International Indian School - Buraidah

TERM EXAMINATION (2019- 20)

Subject:**Chemistry** **Set-B** Class: **XII**
Date:23/06/19 Duration:**3 Hours** Max.Marks:**70**

General Instructions

1. *Question no: 1 to 20 are very short answer type questions carrying 1 mark each.*
2. *Question no: 21 to 27 are short answer type questions carrying 2 marks each.*
3. *Question no: 28 to 34 are short answer type questions and carry 3 marks each.*
4. *Question no: 35 to 37 are long answer type questions and carry 5 marks each.*
5. *Use log table if necessary.*

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1. Name the method used for refining of copper metal. 1

2. Define the term, "homopolymerisation" giving an example. 1

3. State the condition resulting in reverse osmosis? 1

4. What is tincture of iodine ? What is it's use ? 1

5. Draw the structure of the following compound: 4-Methylpent-3-en-2-one. 1

6. . What happens when CH_3-Br is treated with KCN ? 1

7. What are ambident nucleophiles? Explain giving an example. 1

8. Write the structural formula of Hex-2-en-4-ynoic acid 1

9. What is the role of graphite in the electrometallurgy of aluminum? 1

10. Name the main constituents of dettol. 1

11. Name a substance which can be used as an antiseptic as well as disinfectant. 1

12. Give one example of an artificial sweetener used by the diabetic patients. 1

13. State Raoult's law for a solution of volatile liquids. 1

14. How can you describe this designation 6, 6, mean in the name nylon -6, 6? 1

15. What type of linkage holds together the monomers of D.N.A. 1

16. Give one example of a condensation polimer. 1

17. What happens when D-glucose is treated with the bromine water? 1

18. What is the composition of copper matte? 1

19. Why is use of aspartame limited to cold foods and drinks? 1

20. Give the IUPAC name of the following compound: $CH_2(Cl)COCH(CH_3)CONH_2$ 1

21. How will you prepare the following compounds starting with benzene 2
(i) Benzaldehyde (ii) Acetophenone

22. Differentiate between molarity and molality for a solution.How does a change in temperature influence their values? 2

23. What is a biodegradable polymer? Give an example of a biodegradable aliphatic polyster. 2

24. What is essentially the difference between **α** – form of glucose and **β** – form of glucose? Explain.

25. Describe the following giving one example for each : 2
(i) Food preservatives (ii) Antacids

26. Describe the role of (i) SiO_2 in the extraction of copper from copper matte. 2
(ii) Iodine in the refining of zirconium.

27. Give one example of (i) Wurtz reaction (ii) Wurtz-Fittig reaction 2

28. The following compounds are given to you : 3
2-Bromopentane, 2-Bromo-2-methylbutane, 1-Bromopentane
(i) Write the compound which is most reactive towards SN2 reaction.
(ii) Write the compound which is optically active.
(iii) Write the compound which is most reactive towards β-elimination reaction.

29. (i) Write the zwitter ion structure of glycine. 3
(ii) Name the vitamin in each case whose deficiency causes
(a) Night Blindness (b) Poor coagulation of blood
(iii) What is meant by inversion of sugar?

30. What is meant by positive and negative deviations from Raoult's law and how is the sign of ΔH_{mix} related to positive and negative deviations from Raoult's law? 3

31. Account for the following: 3
(i) Aspirin drug helps in the prevention of heart attack.
(ii) Diabetic patients are advised to take artificial sweeteners instead of natural sweeteners.
(iii) Detergents are non-biodegradable while soaps are biodegradable.

32. (i) How is Dacron obtained? 3
(ii) Give one example of a synthetic rubber.

.) Write the names of the monomer of nylon-6,6.

OR

Mention two important uses of each of the following polymers: 3

(i) Bakelite (ii) PVC (iii) Nylon 6,6

33. How would you obtain 3

(i) but-2-enal from ethanal,

(ii) butanoic acid from butanol,

(iii)benzoic acid from ethylbenzene?

