(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2018

(Sixth Semester)

Branch – **CHEMISTRY**

ORGANIC CHEMISTRY - II

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

1 How does isoquinoline react with alkaline $KMnO_4$?
2 How does NBS react with propene?
3 Classify the following proteins: (i) Keratin (ii) Insulin.
4 What are nucleic acids?
5 How are molecular rearrangement reactions classified? Give an example for each class.
6 How will you convert acetamide into methylamine?
7 How does nature of solvent affect the aliphatic nucleophilic substitution reaction?
8 What is Saytzeff's elimination reaction?
9 Give the Sawhorse representations of conformers of ethane.
10 Calculate angle strain in cycloheptane using Baeyer's strain theory.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a How will you prepare pyridine from pyrrole? How does pyridine react with (i) H_2 / Ni (ii) CH_3 – Br (iii) $NaNH_2$ / liq.NH_3.

OR

b Discuss any five synthetic applications of selenium dioxide.

12 a Distinguish between DNA and RNA.

OR

b Discuss the different steps involved in the synthesis of Glycylalanine (Gly – Ala) peptide.

13 a Give the mechanism of Wolf Kishnner reduction.

OR

b What is Benzilic acid rearrangement? Give its mechanistic pathway.

14 a Explain benzyne mechanism of aromatic nucleophilic substitution reaction.

OR

b What are bimolecular elimination reactions? Explain their mechanism by taking a suitable example.

15 a Outline the Coulson and Moffit's concept of stability of cycloalkenes.

OR

b Discuss the chair and boat conformations of cyclohexane.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Give any one preparation for (i) Furan (ii) Thiophen (iii) Pyrrole (iv) Indole and (v) Quinoline. (5X2=10)
17 Describe the primary and secondary structures of proteins.
18 Discuss the mechanisms of i) Claisen rearrangement ii)Curtius rearrangement.
19 Explain S_N1 and S_N2 mechanisms with suitable examples.
20 Give three different methods of preparation and three different properties of cycloalkanes.