# B. PHARM
## SIXTH SEMESTER
## BIOPHARMACEUTICS & PHARMACOKINETICS
## BP604T

(USE SEPARATE ANSWER SCRIPTS FOR OBJECTIVE & DESCRIPTIVE)

**Duration: 3 hrs.** **Full Marks: 75**

## [ PART-A: Objective ]

**Time: 20 min.** **Marks: 20**

***Choose the correct answer from the following:*** ***1×20=20***

1. First pass metabolism occurs in?
   a. Liver b. Blood
   c. Kidney d. Stomach
2. Which form of drugs more suitable for absorption?
   a. Ionise b. Unionised
   c. Both d. None of the above
3. Pinocytosis transport comes under which one?
   a. Active b. Paracellular
   c. Vesicular d. Facilitated or mediated diffusion
4. ABC transporters are example of ?
   a. Active transport b. Passive transport
   c. Vesicular transport d. None of the above
5. Total area of solid surface is called?
   a. Absolute surface area b. Effective surface area
   c. Normal Surface area d. None of the above
6. Which is correct form in terms of absorption of drugs?
   a. Amorphous>Metastable>Stable b. Metastable>Amorphous>Stable
   c. Metastable>Stable> Amorphous d. Amorphous>Stable> Metastable
7. Which excipient increases the absorption
   a. Disintegrants b. Binders
   c. Glidants d. Diluents
8. Which is the highest level of IVIVC?
   a. Level A b. Level B
   c. Level C d. Multiple level C
9. How we can increase the dissolution of hydrophobic drug?
   a. Cyclodextrin b. Passive
   c. pH d. Tablet
10. In open compartment IV bolus method, clearance follows ?
    a. First order kinetics b. Second order kinetics
    c. Zero order kinetics d. None of the above

11. Which is the major process of absorption of more than 90% of drugs?
    a. Facilitated diffusion
    b. Active diffusion
    c. Endocytosis
    d. Passive diffusion

12. What is driving force for passive diffusion?
    a. Concentration gradient only
    b. Electrochemical gradient only
    c. Charge equilibrium & concentration gradient
    d. concentration & Electrochemical gradient both

13. What is mean by carrier
    a. Non polar drug can be transported through carrier mediated transport
    b. Carriers binds reversible& non covalently with solute molecule
    c. It discharges the molecules & destroys itself
    d. Carrier is protein

14. What is the other name of cell eating
    a. Transcytosis
    b. Pinocytosis
    c. Endocytosis
    d. Phagocytosis

15. Low solubility low permeability is BCS class
    a. Class I
    b. Class II
    c. Class III
    d. Class IV

16. Renal clearance expressed mathematically
    a. Rate of urinary excretion/plasma drug concentration
    b. plasma drug concentration/ Rate of urinary excretion
    c. 1/ plasma drug concentration
    d. 1/ Rate of urinary excretion

17. Following are the phase 1 reactions except
    a. Oxidative reaction
    b. Hydrolytic reactions
    c. Reductive reactions
    d. Sulphide reactions

18. What is the name of the drug binding site I of HSA
    a. Tamoxifen binding site
    b. Digitoxin binding site
    c. Diazepam binding site
    d. Warfarin and azopropazone binding site

19. What is mean by IVIVC
    a. In Vitro In Vivo correlation
    b. In Vivo In In Vitro correlation
    c. In vivo in vivo correlation
    d. In vitro in vitro correlation

20. The occurrence of food in the GI tract can affect the drug bioavailability from an oral drug product.The above give statement is?
    a. True
    b. False
    c. Both of the above
    d. None of the above

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## ( PART-B : Descriptive )

**Time: 1 hr. 40 minutes** **Marks : 35**

[ *Answer any seven (7)* ]

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|---|---|---|
| 1. | Discuss the causes of non linearity | 5 |
| 2. | Discuss one compartmental open model -IV bolus | 5 |
| 3. | Discuss assumptions of one compartment open model | 5 |
| 4. | Write factors influencing GI absorption of a drug | 5 |
| 5. | Differentiate passive and active transport mechanism with example. | 5 |
| 6. | Discuss factors affecting distribution of drugs. | 5 |
| 7. | What is the influence of $k_a$, $K_e$ on $C_{max}$,$t_{max}$ and AUC? | 5 |
| 8. | How the drugs classified according to biopharmaceutics classification system | 5 |
| 9 | Discuss different types of dissolution apparatus for In vitro dissolution testing. | 5 |

**Time : 1 Hr.** **Marks : 20**

[ *Answer any two (2)* ]

| | | |
|---|---|---|
| 1. | Discuss briefly the influence of Pharmaceutical excipients on drug bioavailability. | 10 |
| 2. | Discuss absorption of drugs from Non-per OS extravascular routes (mention only 5 route) | 10 |
| 3. | Define the term pharmacokinetics? Discuss the pharmacokinetics parameters. | 10 |

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