

BOARD OF INTERMEDIATE EDUCATION

JUNIOR INTER CHEMISTRY

MODEL PAPER (English Version)

Time : 3 Hours

Max.Marks : 60

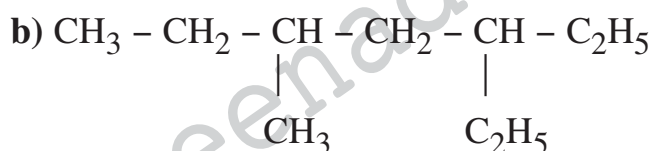
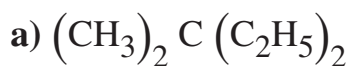
SECTION – A

I. (i) Very Short Answer Type questions.

(ii) Answer ALL questions.

(iii) Each question carries TWO Marks. 10 × 2 = 20

1. Calculate Kinetic Energy (in SI Units) of 4 g of methane at -73°C .
2. What is "disproportionation reaction"? Calculate oxidation states of chlorine in bleaching powder.
3. What is the trend of solubility of alkaline earth metal hydroxides and sulphates in water down the group.
4. Graphite is a good conductor of electricity. Why?
5. Define 'Receptor' and 'Sink'.
6. Calculate pH of 0.0005 M $\text{Ba}(\text{OH})_2$ solution.
7. Why is KO_2 paramagnetic? What is the Oxidation state of K in it?
8. What is allotropy? Mention a) Thermodynamically most stable allotrope of carbon and b) Purest allotropic form of carbon.
9. What is 'Green House effect'? Mention one ill effect of it.
10. Write the IUPAC names of the following compounds.



SECTION – B

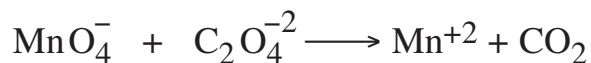
II. (i) Short Answer Type questions.

(ii) Answer any SIX questions.

(iii) Each question carries FOUR Marks. 6 × 4 = 24

11. Write any four postulates of Kinetic molecular theory of gases.

12. Balance the following redox equation in acid medium by ion – electron method.

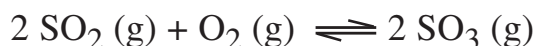


13. a) Define i) 1st law of thermodynamics.

ii) Standard enthalpy of formation.

b) What are the signs of ΔH and ΔS for $2\text{Cl}(\text{g}) \longrightarrow \text{Cl}_2(\text{g})$

14. Derive the relation between K_P and K_C for the equilibrium reaction.



15. Write in brief on a) Ionic Hydrides and

b) Interstitial Hydrides.

16. What are electron deficient compounds? Explain the structure of diborane.

17. Explain a) Geometrical isomerism and

b) Functional isomerism with one example each.

18. Describe one method of preparation of benzene. How does it react with

a) $\text{C}_2\text{H}_5\text{Cl} + \text{anhyd. AlCl}_3$ and

b) $\text{Conc. HNO}_3 + \text{Conc. H}_2\text{SO}_4$

SECTION – C

III. (i) Long Answer Type questions.

(ii) Answer any TWO questions.

(iii) Each question carries EIGHT Marks.

2 × 8 = 16

19. What are Quantum Numbers? How many types of these numbers are present? Explain the significance of the four quantum numbers associated with an electron.

20. What is periodicity? Explain the trends in a group and in a period of the following properties.

a) Atomic radius

b) I.E. and

c) E.N.

21. Define Hybridization. Explain sp^2 , sp^3 , sp^3d and sp^3d^2 hybridization with 1 example each.

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