lilac (violet)
   - b) Crimson red
   - c) Apple green
   - d) Yellow

14. Which of the following is electron deficient?
   - a) PH_3
   - b) $(CH_3)_2$
   - c) BH_3
   - d) NH_3

15. _____ cause kidney damage.
   - a) Cadmium, Mercury
   - b) Copper, Cadmium
   - c) Lead, Cadmium
   - d) Freon, Fluoride

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Part - II

II. Answer any 6 questions. (Q.No.24 is compulsory)   6 x 2 = 12

16. What is meant by limiting reagent?
17. State Dalton law of partial pressures.
18. Describe Fajan's rule.
19. How is acid rain formed? Explain its effect.
20. Give the structure and uses of DDT.
21. What happens when acetylene undergoes ozonolysis?
22. Define electronegativity?
23. Describe the Aufbau principle.
24. $CH \equiv C - CH_3 + H_2 \xrightarrow{Pt} ? \xrightarrow{H_2} ?$
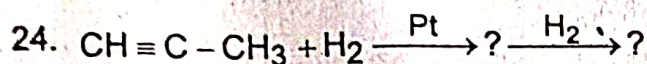
Part - III

III. Answer any 6 questions. (Q.No.33 is compulsory)   6 x 3 = 18

25. Explain the diagonal relationship.
26. Distinguish between extensive and intensive property.
27. Distinguish between oxidation and reduction.
28. What is meant by optical isomerism.
29. Explain Brich reduction.
30. Gram equivalent mass of H_2SO_4.
31. State Le-Chatelier principle.
32. How is alkane prepared from Grignard reagent.
33. Calculate the entropy change during the melting of one mole of ice into water at 0°C and 1 atm pressure. Enthalpy of fusion of ice is 6008 J mol⁻¹

Part - IV

IV. Answer all the questions.   5 x 5 = 25

34. a) i) Balance the following equation using oxidation number method.
$$AS_2S_3 + HNO_3 + H_2O \longrightarrow H_3ASO_4 + H_2SO_4 + NO \text{ (OR)}$$
   b) i) Why interstitial hydrides have a lower density than the parent metal?
     ii) Mention the uses of Plaster of Paris.
35. a) i) Ideal gas equation
     ii) Give the general electronic configuration of lanthanides and actinides. **(OR)**
   b) i) What is lattic energy?
     ii) Define the calorific value of food. What is the unit of calorific value?
36. a) i) Derive the relation between Kp and Kc. **(OR)**
   b) i) Define osmosis.
     ii) Define resonance.
37. a) i) Define bond order.
     ii) What are the salient feature of VB Theory? **(OR)**
   b) i) How does Huckel rule help to decide the aromatic character of a compound?
     ii) Write the reaction for conversion of acetylene to benzene.
38. a) i) Compare S_N1 and S_N2 reaction mechanisms. **(OR)**
   b) ii) Simplest alkene (A) reacts with HCl to form compound (B). Compound (B) reacts with ammonia to form compound (C) of molecular formula C_2H_7N. Compound (C) undergoes carbylamine test. Identify (A), (B) and (C).

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