

This question paper contains 3 printed pages]

Your Roll No

5169

B.Sc. Prog. / II J
CH-202 – ORGANIC CHEMISTRY
(NC – Admission of 2008 onwards)

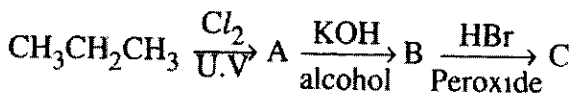
Time : 2 Hours

Maximum Marks : 50

(Write your Roll No on the top immediately on receipt of this question paper)

Attempt any **four** questions
Question No. 1 carries **14** marks

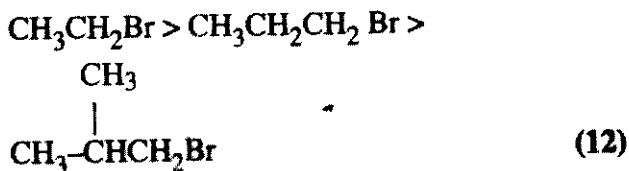
1. (a) An alkene C_6H_{12} , after ozonolysis yielded two products One of these gave a positive iodoform reaction but a negative tollens test The other product gave a positive tollens test but a negative iodoform reaction What is the structure and name of the alkene & products
- (b) Identify A, B & C in the following reaction sequence



Write the mechanism of 1st step (6, 8)

2. Explain the following :

- (a) Aryl halides undergo nucleophilic substitution with difficulty.
- (b) Both meta and ortho bromo anisole yield the same product upon reaction with sodamide in presence of ammonia.
- (c) The rate of SN_2 reaction in the following alkyl halides occurs in the order as given below



3. (a) What are the evidences that ethylacetoacetate exists in two isomeric forms? What type of isomerism is this.
- (b) Starting from ethylacetoacetate, write the synthesis of the following (any **three**) :

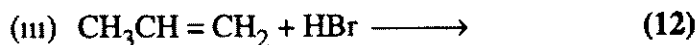
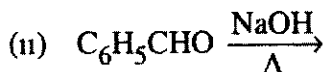
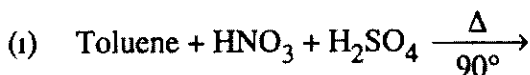
- (i) Adipic acid
- (ii) Crotonic acid
- (iii) Ethylmethyl ketone
- (iv) 4-methyl uracil (6, 6)

4 (a) Discuss the reduction products of nitrobenzene by electrolytic reduction

(b) Write notes on the following :

- (i) Aldol condensation
- (ii) Reimer-Tiemann reaction (4, 8)

5 Complete the following reactions and give the mechanism involved



6 Write the complete reaction of the following :

(i) Sodium benzene sulphonate is treated with sodium cyanide

(ii) Sodium benzene sulphonate is fused with potassium hydrogen sulphide

(iii) Aqueous solution of benzene diazonium chloride is heated.

(iv) 2-butanone is treated with Br_2 in sodium hydroxide solution (12)

