

SECTION – D

Answer any two. Each carries a weightage of 4.

19. a) What is Beckmann rearrangement? What is its significance?
b) Write any two synthetic applications of reformatsky reaction.
20. Write short note on :
a) Ziegler Natta catalyst
b) Wilkinson's catalyst.
21. a) Compound A, C_3H_7NO reacts with Br_2 in the presence of $NaOH$ to give (B) which reacts with nitrous acid to form ethyl alcohol and N_2 . Identify A and B and show the reactions involved.
b) How will you synthesise propanamide from ethyl bromide. **(2×4=8)**



Reg. No. :

Name :

VI Semester B.Sc. Degree (CCSS-Reg./Supple./Improv.)
Examination, May 2015
CORE COURSE IN CHEMISTRY
6B15 CHE (D) : Synthetic Organic Chemistry (Elective)

Time : 3 Hours

Max. Weightage : 25

SECTION – A

Answer **all** questions. Each bunch consists of **four** objective type questions.

1. i) Photolysis of aliphatic diazo compounds give _____
a) nitrene b) carbene
c) carbonium ion d) carbanion
- ii) Among the following _____ has highest acidic character.
a) formic acid b) acetic acid
c) chloro acetic acid d) cyano acetic acid
- iii) The relative order of stability of carbonium ion is
a) primary > secondary > tertiary
b) primary > tertiary > secondary
c) tertiary > secondary > primary
d) none of these
- iv) Any species having an odd number of electron is called _____
a) free radical b) carbonium ion
c) carbanion d) all of these
2. i) The correct decreasing order of the size of three hybrid orbital is _____
a) $sp^2 > sp > sp^3$ b) $sp^3 > sp^2 > sp$
c) $sp > sp^2 > sp^3$ d) $sp > sp^3 > sp^2$
- ii) The expected c-c bond angle in benzene is _____
a) $109^\circ 28'$ b) 120°
c) 107° d) 105°

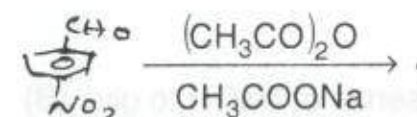
- iii) Among the following _____ is a dynamic effect.
 a) inductive effect b) resonance effect
 c) hyperconjugation d) none of these
- iv) The reaction of carbonyl compounds having α -hydrogen atom in the presence of base is called _____
 a) Perkin condensation b) aldol condensation
 c) Cannizaro's reaction d) Reformatsky reaction
3. i) Which of the following compounds will give a positive iodoform test ?
 a) 2-pentanone b) 3-hexanone
 c) 3-pentanone d) benzaldehyde
- ii) 1, 1-Dichloropropane reacts with aqueous KOH to give _____
 a) 1, 1-propane diol b) Acetaldehyde
 c) Propanone d) Propyne
- iii) Which compound reacts most rapidly by an S_N1 mechanism ?
 a) Methyl chloride b) Isopropyl chloride
 c) Ethyl chloride d) Tert. butyl chloride
- iv) The hybridisation of nitrogen in an aliphatic amine is _____
 a) sp b) sp^2
 c) sp^3 d) dsp^2
4. i) Aliphatic primary amines react with cold nitrous acid to form _____
 a) alcohols b) diazonium salts
 c) nitrites d) nitroalkanes
- ii) Acetamide on heating with P_2O_5 gives _____
 a) methyl amine b) ethyl amine
 c) methyl cyanide d) none of these
- iii) Which of the following carbonium ions will be most stable ?
 a) CH_3^+ b) $CH_3 - CH_2^+$
 c) $(CH_3)_2 CH^+$ d) $H_2C = CH - C^+H_2$
- iv) _____ is an example of acyclic monoterpene.
 a) citral b) piperine
 c) coniine d) none of these

(4×1=4)

SECTION – B

Answer any five. Each question carries a weightage of 1.

5. Nucleophilic substitution reactions of aryl halides are called elimination addition reactions. Give reason.
6. Write the structure of product and name the reaction given below



7. What is the product obtained when chloroform is heated with ethyl amine in the presence of alcoholic KOH ? Write equation.
8. Complete the reaction



9. What is the influence of inductive effect on acidic character of dicarboxylic acid ?
10. Convert benzaldehyde to styrene.
11. Aliphatic amines are more basic than corresponding amides. Why ?
12. Represent the structure of piperine. (5×1=5)

SECTION – C

Answer any four questions. Each question carries a weightage of 2.

13. Explain the acidic character of phenol.
14. Narrate the importance of organosilicon compounds.
15. Write the steps involved in the synthesis of 2-butanone from ethyl alcohol.
16. Write any two reactions of carbenes with equation.
17. Describe the steps involved in the synthesis of coniine.
18. Explain hydroboration reaction. (4×2=8)