

2022

(Held in 2023)

CHEMISTRY

Paper : CHMHC3066

(Organic Chemistry—II)

Full Marks : 60

Pass Marks : 24

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Choose the correct answer from the following : 1×5=5

(a) Haloalkanes undergo

(i) nucleophilic substitution reaction

(ii) electrophilic substitution reaction

(iii) Both (i) and (ii)

(iv) None of the above

(b) The acidity of 1°, 2° and 3° alcohols is in the order

(i) 1° < 2° < 3°

(ii) 1° > 2° > 3°

(iii) 1° < 3° < 2°

(iv) None of the above

(4)

- (e) Write the acidic and alkaline hydrolysis of esters. $2\frac{1}{2}+2\frac{1}{2}=5$
- (f) What is aldol condensation reaction? Explain with example. $1+4=5$
- (g) Define active methylene compounds with proper examples. How can you prepare enolate anion from active methylene compounds? $2\frac{1}{2}+2\frac{1}{2}=5$

4. Answer any *two* of the following questions :

$10 \times 2 = 20$

- (a) (i) Explain substitution versus elimination reaction with examples. 5
- (ii) What is Wurtz reaction? $1\frac{1}{2}$
- (iii) What happens when *t*-butyl bromide reacts with aqueous potassium hydroxide (KOH aq). Show the proper mechanism of the reaction. $1+2\frac{1}{2}=3\frac{1}{2}$

(b) Write notes on any *four* of the following :

$2\frac{1}{2} \times 4 = 10$

- (i) Wittig reaction
- (ii) Clemmensen reduction reaction

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(Continued)

(5)

- (iii) Pinacol-pinacolone rearrangement
- (iv) Wolff-Kishner reduction
- (v) Reformatsky reaction
- (c) (i) What are epoxides? Write one method of preparation of epoxide. $1+1=2$
- (ii) Give the example of an unsaturated carboxylic acid with its method of preparation. $1+2=3$
- (iii) Write Dieckmann reaction with example. 5

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