



M 6137

Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.)  
Examination, May 2014  
CORE COURSE IN CHEMISTRY  
6B14 CHE : Organic Chemistry – II

Time: 3 Hours

Max. Weightage : 25

- Instructions :** 1) Section – A : Answer **all** questions. Choose the correct answer. **Each** question carries a weightage of 1.  
2) Section – B : Answer **any five**. **Each** question carries a weightage of 1.  
3) Section – C : Answer **any four**. **Each** question carries a weightage of 2.  
4) Section – D : Answer **any two**. **Each** question carries a weightage of 4.

## SECTION – A

1. i) Grignard reagent on reaction with formaldehyde forms  
a) 1° alcohol    b) 2° alcohol    c) 3° alcohol    d) acid  
ii) The catalyst used for Rosenmund reduction  
a) Pt    b) Ni    c) Fe    d) Pd  
iii) The oxidizing agent used in Etard's reaction is  
a) Cr<sub>2</sub>O<sub>3</sub>    b) HNO<sub>3</sub>    c) KMnO<sub>4</sub>    d) CrO<sub>2</sub>Cl<sub>2</sub>  
iv) The LiAlH<sub>4</sub> reduction of ethyl methyl ketone gives  
a) 1° alcohol    b) 2° alcohol    c) 3° alcohol    d) alkane
2. i) Hydrocarbonylation of acetylene gives  
a) acetaldehyde    b) acetic acid    c) acraldehyde    d) acrylic acid  
ii) The reaction between lactic acid and conc.H<sub>2</sub>SO<sub>4</sub> produces  
a) formaldehyde    b) acetic acid  
c) acetaldehyde    d) formic acid

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- iii) The  $\text{CrO}_3$  oxidation of cinnamic acid results in  
 a) benzaldehyde b) benzoic acid c) acetaldehyde d) formaldehyde
- iv) Claisen condensation of ethyl acetate in presence of sodium ethoxide gives  
 a) hexanoic acid b) ethyl aceto acetate  
 c) propyl ethyl ketone d) acetyl acetone
3. i) Hinsberg reagent is  
 a) Benzene sulfonyl chloride b) p-toluene sulfonyl chloride  
 c) diethyl oxalate d) diethyl malonate
- ii) Action of  $\text{Fe}/\text{NaOH}$  on nitrobenzene gives  
 a) hydrazobenzene b) azoxybenzene  
 c) azobenzene d) aniline
- iii) Cyanamide when reacts with  $\text{H}_2\text{S}$  gives  
 a) thiosemicarbazide b) semicarbazide  
 c) thiourea d) urea
- iv) Which of the following is the most aromatic ?  
 a) benzene b) furan c) thiophene d) pyrrole
4. i) Which among the following is a pentose sugar ?  
 a) glucose b) galactose c) fructose d) ribose
- ii) Action of bromine water on glucose gives  
 a) glucaric acid b) gluconic acid c) formic acid d) formaldehyde
- iii) An example for triphenylmethane dye  
 a) malachite green b) fluorescein  
 c) alizarin d) indigo
- iv) Which among the following is a condensation polymer ?  
 a) polythene b) nylon-6  
 c) polystyrene d) PVC (Weightage :  $4 \times 1 = 4$ )

## SECTION – B

5. How will you convert methanol to ethanol ?
6. Draw the structure of the product obtained by the reaction between benzophenone oxime and  $\text{PCl}_5$  in ether.



7. Write the method of preparation of saccharin from o-toluene sulfonyl chloride.
8. What is zwitter ion ? Give an example.
9. Mention any two synthetic applications of diazonium salts.
10. Explain why pyrrole does not give Diels-Alder reaction.
11. What is mutarotation ?
12. Distinguish between thermo plastics and thermo setting plastics. (Weightage :  $5 \times 1 = 5$ )

## SECTION – C

13. Explain the mechanism of Pinacol-Pinacolone rearrangement.
14. Describe the Gabriel Phthalimide synthesis of  $\alpha$ -amino acid.
15. Give a brief account of the separation of mixture of  $1^\circ$ ,  $2^\circ$  and  $3^\circ$  amines using diethyl oxalate.
16. Write the mechanism of Hoffmann's exhaustive methylation of coniine.
17. Distinguish between epimers and anomers with suitable examples.
18. Write notes on the relation between colour and constitution. (Weightage :  $4 \times 2 = 8$ )

## SECTION – D

19. Write an essay on the structure of disaccharides and polysaccharides.
20. Give an account of preparations and reactions of quinones.
21. Write the mechanism of the following reactions :  
 i) Fries rearrangement  
 ii) Perkin's reaction  
 iii) Reformatsky reaction. (Weightage :  $2 \times 4 = 8$ )