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SUBJECT CODE NO: - Y-2004
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y (SEM-V)
Examination March / April - 2023
Chemistry Paper -XIV(Organic Chemistry)

[Time: 1:30 Hours]**[Max. Marks:50]**

Please check whether you have got the right question paper.

N. B

1) All questions are compulsory.

- Q1 a. How many sets of equivalent protons are present in ^1H NMR spectrum of the following compounds? 10
- i. Acetone
 - ii. Ethanol
 - iii. Toluene
 - iv. Acetaldehyde
 - v. Ethyl acetate
- Q1 b. Explain the following terms: 10
- i. Cleansing action of Soaps.
 - ii. Claisen ester condensation.
- OR
- Q1 a. How will you convert diethyl malonate into following compounds? 10
- i. Crotonic acid
 - ii. Barbituric acid
 - iii. Succinic acid
- Q1 b. Explain any two relations of 10
- i. Grignard reagents
 - ii. Organozinc compounds
- Q2 a. What is the action of Methylithium on the following compounds? Explain with reactions. 10
- i. Dry ice
 - ii. Acetaldehyde
 - iii. Acetonitrile
 - iv. Ethylene oxide
- Q2 b. Explain the following terms: 10
- i. Saponification value
 - ii. Chemical shift
 - iii. Iodine value
 - iv. Coupling constant

OR

- Q2 Write note on any four of the following: - 20
- i. Preparation of sodium alkyl sulfonate
 - ii. Retiomatsky relation
 - iii. Keto enol tautomenism
 - iv. Shielding and DE shielding
 - v. Acidity of alpha hydrogen in active methylene compounds?

- Q3 Identify correct answer: - 10

1. The nature of carbon. Metal bond in organometallic compounds can be best describe as _____
 - a. 100% covalent
 - b. 100 % ionic
 - c. Dative
 - d. Covalent bond having partial ionic character.
2. Organozinc compounds react with acid chlorides to produce _____
 - a. Aldehydes b. ketones c. Esters d. carboxylic acids.
3. Which of the following solvents can be used for reactions involving Grignard reagent?
 - a. Method b. Ethanol c. THF d. Isopropyl alcohol
4. Oils and facts are _____ glycerides of long chain carboxylic acids.
 - a. Mono b. di c. tri d. tetra
5. Alkaline hydrolysis of ails of fats is called _____
 - a. Fermentation b. diazotization c. Saponification d. none of these
6. Oils and facts on prolonged storage produce an offensive odour. This is called _____
 - a. Rancidity b. saponification c. R-M value d Acid value
7. The distance between adjacent peaks in 1 HNMR signal is called _____.
 - a. Chemical shift
 - b. Coupling constant
 - c. Shielding effect
 - d. DE shielding effect
8. Tertiary alcohol can be obtained by the reaction of ____ with Grignard reagent followed by Hydrolysis?
 - a. Aldehydes b. ketone c. acids d. none of these
9. The extent of unsaturation in an oil of fat is expressed in terms of its ____
 - a. Acid number
 - b. Saponification number
 - c. Iodine number
 - d. None of there

10. Which of the following compound is used as internal standard in ^1H NMR?
- Trimethyl silane
 - Tetramethyl silane
 - Trimethylsilyl chloride
 - All of these