



Paper ID : 250479

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Subject Code: BP604T

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**BPHARM**  
**(SEM VI) THEORY EXAMINATION 2024-25**  
**BIOPHARMACEUTICS AND PHARMACOKINETICS – THEORY**  
**TIME: 3 HRS** **M.MARKS: 75**

**Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**

1. Attempt *all* questions in brief.

10 x 2 = 20

|    |                                                                                      |
|----|--------------------------------------------------------------------------------------|
| a. | Name the physiological barriers for drug distribution.                               |
| b. | What is BCS of drugs?                                                                |
| c. | Name the reactions that takes place in Phase 1 and Phase 2 reactions.                |
| d. | Define central compartment and peripheral compartment.                               |
| e. | What are the different sites of presystemic metabolism of orally administered drugs? |
| f. | Define the term dosage regimen.                                                      |
| g. | List the advantages of physiological model.                                          |
| h. | Explain loading dose and maintenance dose.                                           |
| i. | Classify pharmacokinetics model.                                                     |
| j. | Outline the graph of non-linear pharmacokinetics.                                    |

**SECTION B**

2. Attempt any *two* parts of the following:

2 x 10 = 20

|    |                                                                                 |
|----|---------------------------------------------------------------------------------|
| a. | Discuss in detail factors affecting absorption of drug.                         |
| b. | Explain extravascular administration method using relevant graphs and equation. |
| c. | Discuss drug accumulation in multi compartment kinetics.                        |

**SECTION C**

3. Attempt any *five* parts of the following:

7 x 5 = 35

|    |                                                                                                                  |
|----|------------------------------------------------------------------------------------------------------------------|
| a. | Give a detailed discussion on various methods to enhance solubility and bioavailability of poorly soluble drugs. |
| b. | Discuss the equation for IV bolus in two-compartment kinetics.                                                   |
| c. | Discuss <i>in vitro-in vivo</i> correlation.                                                                     |
| d. | Write a detailed note on various methods for bioavailability measurement.                                        |
| e. | Determine the MichaelisMenten equation for non-linearity.                                                        |
| f. | Determine dose adjustment in renal disease.                                                                      |
| g. | Discuss Lineweaver plot and direct linear plot for estimation of non-linearity parameters.                       |