



Name :

Roll No. :

Invigilator's Signature :

**CS/M.Pharm/SEM-1/MPT-108(1)/2009-10
2009**

GENERAL PHARMACOLOGY

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) Alloxan produces Diabetes in most species, *except*
 - a) Human beings
 - b) Rat
 - c) Mice
 - d) Guinea pig.
- ii) In case of overdose of anesthetics in animals, which of the following drugs may be used to recover them ?
 - a) Doxapram
 - b) PTZ
 - c) Effortil
 - d) All of these.
- iii) A drug is absorbed according to Henderson-Hasselbalch equation, if
 - a) it has high lipophilicity
 - b) it is in ionized form
 - c) it has high degree of solubility
 - d) none of these.



- iv) Resistance towards anti-cancer drugs is mediated through
- a) OAT₁ transporter b) OCT₁ transporter
- c) P-glycoprotein d) NTCP transporter.
- v) Which of the following drugs is are used to produce diabetes in animals ?
- a) Dithiazone b) Streptozotocin
- c) Both of these d) None of these.
- vi) Maximum volume of blood that may be collected in a single withdrawal from an animal is
- a) 15-20% of TBV b) 40% of TBV
- c) 5-10% of TBV d) none of these.
- vii) Which of the following factors affect(s) drug transport across membranes ?
- a) Temperature
- b) Molecular wt. of diffusing substance
- c) Thickness of membrane
- d) All of these.
- viii) Bioassay of which of the following drugs is feasible ?
- a) Chemically unstable b) Drug mixture
- c) Chemically stable d) Both (a) and (b).
- ix) Clinical trails are performed
- a) after filing INDA b) before filing INDA
- c) after filing NDA d) none of these.



- x) Infiltration anesthetics can be evaluated by
- a) wheal formation
 - b) sciatic nerve of rate
 - c) suppression of sneezing reflex in rabbit
 - d) using cornea of rabbit.
- xi) Anxiety may be induced in mice by
- a) social isolation
 - b) forced swimming
 - c) electric shock
 - d) all of these.
- xii) Which of the following is true for a drug ?
- a) $TD_{50} > LD_{50}$
 - b) $ED_{50} > LD_{50}$
 - c) $ED_{50} > TD_{50}$
 - d) None of these.

GROUP – B

(Short Answer Type Questions)

Write short notes on any *three* of the following.

3 × 5 = 15

- 2. CPCSEA guidelines
- 3. Role of FDA in drug discovery
- 4. LD_{50}
- 5. Henderson-Hasselbalch equation and drug absorption.
- 6. Drug interaction.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

- 7. a) What is Lead and what is the importance of Lead Development ? 5
- b) What do you mean by target validation ? 5
- c) Describe nature as a source of novel drug discovery. 5

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8. a) What are the various objections of ethical committees to use of animals for animal experimentation ? 5
- b) Discuss various alternatives to animal screening procedure. 5
- c) Discuss various *in vitro* models of studying drug metabolism. 5
9. a) How do membrane transporters act as mediators of Adverse Drug Response ? 5
- b) Write a short note on structure based drug design. 5
- c) What are HTS and HCS ? 5
10. a) What are the various preclinical models to screen a drug for anti-diabetic activity ? Discuss any one method in detail. 8
- b) What are the different models to screen a drug for analgesic activity ? Explain any one in detail. 7
11. What is bioassay ? What is the basic principle of Bioassay ? What are the various methods available for the bioassay of a drug ? Discuss any one method of bioassay of acetylcholine using 4-point method of bioassay. 3 + 4 + 4 + 4

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