Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/M.Pharm/SEM-1/MPT-108(1)/2010-11

2010-11
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 : $10 \times 1 = 10$

   i) In first order kinetics, if the dose of a drug is increased, $t\frac{1}{2}$ will be

   a) increased b) decreased

   c) remain unchanged d) none of these.

   ii) Acidic drugs generally bind to

   a) β-globulin b) Albumim

   c) α-acid glycoprotein d) all of these.

   iii) Ames test is done for

   a) acute toxicity b) terato genicity

   c) muta genecity d) carcino genicity.

   iv) Which bioassay is based on "all or none law" ?

   a) Matching bioassay b) Bracketting bioassay

   c) Interpolation bioassay d) Threshold bioassay.

v) Animal testing of potential new therapeutic agents

a) extends over a time period of at least 3 years in order to discover late toxicities

b) has good predictability for drug allergy-type reaction

c) may be abbreviated in case of some very toxic agents used in cancer

d) none of these.

vi) "Cohort studies" are primarily used to

a) measure the cost of clinical study

b) design double blind test

c) discover uncommon adverse effect

d) compare the result of two or more therapeutic drugs.

vii) Name of the nerve which is blocked in conduction anaesthesia in rat is

a) vagus nerve b) intramural nerve

c) sciatic nerve d) none of these.

viii) H_1-receptor blocking activity is performed in

a) isolated trachea of guinea pig

b) isolated trachea of cat

c) isolated sciatic nerve of frog

d) none of these.

ix) Primary mediators of chronic inflammation is

a) Vasoactive amines

b) Eicosanoids

c) Interferon and other cytokines

d) none of these.

x) Test of significance of an experimental result can be done with the help of

a) Student *t* test b) Chi square test

c) both of these d) none of these.

xi) Anticipatory anxiety refers to

a) handling causes stress-induced hyperthermia

b) shock induced anxiety

c) measurement of ultrasonic vocalization

d) none of these.

xii) Picrotoxin is a convulsant that act by blocking

a) NMDA receptor b) GABA-A receptor

c) GABA-B receptor d) Glycine receptor.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Define bioassay. Write a short note on advantage and disadvantage of bioassay. Write about the principle of four point bioassay.

3. Explain briefly IND and NDA.

4. Write a note on Ligand based drug design.

5. Write notes on

i) Bioassay of Oxytocin

ii) Models to screen analgesic activity.

6. Explain a model used to screen for local anesthetic activity.

GROUP – C

(Long Answer Type Questions)

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

7. Write down the different models employed in the screening of a central nervous system depressant drug.

   Discuss any one of them in detail.

   What are the different models to screen a drug for anti-inflammatory activity ?

   Explain any one chronic model. 5 + 3 + 4 + 3

8. Discuss basic mechanism of membrane transport. Explain the mechanism by which transporters mediate adverse drug responses with suitable examples in each case. 5 + 10

9. Explain various toxicological studies that are to carried out in pre-clinical and non-clinical phases of drug development process using animal models.

10. Write short notes on any *three* of the following : 3 × 5
    a) In-vivo screening models of anitdiabetic drugs.
    b) Matching dose bioassay
    c) Preparation of human hepatocyte
    d) Significance of LD_{50} and ED_{50}.

11. What do you mean by augmented & bizarre type ADR ?

    Describe the terms
    i) Reinforcement
    ii) Idiosyncrasy
    iii) Delayed hypersensitivity.

    What is the effect of enzyme induction in drug interaction ?
    3 + 6 + 6