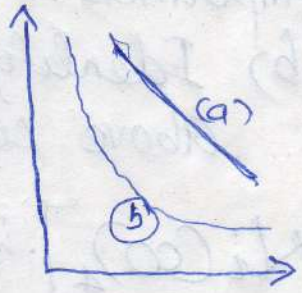


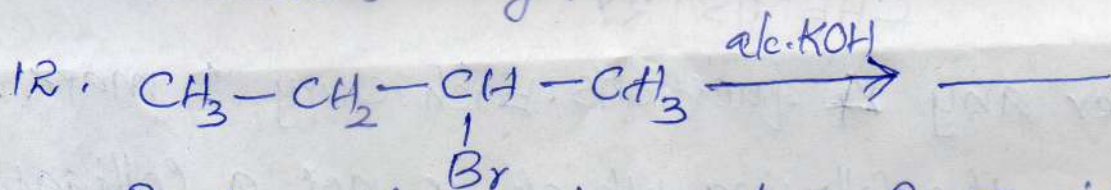
(A) Answer any 4 questions. Each carry 1 mark.

- Among the following which is not a colligative property.
(a) Osmotic Pressure (b) Elevation of B.P.
(c) Vapour pressure (d) Depression of freezing point.
- Cell used in hearing aid?
- Common oxidation state of Lanthanoids?
- Hinsberg reagent is chemically _____
- Example for a non reducing sugar?
(a) Glucose (b) Fructose (c) Sucrose (d) Maltose.

(B) Answer any '8' questions. Each carry 2 Marks.

- What is reverse osmosis? Mention any one application?
- What is van't Hoff factor? What is its value for molecular association and dissociation?
- Identify λ_m vs \sqrt{C} graph of strong and weak electrolytes?

- Write any two differences between primary cells and secondary cells?
- Differentiate Order and Molecularity?

11. Haloarenes are less reactive towards Nucleophilic substitution. Why?



Predict the major product? Justify your answer.

13. Illustrate Reimer-Tiemann reaction?

14. Distinguish between Aldehydes and ketones.

15. Chloroacetic acid is stronger than acetic acid. Why?

Answer any 8 Questions. Each Carry '3' Marks.

16. State Henry's law? Give any two application?

17. Write Arrhenius equation?

(b) The rate constant of a reaction at 1000K and 1060K are $0.01 \text{ mol}^{-1} \text{ s}^{-1}$ and $0.1 \text{ mol}^{-1} \text{ s}^{-1}$ respectively. Calculate Activation Energy?

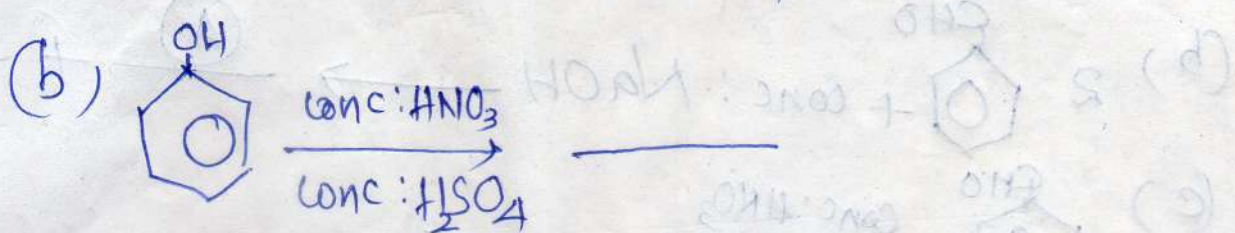
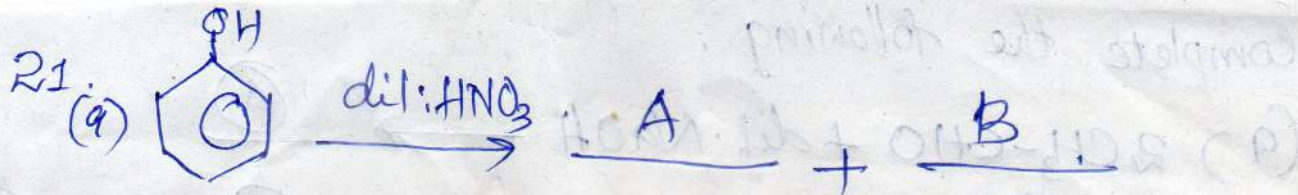
18. $[\text{Co}(\text{NH}_3)_5\text{SO}_4]\text{Cl}$ and $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{SO}_4$ are co-ordination compounds:

(a) Write the IUPAC name of the above compounds?

