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Total No. of Pages : 02

Total No. of Questions : 10

B.Pharmacy (Sem.-3)

**PHARMACEUTICAL CHEMISTRY-IV (ORGANIC  
CHEMISTRY/ORGANIC CHEMISTRY-II)/ORGANIC CHEMISTRY**

Subject Code : PHM-232

M.Code : 46123

Time : 3 Hrs.

Max. Marks : 80

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

**SECTION-A****1. Write short notes on :**

- a) What is saponification value?
- b) Draw structures of adenine and uracil.
- c) Give the IUPAC name of pyrimidine.
- d) Difference between nucleotides and nucleosides.
- e) What do you mean by glycolipids?
- f) What is Ruff's degradation?
- g) Maltose is a disaccharide of which two sugar components?
- h) Draw structure of theophylline.
- i) Explain Diels-Alder reaction.
- j) Draw the structures of positively charged side chain containing amino acids.



- k) What are the factors responsible for protein denaturation?
- l) Briefly explain epimerization in monosaccharides.
- m) Comment on "*tautomerism in imidazole*".
- n) Comment on "*Lactam-Lactim tautomerism in nitrogenous base of nucleic acid*".
- o) Why pyridine is less basic than aliphatic amine?

### SECTION -B

- 2. Describe reactions of imidazole?
- 3. Explain the Killani synthesis of glucose.
- 4. Describe the reactions of amino acid involving both carboxylic and amino group.
- 5. What are phospholipids? Describe the structure of various types of phospholipids.
- 6. What are Xanthine bases? Describe Traube synthesis of caffeine.

### SECTION-C

- 7. Describe the importance synthesis and chemical reactions of pyridine.
- 8. Give an account of the chemistry and structure of glucose including its cyclic structure.
- 9. Give the structures of nucleotides present in DNA. Describe the salient features of Watson Crick model of DNA double helix structure.
- 10. What are  $\alpha$ -  $\beta$  unsaturated carbonyl compounds? Compare nucleophilic and electrophilic addition reactions of these compounds.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**