XK(II)—Chem (7)

2015-17

Time : 3 hours

Full Marks : 80

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer **four** questions in which

Q. No. 1 is compulsory.

1. Explain the following :   5×4 = 20

   (a) Discuss relation among Nucleic Acid, Nucleotides and Nucleoside.

   (b) Describe Hofmann Exhaustive Methylation Degradation.

   (c) Conformation of Monosaccharides.

   (d) Classification of Amino acids in the Natural, Acidic and Basic categories.

2. What are Terpenoids ? Discuss the structure of citral with confirming its structure by Barbier – Bouveault – Tiemann's Synthesis.   20

3. What are Tobbacco Alkaloid ? Describe detailed structure of Nicotine alongwith Spath and Bretschneider synthesis for the final confirmation of structure.   20

4. Outline the various steps involved in the structure determination of sucrose.   20

5. (a) Describe the structure of RNA.   10

   (b) Write five important differences between RNA and DNA.   10

6. (a) Discuss lipid metabolism.   10

   (b) Explain chemical properties of purine derivatives.   10

7. Write notes on the following :   5×4 = 20

   (a) How detergents cause water pollution ?

   (b) Isoprene rule

   (c) Classification of Alkaloids

   (d) α – helix

8. Write critical notes on any **two** of the following :

$$10 \times 2 = 20$$

(a) Secondary structure of protein

(b) Synthesis of Pyrimidine derivatives

(c) β-oxidation of fatty acids

(d) Tertiary structure of Protein folding

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