

**B. SC DEGREE END SEMESTER EXAMINATION - MARCH/APRIL 2018**SEMESTER – 2: **B. Sc. CHEMISTRY, COMPLEMENTARY COURSE FOR B. Sc. PHY/BOT/ZOO**COURSE: **15U2CPCHE2: BASIC ORGANIC CHEMISTRY***(Common for Regular 2017 / Supplementary - Improvement 2016 / 2015 Admission)*

Time: Three Hours

Max. Marks: 60

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

1. Name the method used to separate an organic liquid which decomposes before its normal boiling point.
2. Maleic acid and fumaric acid are .....isomers.
3. The products of homolytic fission are called.....
4. Give one example for nucleophiles.
5. What is the state of hybridization of carbon atoms in ethane?
6. Give one example for elimination reactions.
7. The monomer units of natural rubber is.....
8. Give an example for a polyester. (1 x 8 = 8)

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

9. Write a note on fractional distillation.
10. Draw the Sawhorse and Newman projection formulae of the staggered and eclipsed conformations of ethane.
11. Sketch the E and Z configurations of 1-Bromo-1-chloro-2-iodopropene.
12. State and illustrate Saytzeff rule.
13. Discuss the mechanism of halogenation of benzene.
14. What are the health problems caused by the burning of plastics?
15. What are biodegradable polymers? Give 2 examples.
16. What is addition polymerization? Give an example for addition polymer.

(2 x 6 = 12)**Part C**Answer any **four** questions. Each question carries **5** marks.

17. Discuss the principle involved in **a)** solvent extraction and **b)** sublimation.
18. Discuss the optical isomerism of lactic acid.
19. Explain the mechanism of addition of HBr to propene in the presence and in the absence of peroxide.
20. What are carbocation's? Explain the relative stability of primary, secondary and tertiary carbocation's.

21. What is inductive effect? Compare the acid strength of acetic acid, formic acid and chloroacetic acid.
22. Name two synthetic rubbers. Discuss their preparation and properties.

(5 x 4 = 20)

**Part D**

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

23. Discuss  $S_N1$  and  $S_N2$  mechanisms and the stereochemistry involved with suitable examples.
24. What are the different possible conformers of n-butane? Compare the stability of these conformers with the help of potential energy Vs Angle of rotation graph.
25. (a) Discuss the hybridization and shape of ethene and ethyne molecules. (6 marks)  
(b) What are carbanions and free radicals? How are they generated? (4 marks)
26. Write notes on synthesis and applications of
- a) Polyethene
  - b) Nylon 6, 6
  - c) PVC
  - d) Phenol-formaldehyde resin. (10 x 2 = 20)

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