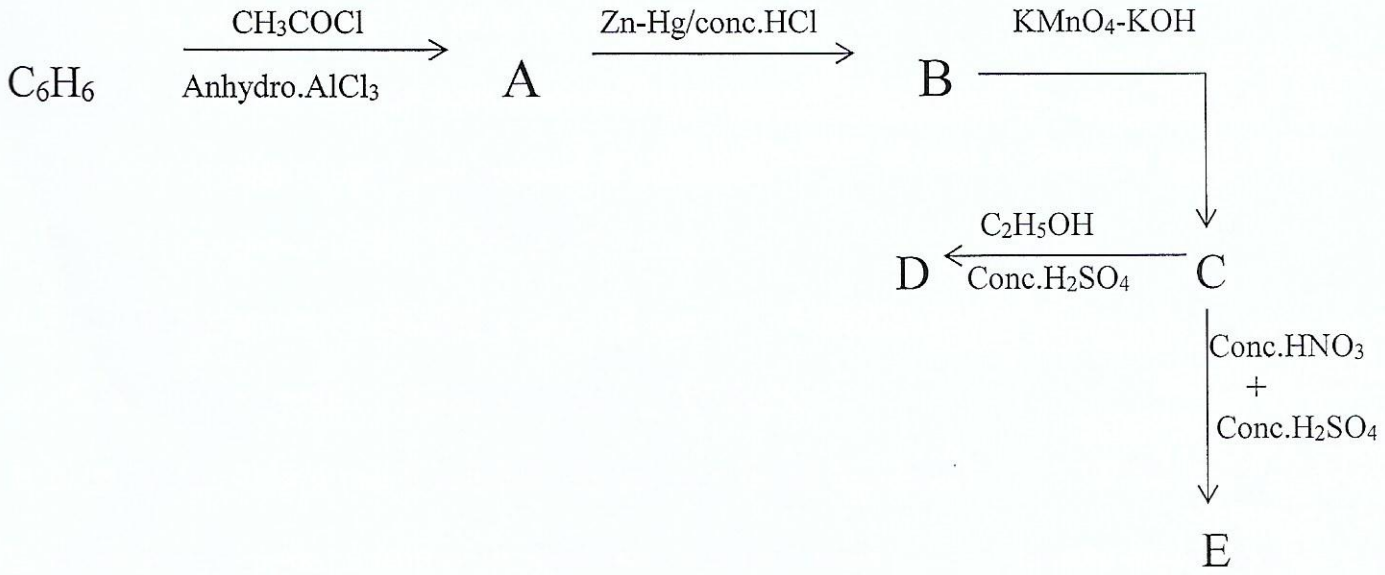
34. Describe how the following changes are brought about: 3

(i) Pig iron into steel.

(ii) Zinc oxide into metallic zinc.

(iii) Impure titanium into pure titanium

35. Write the structures of A,B,C, D and E in the following reactions: 5



OR

(a) Complete the following chemical equations:

(i) $CH_3CH_2CH_2CHO \xrightarrow[KOH/ethylene\ glycol]{NH2\text{-}NH_2}$

(ii) $C_6H_5COCl + H_2 \xrightarrow{Pd\text{-}BaSO_4}$

(iii) $C_6H_5CONH_2 \xrightarrow{Heat}$

(b) Write short notes on .

(i) Decarboxylation (ii) Cannizzaro reaction

36. Illustrate the following reactions giving a suitable chemical equation for each: 5

(i) Sandmeyer's reaction

(ii) Friedel-Crafts **(a)** alkylation and **(b)** acylation of chlorobenzene

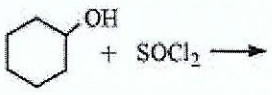
(iii) Wtite structures of the following organic halogen compounds.

(a) 2-Chloro-3-methylpentane **(b)** 1,4-Dibromobut-2-ene

(OR)

Complete the following reaction equations.

(i)



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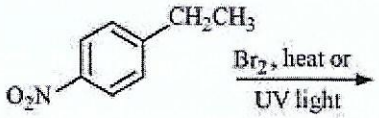

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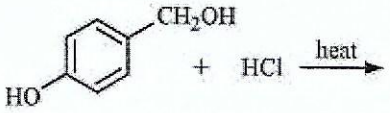

(iv) What happens when

(i) bromobenzene is treated with Mg in the presence of dry ether.

(ii) n-butyl chloride is treated with alcoholic KOH.

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37. Define the following terms :

(i) Mole fraction

(ii) Isotonic solutions

(iii)Van't Hoff factor

(iv) Azeotrope

(v) Colligative properties

(OR)

(a) Define the term osmotic pressure. Describe how the molecular mass of a substance Can be determined by a method based on measurement of osmotic pressure?

(b) Determine the osmotic pressure of a solution prepared by dissolving 2.5×10^{-2}g of K_2SO_4 in 2L of water at 25°C, assuming that it is completely dissociated.

(R= 0.0821 L atmK^{-1} mol^{-1}), molar mass of K_2SO_4 = 174g mol^{-1}

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