

PARUL UNIVERSITY
PARUL INSTITUTE OF PHARMACY
B.PHARM SIXTH SEMESTER

SECOND INTERNAL THEORY EXAMINATION: 2020-21

Subject Name: Biopharmaceutics and Pharmacokinetics

Subject Code: BP604T

Time: 2:00 to 3:15

Date: 11/03/2021

Total Marks: 30

Instructions:

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

- Q.1 Multiple Choice Questions: [10]**
- (1) What does the word "open" mean in the one compartment open model? 01
 (a) The drug easily enters (b) The drug readily mixes with the blood
 (c) Unidirectional input and output (d) Easy absorption
 - (2) What is the equation to find out the apparent volume of distribution? 01
 a) Amount of drug in the body/plasma drug concentration
 b) Plasma drug concentration/amount of drug in the body
 c) $1 / \text{plasma drug concentration}$
 d) $1 / \text{Amount of drug in the body}$
 - (3) Which organ comprises the peripheral compartment in a two compartment model? 01
 a) Liver b) Lungs c) Kidneys d) Muscles
 - (4) Which of the following is not a mechanism for pharmacokinetic analysis? 01
 a) Compartment analysis b) Non compartment analysis
 c) Physiologic modeling d) Human model
 - (5) In which model compartments are joined in series? 01
 a) Compartment model b) Catenary model
 c) Physiologic model d) Mammillary model
 - (6) Which one of these are correct Michaelis-Menten equation? 01
 a) $-dC/dt = V_{max} C/K_m + C$ b) $dC/dt = V_{max} C/K_m + C$
 c) $-dC/dt = V_{max} C/K_m$ d) $-dC/dt = K_m + C/V_{max} C$
 - (7) What is dosage regimen? 01
 a) The concentration of active agent in the drug formulation
 b) The manner in which the drug is given to old people
 c) The manner in which a drug is taken
 d) The manner in which drug given to child
 - (8) What is the optimal multiple dosage regimen? 01
 a) The concentration of active agent in the drug formulation
 b) Dosage which maintains the plasma concentration within the

Enrolment No. _____

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Q.2 Long Answers: (Any One)

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|-----|--|-----------|
| (1) | Write note on one compartment open model IV bolus. | 10 |
| (2) | Write note on Two compartment open model. | 10 |

Q.3 Short Answers: (Any Two)

- | | | |
|-----|--|-----------|
| (1) | Explain Causes of Nonlinearity. | 05 |
| (2) | Define Loading doses and Maintenance dose. Explain importance of same. | 05 |
| (3) | Explain method of residual for one compartment. | 05 |
