

Reg. No.....

Name.....

**B.Sc. DEGREE END SEMESTER EXAMINATION MARCH 2017****SEMESTER - 2: CHEMISTRY (COMMON FOR B Sc  
PHYSICS/BOTANY/ZOOLOGY)**COURSE: **15U2CPCHE2; BASIC ORGANIC CHEMISTRY***(Common for Regular 2016 Admn. / Supplementary 2015 Admn.)*

Time: Three Hours

Max. Marks: 60

**PART A***Answer **all** questions. Each question carries **1 mark***

1. In general, boiling point of *cis*-isomer is ..... than that of *trans*-isomer.
2. The dihedral angle between the two C-H bonds in staggered conformation of ethane is .....
3. Chemical intermediate produced by homolytic fission of covalent bond is .....
4. .... involves delocalization of sigma electrons with pi electrons.
5. Acetic acid is a ..... acid than benzoic acid.
6. Comparing  $S_N1$  and  $S_N2$  reactions, polar solvents favor ..... reaction.
7. Nylon fibres are made up of .....
8. Vulcanized rubber involves ..... bridges between the polymer chain.

(1 x 8 = 8)

**PART B***Answer **any six** questions. Each question carries **2 marks***

9. What is the importance of solvent extraction during purification of organic compounds?
10. Differentiate between enantiomers and diastereomers.
11. What is meant by racemization
12. Draw the Newman projection and saw-horse projection of most stable conformer of n-butane
13. Illustrate mesomeric effect with a suitable example.
14. What is Markownikoff's rule?
15. What is Hoffmann's elimination?
16. What is SBR? Draw the monomer unit.

(2 x 6 = 12)

**PART C**

Answer **any four** questions. Each question carries **5 marks**

17. Write a short note on hyper conjugation.
18. Discuss the conformational analysis of n-butane.
19. Compare the basic strength of primary, secondary and tertiary amines. Justify your answer.
20. Compare the stereochemistry of  $S_N1$  and  $S_N2$  reactions.
21. Depict the mechanism of bromination of benzene.
22. With suitable examples, differentiate addition and condensation polymerization.

(5 x 4 = 20)

**PART D**

Answer **any two** questions. Each question carries **10 marks**

23. a) Write a short note on the purification techniques crystallization and sublimation.  
b) Explain with suitable examples, the effect of geometrical isomerism on (i) melting point and (ii) boiling point.
24. a) Discuss the optical isomerism observed in tartaric acid.  
b) Explain the bonding, shape and hybridization of acetylene molecule.
25. a) Depict the mechanism of electrophilic addition of HBr to ethylene. What is peroxide effect?  
b) Write a short note on the synthesis and applications of phenol-formaldehyde resin and Nylon 6.
26. a) Discuss briefly E1 and E2 mechanism  
b) Write a short note on synthetic rubbers.

(10 x 2 = 20)

\*\*\*\*\*