

SECOND YEAR B.PHARM. EXAMINATION
PAPER III – ADVANCED PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 564258

Time: Three hours

Maximum: 100 Marks

I. Essay:

(2 x 20 = 40)

1. What is Conformational Analysis? With the help of a potential energy diagram explain the stability of the various possible conformations for ethane and 1, 2-dichloroethane.
2. a) What are Purines? Elucidate the structure of uric acid.
b) Explain the interrelation between the Xanthine alkaloids.

II. Short notes:

(8 x 5 = 40)

1. Define Optical activity? What are the various optically active and inactive forms possible in compounds containing two different chiral carbons?
2. a) Explain the modern theory of double bonds.
b) E-Z system of nomenclature.
3. List out the methods used to reduce carbonyl compounds to hydrocarbons. Write the reaction, mechanism and applications of any one method.
4. What happens when:
 - a) Pyrrole is treated with Maleic anhydride.
 - b) Thiophene is treated with Raney Nickel.
 - c) Indole is treated with chloroform and potassium hydroxide.
 - d) Quinoline is oxidised with potassium permanganate.
 - e) Pyrazole is treated with acetic anhydride.
5. Discuss the stereochemistry of cardiac glycosides.
6. Explain the chemistry of Vitamin B₆.
7. Write any two methods of preparation and any three reactions of pyrimidine.
8. Give the reaction, mechanism and salient features of Beckmann rearrangement.

III. Short answers:

(10 x 2 = 20)

1. What are the elements of symmetry?
2. Write any two uses of lead tetraacetate.
3. What is Darzen's reaction?
4. Give the structure of (a) Atropine (b) Digoxin
5. Define stereo-selective synthesis.
6. What is Chichibabin reaction?
7. Define flavonoids and give examples.
8. Write the halogenation reaction of quinoline.
9. Define asymmetric synthesis.
10. What is Meerwin-Pondorf Verley reduction?
