



M-1612020701030200 Seat No. _____
M. P. M. (Sem. IV) (CBCS) Examination
May/June – 2018
Pharmaceutical Chemistry - III
(Organic Chemistry - II)

Time : 3 Hours]

[Total Marks : 80

Instructions :

1. Answer and tie up both the sections separately.
2. Figure to the right indicates full marks.
3. Answer the three (03) questions from each section.
4. Question one (1) and question five (05) are compulsory.
5. Draw neat and clean diagram as required.

SECTION - I

- 1 Answer the following : **(Any seven)** 14
- (a) How will you differentiate Pentanal and Pentanone by simple chemical test ?
 - (b) Give the name and structure of heterocyclic ring produced from Hantzsch synthesis.
 - (c) Define heterocyclic compounds. Give one example of natural substance which containing heterocyclic ring.
 - (d) Pyridine is more basic than pyrrole : Comment.
 - (e) Pyridine undergoes electrophilic substitution reaction at 3rd position : comment.
 - (f) Pyridine gives Friedel craft acylation reaction : Comment.
 - (g) Impurities of Thiophene are removed from benzene by using concentrated sulphuric acid : Comment.
 - (h) Pyrrole is more aromatic than Thiophene : Comment.
 - (i) Furan, pyrrole and thiophene shows electrophilic substitution reaction at 2nd and 5th position : Comment.
 - (j) Spiran do not contain any chiral carbon though it is optically active : Comment.

- 2** Answer the followings :
- (a) What is Green Chemistry ? Discuss the principle of green Chemistry. **7**
- (b) Write a short note on Microwave Synthesis. **6**
- 3** Answer the following :
- (a) Write a note on nucleophilic aromatic substitution reaction. **7**
- (b) Why aldehydes are more reactive than ketones for nucleophilic addition reaction ? Write a note on cannizaro reaction. **6**
- 4** Answer the following :
- (a) Define Racemic mixture. Discuss its resolution methods. **7**
- (b) Define conformation. Discuss different conformations of cyclohexane. Comment on its stability. **6**

SECTION - II

- 5** Answer the following : (Any two) **14**
- (a) Discuss stereochemistry of Allen, Spiran and Biphenyl.
- (b) Write a short note on :
- (a) Skraup Quinoline Synthesis
- (b) Knorr Pyrrole synthesis
- (c) What are carboxylic acid derivatives ? Describe preparation of Carboxylic acid.
- 6** Answer the Following :
- (a) Draw the structure of the following : **7**
- (a) Thiophene
- (b) Indole
- (c) Quinoline
- (d) Imidazole
- (e) Furan
- (f) Thiazole
- (g) Pyrimidine
- (b) Differentiate Optical isomerism and geometric isomerism. **6**

- 7 Answer the following
- (a) How indole is synthesized ? Discuss important reaction of indole. 7
- (b) Define the following terms : 6
- (1) Chiral center
 - (2) Mesomer
 - (3) Optical activity
 - (4) Configuration
 - (5) Specific Rotation
 - (6) Enantiomer
- 8 Answer the following
- (a) Write short note on 7
- (a) Michel addition reaction
 - (b) Aldol condensation.
- (b) Discuss principle and application of nanochemistry. 6
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