Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY M. Pharm. - SEMESTER - II • EXAMINATION - SUMMER • 2014

Subject Code: 1921501 Date: 29-05-2014 **Subject Name: Modern Pharmaceutical Analysis** Time: 02:30 pm - 05:30 pm **Total Marks: 80 Instructions:** 1. Attempt any five questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. **Q.1** Explain the principle for proteins and peptide sequence analysis by Sanger and (a) 06 Edman degradation. Discuss the role of Iso electric focusing in analysis of proteins and peptides. 05 **(b)** What is polymorphism? Explain its significance in formulation development. (c) 05 **Q.2** (a) Discuss pre column and post column derivatization in amino acid analysis. 06 **(b)** What is tryptic mapping? Write its uses and limitations. 05 Explain the principle of flow injection analysis. State its applications. 05 (c) Describe the role of chromatography in compendial testing of API. **Q.3** (a) 06 Discuss the applications of NIR technique in solid oral dosage form analysis. 05 **(b) (c)** Explain the principle of ion exchange chromatography for analysis of proteins 05 and peptides. **Q.4** What are radiopharmaceuticals? Describe the quality control tests performed 06 (a) for their evaluation. Describe the different types of microscopy and write applications of each in **(b)** 05 solid state analysis. Describe bioburden testing of parenteral product solution and write its 05 (c) significance. **Q.5** Describe bacterial endotoxin testing for parenteral dosage forms. **06** (a) Define cosmetics. Describe various tests for evaluation of shampoos. 05 **(b)** Describe the role of NMR spectroscopy in solid state analysis with suitable (c) 05 examples. Enlist the quality control tests for medicinal plant material as per WHO. 06 **Q.** 6 (a) Describe any two in brief. Discuss the role of isolation techniques in degradation and impurity analysis. **(b)** 05 What are the different types of impurities encountered in pharmaceuticals? 05 (c) Describe the analytical methods used for determination of each type. **Q.7** Describe ICH quality guidelines in brief. 06

Write the procedure and significance of determining bulk density and angle of

05

05

Discuss the principle and applications of DSC in analysis of drugs.

(a)

(b)

(c)

repose for powders.