Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION - SUMMER 2013

Subject Code: 153601 Date: 02-12-2013

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: Synthon, Auxochrome, Molar absorptivity, Nujol, Adsorption,
 Peptide, Chromatography

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

Q.2 (a) Give reterosynthetic analysis of the Indinavir (structure below) using building block approach and suggest a reasonable route for synthesis giving approximate conditions:

- **(b)** Write retrosynthetic analysis for the following:
 - (i) Salbutamol (ii) Pirindol

OR

- (b) Write retrosynthetic analysis for the following:
 - (i) Phenaglycodol (ii) Dimedone
- Q.3 (a) What is the difference between single beam and double beam of spectrophotometer? Explain two fundamental laws related to absorption.
 - (b) Explain principle and working of UV visible spectrophotometer? 07
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- Q.3 (a) What is HPLC? Give the applications of HPLC in pharmaceutical industries?
- (b) Explain principle and working of UV visible spectrophotometer? 07
- Q.4 (a) (i) What do you mean by finger print region? Why salicylic acid and p-hydroxy benzoic acid give different IR peaks?
 - (ii) Give the expected IR frequencies for C=O, C-H, N-H and Ar-H functional groups.
 - (b) Which are the applications of GC in industries? Write a note on TCD. 07
- Q.4 (a) Explain the principle, construction and working of a Flame photometer?

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	(b)	(i) What do you mean by M18 peak in alcohols? Distinguish between Decane and 2,6 dimethyl octane on basis of Mass spectroscopy?(ii) Explain M+1 and M+2 peaks in mass spectroscopy?	07
Q.5	(a) (b)	Give the synthesis of Riboflavin. How can you synthesize 1-hydroxy ethylene peptide using Wadsworth-Emmons reaction?	07 07
Q.5		OR Give the synthesis of Biotin. Explain the synthesis of Peptide surrogate 1,3,4-oxadiazole derivative.	07 07
	(D)	Explain the symmesis of reputee surrogate 1,5,4-oxadiazole derivative.	07
