

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 × 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. |

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[Turn over



- iii) Receptor by nature is a
- a) Protein
 - b) Polysaccharide
 - c) Nucleic acid
 - d) both (a) & (c)
- iv) Which of the following 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) G₂ 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 ?



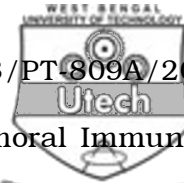
4. Write the principle and importance of bioassay.
5. Write a short note any *one* of the following :
 - a) Cell Cycle
 - b) Kinase linked receptor.
6. Explain the term 'biotransformation' with reference to its significance.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7.
 - a) Define receptor according to molecular level.
 - b) Discuss in short G-protein-coupled receptor.
 - c) Discuss in details 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

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