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## **SUBJECT CODE NO:- B-2004**

## FACULTY OF SCIENCE AND TECHNOLOGY

## B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2019

## Chemistry Paper –XIV Organic Chemistry

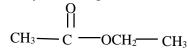
	Organic Chemistry	6.20
[Time: 1:30 ]	Hours] [Max.Ma	ırks:50
N.B	Please check whether you have got the right question paper.  1) All questions are compulsory.	
Q.1 a)	Propose a structure Consistent with <sup>1</sup> HNMR data of each of the following compound.  i) $C_5H_{10}O: \delta 1.05 (t, 6H).$ $\delta 2.4 (q, 4H)$ ii) $C_3H_6O: \delta 2.05 (s, 6H)$	10
b)	How will you synthesize following from diethyl malonate?  i. Glycine  ii. Adipic acid	10
a)	Propose structural formulae for the following compounds which gives two PMR signals. i. $C_8H_{10}$ ii. $C_4H_{10}O$ iii. $C_{10}H_8$	10
b)	What are detergents? Explain cleansing action of soap.	10
Q.2 a)	How can ethyl acetoacetate be used for the synthesis of following Compounds?  i) Butyric acid  ii) Succinic acid	10
b)	Starting from methyl lithium, how can you obtain each of the following:  i. Ethanol  ii. Acetaldehyde  iii. Acetone  iv. Acetic acid	10
	OR	20
	Write short note on (any four) i) Shielding & DE shielding ii) Grignard reagent iii) Iodine Value iv) Coupling constant v) Claisen condensation vi) Acid value	
1,6,6,4,6,6,6	2,67,75 <sup>1</sup> ,67,20,72,25 <sup>7</sup>	

Q.3 Choose the correct option for the following multiple choice questions.

10

- i) Chemical shift of aromatic proton is
  - a) 9 12
- b) 6 8.5
- c) 1.3
- d) 4 4.5

ii) How many NMR signals would be given by the compound?



a) 2

a)

- b) 3
- c) 4
- d) 8

iii) Which of following compound gives two PMR signals?



- b)  $CH_3$ — $CH_2$ — $CH_3$
- $\dot{\text{CH}}_2$  Br
- b) CH<sub>3</sub>— CH<sub>3</sub>
- c) Both a & b

iv) Which of the following attaching protons is the most deshilded?

- a) H O
- b) H-C
- c) H-F
- d) H Br

v) Amide sulphonates are

- a) Soap
- b) Detergents
- c) Fats
- d) Hard soap

vi) How many moles of KoH are required for the hydrolysis of one mole of oil?

- a) 6
- b) 56
- c) 3
- d) 1

vii) Which hydrogen atom of ethyl acetoacetate is more acidic?

- a) Methine
- b) Methyl
- c) Methylene
- d) Methane

viii) Which of the following compound is not organic metallic?

a) CH<sub>3</sub>COONa

b)  $(CH_3 Coo)_2 Ca$ 

c) Diethyl zinc

d) Both a & b

ix) Which of the following organo metallic compound is more reactive?

a) Organo zinc

- b) Organo Lithium
- c) Organo magnesium
- d) All having same reactivity

x) Which functional group is present in oil & fat?

- a) Acid
- b) Ester
- c) Amide
- d) Ketone