Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/B.Pharm/SEPARATE SUPPLE/SEM-8/PT-809A/2011

2011

ADVANCED 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) Cyclosporine, a specific T-cell inhibitor, is a cyclic polypeptide with

   a) 12 amino acids b) 11 amino acids

   c) 14 amino acids d) 15 amino acids.

   ii) Primary site of drug metabolism is

   a) Stomach b) Kidney

   c) Liver d) None of these.

iii) Receptor by nature is a

a) Protein b) Polysaccharide

c) Nucleic acid d) both (a) & (c)

iv) Which of the folloiwng cytotoxic drug is not used as immunosuppressant ?

a) Azathioprine

b) Mechlorethamine

c) Cyclophosphamide

d) Methotrexate.

v) The Bioassay of Histamine can be done to measure its contractile effect by

a) Suitable micro-organism grown on suitable nutrient agar medium

b) Isolated atropinized terminal ileum of guineapig

c) Immature male rats

d) Whole body of Ox with thrombokinase extract and acetone dried Ox brain.

vi) Biotransformation is a

a) detoxication process

b) non-detoxication process

c) both of these

d) none of these.

vii) All the following drugs act on concer cell and their toxicity is generally expressed in 'S' phase, *except*

a) Cytarabine b) Topotecan

c) Hydroxyurea d) Doxorubicin.

viii) Drug action means

a) intial combination of the drug with its receptor

b) the ultimate change in biological function

c) none of these

d) all of these.

ix) Antacids containing aluminium salt decrease absorption of

a) Iron b) Tetracycline

c) both of these d) none of these.

x) Examples of physiological antagonism are

a) Acetylcholine and Noradrenaline

b) Histamine and adrenaline

c) Both of these

d) None of these.

xi) Bcl-2 protein is oncogenic because it

a) induces apoptosis

b) inhibits apoptosis

c) induces new cell

d) inhibits cell cycles.

xii) Identify the calcineurin inhibitor from the following

a) Prednisolone

b) Mycophenolate mofetil

c) Tacrolimus

d) Muromonab.

xiii) The 'Apoptosome' is a complex of

a) Procaspase 8, Cytochrome '*C*' and Apaf-1 protein

b) Procaspase 3, Cytochrome '*C*' and Apaf-1 protein

c) Only Procaspase 9 and Cytochrome '*C*'

d) Procaspase 9, Cytochrome '*C*' and Apaf-1 protein.

xiv) In cell cycle synthesis of DNA occurs in

a) M phase

b) S phase

c) Go (G-Zero) phase

d) G_2 phase.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. a) Why is Levodopa combined with Carbidopa in Parkinson's disease ?

b) Classify antiparkinsonian drug with example. $2\frac{1}{2} + 2\frac{1}{2}$

3. How does cholinergic activators act to combat with Alzheimer's Disease ?

4. Write the principle and importance of bioassay.

5. Write a short note any *one* of the following :

   a) Cell Cycle

   b) Kinase linked receptor.

6. Explain the term 'biotransformation' with reference to its significance.

GROUP – C

(Long Answer Type Questions)

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

7. a) Define receptor according to molecular level.

   b) Discuss in short G-protein-coupled receptor.

   c) Discuss in detials about CAMP-phospholipase *C* and IP_3 -DAG pathway. 2 + 5 + 8

8. What is apoptosis ? Write in brief about the main signalling pathway in apoptosis. What is the role of apoptosis in cancer ? 2 + 8 + 5

9. What are the major syndrone of Parkinsonism ? Classify antiparkinsonian drugs with are example of each. Why carbidopa is mixed with L-Dopa when used in Parkinsonism ? Classify various drug interactions with one example of each. 2 + 3 + 2 + 8

10. Differentiate between cell mediated and Humoral Immunity. Explain the mode of action of Tacrolimus as immunosuppressant. What are the basic differences between vaccines and sera ? What are the general indications of immunosuppressants ? 3 + 5 + 3 + 4

11. Define Bioassay. Write the merits and demerits of Bioassay. Classify Bioassay and describe briefly different types of Bioassay. Write a short note on insulin bioassay.

1 + 4 + 6 + 4