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Total No. of Pages : 02

Total No. of Questions : 10

**B.Pharma (2012 to 2016) (Sem.-3)**  
**PHARMACEUTICAL CHEMISTRY-IV**  
**(Organic Chemistry-II)**  
Subject Code : BPHM-306  
M.Code : 46226

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 briefly :**

- a. Explain the acidic character of pyrrole.
- b. Define Iodine value in oil/fat. What is its significance?
- c. Write down one structure of any nucleoside.
- d. Write down the structure of Xanthine bases.
- e. Differentiate between monosaccharides and disaccharides.
- f. Write down structures of followings :
  - i. Furan,
  - ii. Imidazole,
  - iii. Oxazole
  - iv. Isoquinoline.
- g. Write down the structures of maltose and cellobiose.
- h. Describe Gabriels phthalimide synthesis for the preparation of amino acids.
- i. Differentiate between essential and non-essential amino acids.



- j. Explain the mutarotation.
- k. Give the reaction of peptide bond formation.
- l. Write two examples of coumarine.
- m. Explain Michael acceptors with examples.
- n. What will be product of reaction when m-chlorotoluene is reacted with sodamide?
- o. Define the saponification and rancidification in oil.

#### SECTION-B

- 2. Describe the two synthetic method of each furan and imidazole.
- 3. Write down the Hantsch synthesis of pyridine with mechanism.
- 4. How will you synthesize sodium salt of alkyl benzene sulfonic acid?
- 5. Write short note on Ruff degradation.
- 6. Write down short note on DNA.

#### SECTION-C

- 7. Write down the classification of amino acids with structures and discuss the reactions of amino groups and carboxylic groups of amino acids.
- 8. How will you differentiate between sugar and non-sugars? Discuss the structure determination of a non-reducing disaccharide.
- 9. Why does pyridine prefer electrophilic substitution at 3-position and nucleophilic substitution at 2-position?
- 10. Write short notes on the following :
  - a. Nucleophilic aromatic substitution reactions.
  - b. Diels-Alder reaction

**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.**