

31/05/2016

Total No. of printed pages = 4

PY 132409

Roll No. of candidate

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2016

**B. Pharm 4th Semester End-Term Examination**  
**PHARMACEUTICAL CHEMISTRY-IV**  
**(Organic Chemistry - III)**

Full Marks-100 Pass Marks-35 Time-Three hours

The figures in the margin indicate full marks  
for the questions.

1. Answer any *ten* from the following questions :  
 $3 \times 10 = 30$
- How will you distinguish between glucose and sucrose (cane sugar) ?
  - What are the important industrial applications of cellulose ?
  - Give the structures for three derivatives of indole.
  - Give the structures and uses of isatin.
  - Give the reasons for the basic character of pyridine.

[Turn over

(vi) Explain the mechanism of Diels-alder reaction.

(vii) How will you convert an aldohexose to aldopentose ?

(viii) Define epimer. Convert D-glucose to D-mannose.

(ix) Discuss reaction mechanism of Claisen reaction.

(x) Define rancidification. Mention its type.

(xi) Explain the cleansing action of soap.

(xii) What is an isoelectric point ? Give example.

2. Answer any *eight* from the following questions :  
5×8=40

(i) How will you synthesize aldohexose from aldopentose ?

(ii) Write the mechanism and application of Michel addition and Beckmann rearrangement.

(iii) Write a note on Mutarotation and reducing sugar.

(iv) Write the reactions of pyridine with suitable mechanism.

(v) What are azoles ? Write note on types of azoles.

(vi) Write the method of preparation of furan and pyrrole.

(vii) Write down the reactions of quinoline.

(viii) Write the method of preparation of indole and thiophen.

(ix) Write the name of ten amino acid with structures.

(x) Give the classification of proteins.

3. Answer any *three* from the following questions :  
10×3=30

(i) Write the reaction mechanism and application of the following name reactions : 5×2=10

(a) Benzoin condensation

(b) Reformatsky reaction

(c) Mannich reaction

(d) Oppenaur reaction

(e) Knoevenagel condensation.

- (ii) Give the nomenclature of heterocyclic and fused heterocyclic system. Give the resonance structure of pyrrole, furan and pyridine. Why pyridine is more basic than pyrrole but less basic than primary amine?

$$5+2+3=10$$

- (iii) Write the methods of preparation and chemical properties of various  $\alpha$  amino acids.

10

- (iv) Differentiate between fats and oils. Write the methods for manufacturing of soaps. 10