Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – SUMMER • 2014

Subject Code: 153601 **Date: 17-06-2014**

Subject Name: Pharmaceutical Chemistry

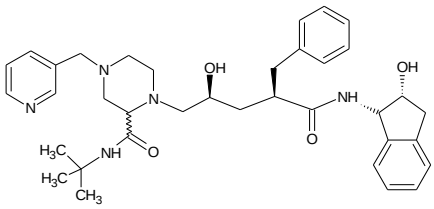
Time: 10.30 am - 01.00 pm **Total Marks: 70**

Instructions:

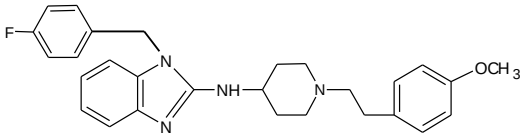
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Define : Chromophore, Absorptivity, Synthon, Finger Print region, Chromatography, Nitrogen rule, Adsorption **07**

(b) Give reterosynthetic analysis of the Indinavir (structure below) using building block approach and suggest a reasonable route for synthesis giving approximate conditions: **07**



Q.2 **(a)** Give reterosynthetic analysis of the following molecule using building block approach and suggest a reasonable route for synthesis giving approximate conditions: **07**



(b) Write retrosynthetic analysis for the following : **07**

(i) Captodiamine (ii) Dimedone

OR

(b) Write retrosynthetic analysis for the following : **07**

(i) Salbutamol (ii) Fencamfamin

Q.3 **(a)** How HPLC differs from Gas chromatography? Write a note on quantitative HPLC. **07**

(b) Explain principle and working of UV visible spectrophotometer? **07**

OR

Q.3 **(a)** Explain the construction and working of HPLC. **07**

(b) Write notes on (i) Fundamental laws related to adsorption (ii) Filters **07**

Q.4 **(a)** Give application of GC in pharmaceutical industries? Give reasons for limited application of GSC. **07**

(b) Write a note on FID. **07**

OR

Q.4 **(a)** Explain the principle, definition, construction and working of a Flame photometer? **07**

(b) (i) Give advantages and importance of mass spectroscopy. **07**
(ii) Explain M+1 and M+2 peaks in mass spectroscopy?

Q.5 **(a)** Give the synthesis of Pyridoxine. **07**

(b) How can you synthesize 4-(ter-Butoxy carbonyl amino)-1-methyl-pyrrole-2-carboxylic acid? **07**

OR

Q.5 **(a)** Give the synthesis of Riboflavin. **07**

(b) Explain the synthesis of 1-hydroxy ethylene peptide using Wadsworth-Emmons reaction. **07**

****