

Roll No.

(01/22-II)

5210

B. Sc. EXAMINATION

(For Batch 2013 & Onwards)

(Third Semester)

CHEMISTRY

Paper X (CH-203)

Organic Chemistry

Time : Three Hours

Maximum Marks : 27

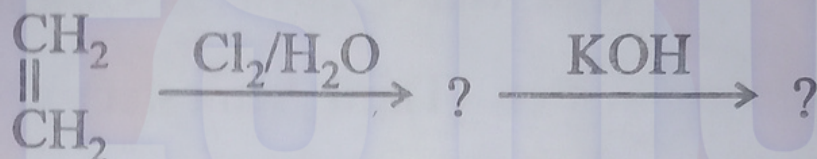
Note : Q. No. 1 is compulsory. Attempt *Five* questions in all, selecting *two* questions from each Section.

1. Short Answer Type Questions : $1 \times 7 = 7$
- (a) 1,2-Propanediol and 1,3-Propanediol can be distinguish by which reagent ?
- (b) Give the increasing acidic strength order for phenol, *o*-cresol, *p*-cresol and *m*-cresol.

(c) What is Wittig Reagent ? How is it prepared ?

(d) Why a UV spectrum consists of bands and not of peaks ?

(e) Complete the following :



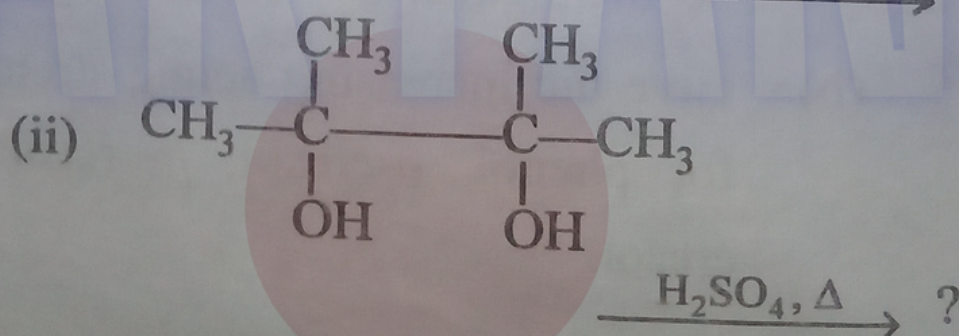
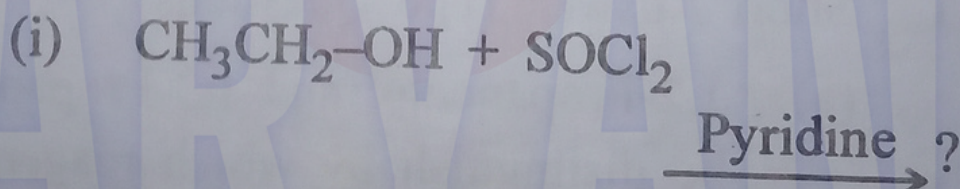
(f) What happens when allyl phenyl ether is heated at 475 K ?

(g) State and explain the use of Tollen's reagent.

Section A

2. (a) Discuss the mechanism of Bouveault-Blanc reduction. 2

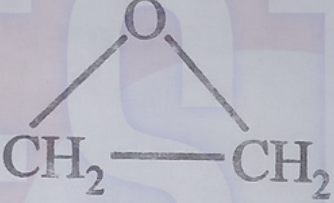
(b) Complete the following : 3



3. (a) Do the following conversions : 3

(i) Phenol to Methoxybenzene

(ii) Phenol to Salicylaldehyde

(iii)  to $C_6H_5CH_2CH_2OH$

(b) Sketch the mechanism of Fries rearrangement reaction. 2

4. (a) Compare the acidic character of primary, secondary and tertiary alcohol with suitable examples. $2\frac{1}{2}$

(b) Discuss the mechanism for acid catalysed ring cleavage reaction of epoxide. $2\frac{1}{2}$

Section B

5. Discuss the mechanism for the following reactions :

(a) Benzoin condensations

(b) Clemmensen reduction

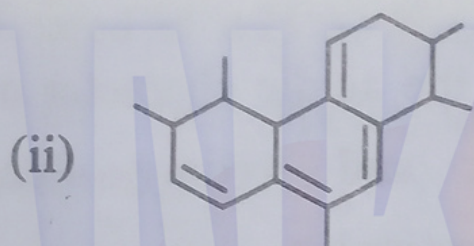
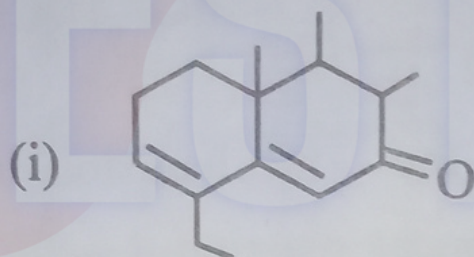
(c) Aldol condensations. $2+1\frac{1}{2}+1\frac{1}{2}=5$

6. (a) Write short notes on the following :

(i) Auxochrome

(ii) Bathochromic shift. 2

(b) Calculate λ_{\max} by using Woodward-Fieser rule for the following : 3



7. (a) Explain, why butadiene exhibits a higher value of λ_{\max} for $\pi-\pi^*$ transition than that of ethylene ? 2

(b) What type of aldehyde can undergo aldol condensation reaction ? 1

(c) How does pH control play an important role in addition of Ammonia derivative to aldehyde and ketone ? Explain. 2