Reg. No……..…….. Name…… **20U418**

B.Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2020

SEMESTER **– 4: CHEMISTRY (CORE COURSE)**

COURSE: **15U4CRCHE04, ORGANIC CHEMISTRY II**

(For Regular - 2018 Admission and Supplementary / Improvement 2017, 2016, 2015 Admissions)

Time: Three Hours Max. Marks: 60

SECTION A

*Answer **all** the questions. **1** mark each*

1. Name the acid present in tamarind.
2. Heisenberg's reagent is…….
3. Methyllithium react with O_2 to give……
4. Write down the structure of coumarin.
5. What is picric acid?
6. Complete the equation: $RCOCl \xrightarrow[H_2]{Pd/BaSO_4}$
7. What is the chemical name of Urotropine?
8. The carbon atom in carbonyl group is ……hybridized. (1 x 8 = 8)

SECTION B

*Answer **any Six** questions. **2** marks each*

9. Write the mechanism of addition of HCN to aldehydes.
10. How is phenol prepared from cumene?
11. Explain why three membered epoxides are unstable?
12. Explain the synthetic utility of Reformatsky reaction.
13. Which is more strong: formic acid or acetic acid? Explain.
14. Convert benzene sulphonic acid to benzene.
15. How is decalin prepared from naphthalene? Write down the isomers of decalin.
16. How will you distinguish between acetic acid and acetone? (2 x 6 = 12)

SECTION C

*Answer **any Four** questions. **5** marks each*

17. Illustrate the role of organometallic compounds in the synthesis of ketones and alcohols.
18. Present the steps involved in the conversion of methanol to 1-propanol.

19. What is: (i) Claisen condensation and (ii) HVZ reaction?
20. Write a note on Ziesel's method.
21. Discuss the mechanism of electrophilic substitution in naphthalene.
22. Starting from acetoacetic ester, how will you prepare: (i) Isopropyl alcohol and (ii) Crotonic acid?

(5 × 4 = 20)

SECTION D

*Answer **any Two** questions. **10** marks each*

23. How will you distinguish alcohols by:
    (i) Lucas test.
    (ii) Victor-Meyer's test.
    (iii) Oxidation.
    (iv) Dehydrogenation.
24. Give the mechanism of:
    (i) Addition of $NaHSO_3$ to carbonyl group.
    (ii) Wittig reaction.
    (iii) Benzoin condensation.
25. Briefly explain:
    (i) Optical activity in biphenyls.
    (ii) Conversion of naphthalene to phenanthrene.
    (iii) Reactivity of Grignard reagents with active hydrogen compounds.
    (iv) Isomerism in decalin.
26. Describe the preparation and synthetic uses of cyanoacetic ester. (10 x 2 = 20)

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