B.E/B.TECH DEGREE EXAMINATIONS, DECEMBER 2020

Third Semester

BT18301 – BIOORGANIC CHEMISTRY

(Regulation 2018)

Time: Three Hours Maximum : 80 Marks

Answer **ALL** questions

PART A - (8 X 2 = 16 Marks)

1. According to Heisenberg uncertainty principle it is _____to specify position and velocity of an electron simultaneously.

   A. Impossible

   B. Possible

   C. Partially possible

   D. Probable

2. Cycloalkane has _____hybridized carbon and thus they should have a bond angle of 109.5 degree.

   A. Sp_1

   B. Sp_3

   C. SN_1

   D. SN_2

3. HMPA is

   A. Hydromethoxypropylacetone

   B. Hexamethylphosphoramide

   C. Hydromonopropylarginine

   D. Heptamonophenylamine

4. Rate of _____decomposition =kappa KT/h

   A. Activated complex

   B. Enzyme complex

   C. Ag-Ab complex

   D. Complement

5. Inspect and state the generation of ionization energy.

6. Assess the mechanism of ester hydrolysis in base.

7. Justify the importance of path travelled in microscopic reversibility for the formation of product and reactant.
8. Evaluate the significant of Metal ions in living system.

PART B - (4 X16 = 64 Marks)

9. (a) Examine the Stereochemical activity around tetrahedral carbon based on optical activity, chirality, enantiomer, stereoisomer etc. **(16)**

(OR)

(b) Simplify on the conformation of the peptide bond and also analyze the reason for stable of trans confirmation. **(16)**

10. (a) Determine uni, bi and internal nucleophilic substitution mechanisms showing different kind of configurations. **(16)**

(OR)

(b) Opinion on mechanism of steric effects under various circumstances of conformation, hybridization, isomerism etc. **(16)**

11. (a) Elaborate on different kinetic method and use of rate law and mechanisms in it. **(16)**

(OR)

(b) Estimate the nucleophilic addition reaction of aldehyde and ketone with alcohol to form Acetals and ketals. **(16)**

12. (a) Organize the metabolism of living system by coenzymes and significant of proton transfer in molecular activities happening in the system. **(16)**

(OR)

(b) Experiment with DNA sequencing based on chain termination method by Sanger's methods. **(16)**