

**VINAYAKA MISSION'S RESEARCH FOUNDATION
(DEEMED TO BE UNIVERSITY), SALEM**

**M.PHARM. DEGREE EXAMINATION – December 2018
Second Semester**

**BRANCH : PHARMACEUTICAL ANALYSIS
MODERN BIO-ANALYTICAL TECHNIQUES**

Time : Three hours

Maximum: 75 marks

SECTION –A

I. Answer any **THREE** questions: **(3 x 15 = 45)**

1. Explain the principle and procedure involved in the extraction of drugs and metabolites from biological matrices by solvent extraction, solid phase extraction and protein precipitation.
2. What is bioavailability? Explain the physiochemical properties of drug molecule affecting bioavailability.
3. What is drug interaction? Explain the pharmacokinetic and pharmacodynamic drug interactions with illustrative examples.
4. Explain the physiochemical properties of different media and supplements used in cell culture techniques. Discuss about cell sub-culturing procedures.

SECTION –B

II. Answer any **THREE** questions: **(3 x 10 = 30)**

5. Demonstrate the reliability of a bioanalytical method for the estimation of an analyte concentration in a specific biological matrix as per EMEA guidelines.
6. Explain cytochrome P450 based drug interactions with suitable examples.
7. Discuss in detail about the basic and specialized equipments that are required in a cell culture laboratory.
8. Write clinical significance of bioequivalence studies.
