

Day : Tuesday  
Date : 13/11/2018

W-2018-4079

Time : 02.00 PM TO 05.00 PM  
Max. Marks : 60

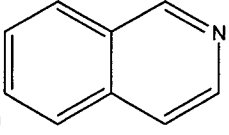
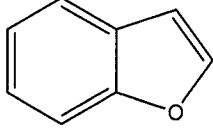
N.B.:

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Out of remaining solve **ANY TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to the both sections should be written in **SEPARATE** answer books.

**SECTION – I**

- Q.1** Solve **ANY FIVE** of the following: (10)
- a) Draw structure and give properties for Fructose.
  - b) What are essential amino acids?
  - c) What is zwitterion ion?
  - d) Draw structure for: Ser., Met.
  - e) Draw structure and give properties for Lactose.
  - f) Explain the Benedict's test.
- Q.2** Give detailed classification of carbohydrates with structures. (10)
- Q.3** a) What is iso-electric point of amino acids? Explain in detail. (07)  
b) Give preparation reaction of amino acids. (03)
- Q.4** Write a note on **ANY TWO** of the following: (10)
- a) Reducing and non-reducing sugars
  - b) Gel electrophoresis
  - c) Peptides

**SECTION – II**

- Q.5** Solve **ANY FIVE** of the following: (10)
- a) Why imidazole is more acidic than pyrrole?
  - b) Thiophene undergoes electrophilic substitution reaction mainly at 2-position; Why?
  - c) Draw structure and give numbering to following heterocycles:  
(i) Hydantoin (ii) Pyrimidine
  - d) Name the following heterocycles with numbering:  
  

  - e) Write in brief about chemistry of lipids.
  - f) Define terms: (i) Retrosynthesis (ii) Wax
- Q.6** Give any three methods of preparations and two chemical reactions of pyrrole and pyridine. (10)
- Q.7** a) Explain different rules of disconnections for retrosynthesis using synthesis of quinoline. (07)  
b) Give structure, numbering and name corresponding drugs for the following heterocycles: (i) Thiophene (ii) Isoquinoline (03)
- Q.8** Write a note on **ANY TWO** of the following: (10)
- a) Methods of preparation of thiazole
  - b) Chemical properties of furan
  - c) Chemical properties of fatty acids