Printed Pages:01 **Sub Code: MPH 202T**

Paper Id: 238306 **Roll No.** | | | | | | | | | | |

M PHARM
(SEM II) THEORY EXAMINATION 2022-23
ADVANCED BIOPHARMACEUTICS AND PHARMACOKINETICS

Time: 3 Hours ***Total Marks: 75***

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

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

(a) Classify different types of pharmacokinetic models.

(b) Elaborate the abbreviation IVIVC.

(c) What are tight junction complex?

(d) Enumerate the factors affecting absorption of drugs.

(e) Mention the advantages of an IV infusion.

(f) Compare absolute bioavailability with relative bioavailability.

(g) Enlist the various causes of non-linearity.

(h) Define Generic biologics.

(i) Give the BCS classification of drugs.

(j) How will you define drug interactions?

SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

(a) Discuss in detail the pH partition theory of absorption. Give its limitations.

(b) Suggest the derivation of Michaelis–Menten equation and show the estimation of k_{max} and v_{max}.

(c) What do you understand by compendial methods of dissolution? Explain any one in detail.

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

(a) Determine the absorption rate constant using Wagner Nelson method.

(b) What are bioequivalence studies? Elaborate the study designs and crossover study designs.

(c) Explain drug dissolution rate using Noyes Whitney equation signifying various factors affecting the same.

(d) Describe in detail the different direct and indirect methods for the assessment of bioavailability.

(e) Discuss the different levels of IVIVC.

(f) Compare pharmacokinetics and pharmacodynamics. Write a detailed note emphasizing the drug interactions.

(g) Elaborate the pharmacokinetic applications of modified release drug products.