

27/4/13

P4-RT-Exam.-Feb.-13-1-265

Con. 2481-13.

27th April, 13
Sem. I (Rev.) ATKT. O.C. I

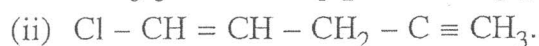
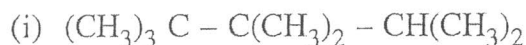
DC-2015

(2 Hours)

[Total Marks : 40]

N.B. : (1) Question No. 1 is compulsory.(2) Answer any **four** questions of the remaining **five** questions.(3) Give **figures** and examples wherever **necessary**.

1. (a) Give the IUPAC Nomenclature for the following :- 2

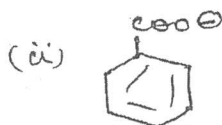
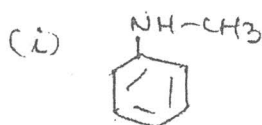


(b) Give suitable structures for the following :- 2

(i) 5-Chloro-3-methyl-1-pentyne

(ii) 1-Amino-2, 3, 4, 5-tetramethyl-3-hexene.

(c) Draw resonating structures for the following :- 4

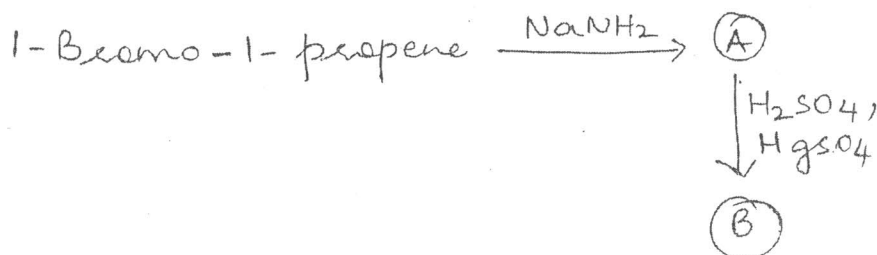
2. (a) Compare the acidity between the following compounds and justify - 3
 ClCH_2COOH , $\text{C}_2\text{H}_5\text{COOH}$, $\text{ClCH}_2\text{CH}_2\text{COOH}$, CH_3COOH

(b) Indicate whether the following compounds are electrophiles or nucleophiles - 2

(c) An organic monobasic acid gave the following percentage composition :- 3
C = 70.59, H = 5.88, O = 23.530.544 gm of the acid required 40 ml of N/10 NaOH for complete neutralization.
Deduce the empirical and molecular formula of the acid.3. (a) Write short notes on (any **three**) :- 6

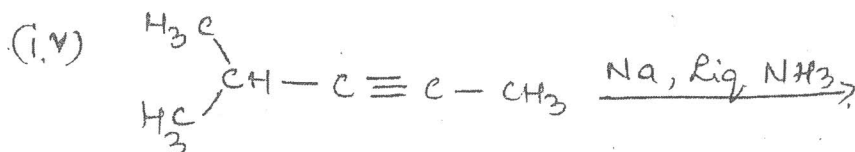
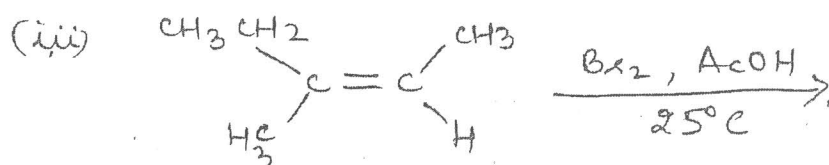
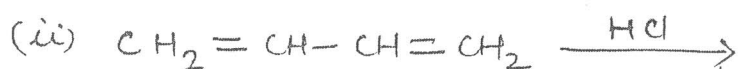
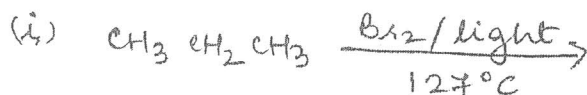
- (i) Hydrogen Bonding
- (ii) SN_1 Reaction Mechanism
- (iii) Inductive Effect
- (iv) Dimerization of alkenes.

(b) Give the structures of A and B in the following reaction sequence - 2



[TURN OVER]

4. (a) Write the structures of the products formed and complete the following reactions:- 4



(b) Give **one** example for each for the following reactions :- 4

(i) Halohydrin formation

(ii) Oxymercuration-Demercuration of alkenes

(iii) Alkylation of Alkenes

(iv) Hydration of Alkynes.

5. (a) Discuss the mechanism and stereochemistry of $\text{S}_{\text{N}}1$ reaction with a suitable example. 4

(b) Discuss atleast four methods of preparation of alkenes. 4

6. (a) Carry out the following conversion :- 2



(b) Give the probable structure for an alkene yielding 2 moles of $\text{C}_2\text{H}_5\text{COCH}_3$ upon ozonolysis. 1

(c) On the basis of hybridization, explain the formation of ammonia molecule. 2

(d) Discuss the mechanism of anti-addition of halogens to alkenes. 3