

# National Board of Examinations

**Question Paper Name :** DNB Pharmacology Paper1  
**Subject Name :** DNB Pharmacology Paper1  
**Duration :** 180  
**Total Marks :** 100  
**Display Marks:** No

**Maximum Instruction Time :** 0

**Question Number : 1 Question Id : 32718738234 Consider As Subjective : Yes**

**Please write your answers in the answer booklet within the allotted pages as follows:-**

Question Number	Answer to be attempted within	Question Number	Answer to be attempted within
Q. 1	Page 1-5	Q. 6	Page 26-30
Q. 2	Page 6-10	Q. 7	Page 31-35
Q. 3	Page 11-15	Q. 8	Page 36-40
Q. 4	Page 16-20	Q. 9	Page 41-45
Q. 5	Page 21-25	Q. 10	Page 46-50

1. Describe physiologically based pharmacokinetic and pharmacodynamics models (Pb-PK-PD) and their clinical applications. [10]

**Question Number : 2 Question Id : 32718738235 Consider As Subjective : Yes**

Define various therapeutic biologics? Discuss in brief metabolism of therapeutic biologics and clinical implications. [5+3+2]

**Question Number : 3 Question Id : 32718738236 Consider As Subjective : Yes**

Describe importance of systems pharmacology. [10]

**Question Number : 4 Question Id : 32718738237 Consider As Subjective : Yes**

Describe importance of photo - pharmacology in drug development. [10]

**Question Number : 5 Question Id : 32718738238 Consider As Subjective : Yes**

What is the concept of 4Rs in research on experimental animals? Discuss the role of CCSEA in research on experimental animals. [5+5]

**Question Number : 6 Question Id : 32718738239 Consider As Subjective : Yes**

How is the quality of medicine assessed? When is a medicine categorized as not of standard quality (NSQ), spurious and counterfeit medicine? [7+3]

**Question Number : 7 Question Id : 32718738240 Consider As Subjective : Yes**

Briefly explain drug addiction, drug dependence and drug abuse. Write a brief note on their management. [6+4]

**Question Number : 8 Question Id : 32718738241 Consider As Subjective : Yes**

Discuss safety/efficacy biomarkers and surrogate markers with suitable examples. [10]

**Question Number : 9 Question Id : 32718738242 Consider As Subjective : Yes**

Briefly explain generic, branded, branded generic and pseudo-generic medicines. [2.5+2.5+2.5+2.5]

**Question Number : 10 Question Id : 32718738243 Consider As Subjective : Yes**

Explain importance of regulatory toxicity studies for filing Investigational New Drug (IND) application. [10]