

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS—UG)

Chemistry

CHE 5B 07—ORGANIC CHEMISTRY—II

Time : Three Hours

Maximum : 80 Marks

Section A

Answer all questions.

Each question carries 1 mark.

1. Reaction of Phenol with Chloroform and Sodium Hydroxide gives _____.
2. Conversion of Carboxylic acid into α -halo acid takes place by _____.
3. Reagent used in separation of amines by Hinsberg method is _____.
4. The IUPAC name of Neopentyl Chloride is _____.
5. Write the structural formula of But-2-en-1-oic acid.
6. Lucas re-agent is a mixture of _____.
7. Glycol when heated with anhyd. $ZnCl_2$ gives _____.
8. Liebermann's test is a diagnostic test for _____.
9. Metal used in Wurtz reaction is _____.
10. Alkyl Magnesium halide is also known as _____.

(10 × 1 = 10 marks)

Section B

Answer any ten questions.

Each question carries 2 marks.

1. Discuss the classification of Heterocyclic compounds.
2. Discuss the structure of Furan according to resonance concept.
3. What is Victor Meyer's test?
4. How would you carry out the conversion of Glycerol to Isopropyl Iodide? Give the different steps required for the conversion.
5. How will you distinguish between Oxalic acid and Succinic acid?

Turn over

16. How will you distinguish between Acetaldehyde and Acetone ?
17. Write S.N. on Aldol condensation.
18. What is HVZ reaction ?
19. How is Citric acid prepared from Glycerol ?
20. Illustrate the term trans-esterification.
21. Benzoyl Chloride is hydrolysed at much slower rate than Acetyl Chloride. Why ?
22. What is Claisen condensation ?

(10 × 2 = 20 marks)

Section C

*Answer any five questions.
Each question carries 6 marks.*

23. Write S.N. on Fischer Indole Synthesis.
24. How will you prepare :
 - (a) Furan from Furoic acid.
 - (b) Furan from Furfural.
25. How will you distinguish between primary, secondary, tertiary alcohols by :
 - (a) Lucas test.
 - (b) Victor-Meyer method.
26. Write a note on electrophilic substitution reaction of Aniline.
27. (a) How is Eosin prepared ?
 - (b) Give the use of Alizarin as dyestuff.
28. (a) Give the preparation of Alizarin.
 - (b) What is Diazotisation ?
29. (a) What is Reimer-Tiemann reaction.
 - (b) How will you prepare iodoform ?
30. (a) Explain, why an Alkyl Halide is more reactive than Vinyl Chloride.
 - (b) How will you obtain Cinnamic acid by Knoevangel reaction.

(5 × 6 = 30)

Section D

Answer any **two** questions.
Each question carries 10 marks.

31. Write S.N. on the following reactions :
- (a) Kolbe's reaction.
 - (b) Wolf-Kishner reaction.
 - (c) Hofmann's Bromamide reaction.
 - (d) Beckmann re-arrangement.
 - (e) MPV reduction.
32. (a) Discuss briefly the structure and reactivity of Carbonyl group. (5 marks)
- (b) Outline the preparation of primary, secondary and tertiary alcohol using Grignard reagent. (5 marks)
33. (a) Explain the effect of substitution on the acidity of Carboxylic acids. (4 marks)
- (b) How will you prepare α - hydroxy acids ? How will you convert lactic acid into :
- (a) Propanoic acid.
 - (b) Lactide. (6 marks)
34. (a) Write a note on Net's Carbonyl Synthesis. (3 marks)
- (b) How will you convert phenol into quinol. (3 marks)
- (c) What is Hofmann and Saytzeff elimination ? (4 marks)

[2 × 10 = 20 marks]