

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 173606****Date: 04-12-2014****Subject Name: Medicinal Chemistry-II and Technology of Sterile Products****Time: 10:30 am - 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define the following terms: (i) Amphoteric, (ii) Isoelectric Point, (iii) Peptide, (iv) N-terminus, (v) C-terminus, (vi) Zwitterions, (vii) Ylide **07**
- (b) Justify the statement - 'Biotin is a coenzyme of carboxylase enzymes' **07**
- Q.2** (a) Outline synthesis of (i) Pyridoxine from oxazole derivative (ii) Menadione (Vitamin K₃) **07**
- (b) Draw (i) the two dipeptides made from Leucine and Cysteine and (ii) the amino acids Serine and Tyrosine in their zwitterionic forms **07**
- OR**
- (b) Write short notes on : (i) Ninhydrin Test (ii) Diabetic Ketoacidosis **07**
- Q.3** (a) Give synthesis of: (i) Pioglitazone HCl (ii) Glibenclamide **07**
- (b) Explain in brief preparation of Isocyanates from Phosgene. Write synthesis of 3-Ethyl-4-methyl-3-pyrroline-2-one, a key intermediate of Glimepiride **07**
- OR**
- Q.3** (a) What is difference between 'Lente' and 'Ultralente' Insulin? Describe in brief Insulin isolation from animal pancreas and its storage. **07**
- (b) What are the major symptoms of Diabetes mellitus? Explain the structure activity relationship of Sulfonylureas. **07**
- Q.4** (a) Discuss the biosynthesis of Prostaglandins from Arachidonic acid **07**
- (b) What two important classes of signaling molecules are derived from lipids? **07**
- OR**
- Q.4** (a) How are prostaglandins synthesized? What are functions of prostaglandins? What effect do prostaglandins have on homeostasis, renal blood flow and GI tract? What prostaglandins are available as drugs? **07**
- (b) What are hormones? Give classification and explain different male sex hormones. **07**
- Q.5** (a) Describe the tests performed for evaluation of Parenteral Products **07**
- (b) Explain the formulation of Ophthalmic products with suitable examples. Describe the formulation of eye drops in detail. **07**
- OR**
- Q.5** (a) What are suppositories? Describe the advantage of suppositories and explain different types of suppositories. **07**
- (b) Write short notes on any two: (i) preformulation study for the sterile dosage forms (ii) Antithyroid drugs (iii) Storage of blood and blood products **07**
