

03

223  
TS



Total No. of Questions – 21

Regd.

Total No. of Printed Pages - 2

No.

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Part – III  
CHEMISTRY, Paper-II

(English Version)

Time : 3 Hours]

[Max. Marks : 60

**Note :** Read the following instructions carefully :

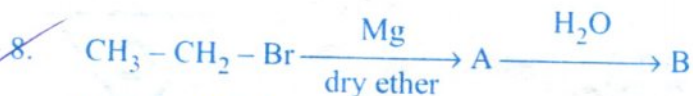
- Answer **all** the questions of Section – A. Answer any **six** questions in Section – B and any **two** questions in Section – C.
- In Section – A, questions from Sr. Nos. **1** to **10** are of “Very Short Answer Type”. Each question carries **two** marks. Every answer may be limited to **two** to **three** sentences. Answer all these questions at one place in the same order.
- In Section – B, questions from Sr. Nos. **11** to **18** are of “Short Answer Type”. Each question carries **four** marks. Every answer may be limited to **75** words.
- In Section – C, questions from Sr. Nos. **19** to **21** are of “Long Answer Type”. Each question carries **eight** marks. Every answer may be limited to **300** words.
- Draw labelled diagrams wherever necessary for questions in Sections – B and C.

SECTION – A

10 × 2 = 20

**Note :** Answer **all** the questions :

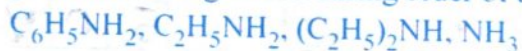
- Define order of a reaction. Give one example.
- What is the role of cryolite in the metallurgy of Aluminium ?
- Why Nitrogen exists as diatomic molecule ( $N_2$ ) and Phosphorus as  $P_4$  ?
- What is “Tailing of Mercury” ?
- Why  $Zn^{2+}$  is diamagnetic whereas  $Mn^{2+}$  is paramagnetic ?
- Calculate molality of 2.5 grams of Ethanoic Acid ( $CH_3COOH$ ) in 75 grams of Benzene.
- Explain  $SN^2$  reaction with one example.



Identify A & B compounds.

9. Explain Carbyl amine reaction with one example.

10. Arrange the following in decreasing order of their basic strength :



### SECTION - B

6 × 4 = 24

**Note :** Answer any **six** questions :

11. Derive Bragg's equation.
12. Give any four differences between Physisorption and Chemisorption.
13. Explain the purification of Sulphide ores by Froth floatation method.
14. Explain Werner's theory of coordinate compounds with suitable examples.
15. Give the sources of the following vitamins and name the diseases caused by their deficiency :  
 (a) A                      (b) D                      (c) E                      (d) K
16. Write short notes on Antiseptics and Disinfectants.
17. (a) What is addition polymer ? Give example.  
 (b) What is PHBV ? How is it useful to man ?
18. What is relative lowering of vapour pressure ? How is it useful to determine the molar-mass of a solute ?

### SECTION - C

2 × 8 = 16

**Note :** Answer any **two** questions :

19. (a) Explain the effect of temperature and catalyst on the rate of a reaction.  
 (b) State Faraday's First Law of Electrolysis.  
 A solution of  $\text{CuSO}_4$  is Electrolysed for 10 minutes with a current of 1.5 amperes. What is the mass of copper deposited at the cathode ?
20. How is Chlorine prepared in the laboratory ? Explain how it reacts with the following along equations :  
 (a) Hot, conc. NaOH  
 (b)  $\text{NH}_3$ (Excess)  
 (c)  $\text{Na}_2\text{S}_2\text{O}_3$
21. Explain the following with one example :  
 (a) Aldol condensation                      (b) Cannizzaro reaction  
 (c) Esterification                              (d) Decarboxylation