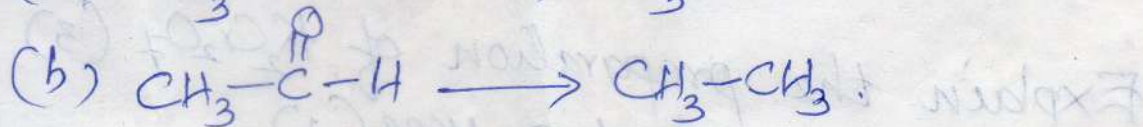
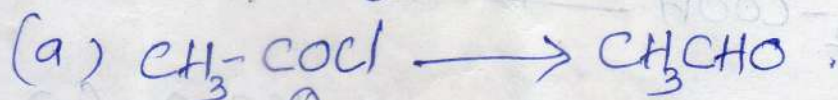
(b) Identify the Ligands in each of the above compounds?

19. $[\text{Ni}(\text{CO})_4]$ is Diamagnetic. While $[\text{Ni}(\text{Cl})_4]^{2-}$ is paramagnetic. Why?

20. Differentiate between primary secondary tertiary alcohols using Lucas test?



22. How will you convert.



23. Write Hoffmann Bromamide reaction and Carbylamine reaction?

24. Explain the primary and secondary structure of proteins?

25. Differentiate between $\text{S}_{\text{N}}1$ & $\text{S}_{\text{N}}2$ reaction

Answer any 4 Questions. Each carry '4' Marks?

26 (a) What are fuel cells

(b) Explain the working of $\text{H}_2\text{-O}_2$ fuel cell

(c) Mention any two merits.

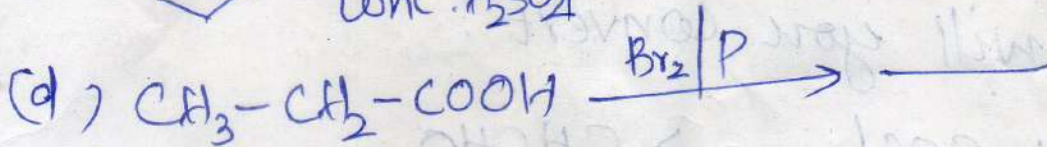
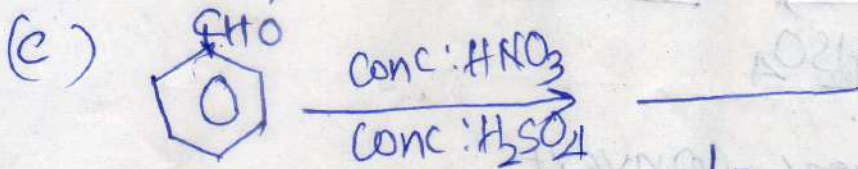
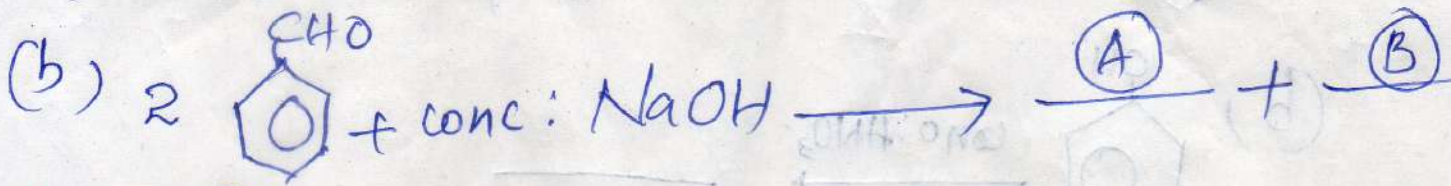
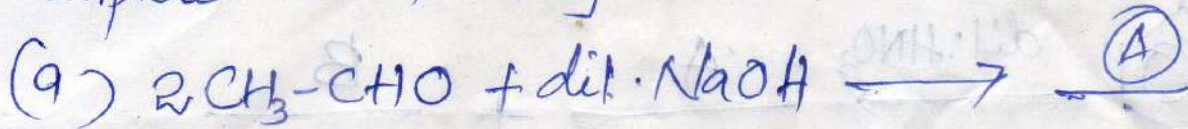
27 Derive the integrated rate equation for first order reaction?

(b) Define half-life period

(c) Write the expression for half-life of a first order reaction?

28 Explain the four different types of structural isomerism exhibited by co-ordination compounds?

29 Complete the following.



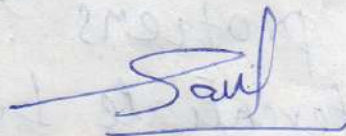
30 Explain the preparation of $\text{K}_2\text{Cr}_2\text{O}_7$ (3)
(b) Mention any two uses (1)

Question prepared by:

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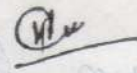
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