



Name :

Roll No. :

Invigilator's Signature :

CS/B.Pharm/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) Nicotinic acetylcholine receptor is
 - a) G-protein coupled receptor
 - b) Ligand-gated ion channel
 - c) nuclear receptor
 - d) kinase linked receptor.
 - ii) The main targets for G-proteins, through which GPCRs control different aspects of cell functions, are
 - a) Adenylyl cyclase
 - b) Phospholypase C
 - c) Ion channel
 - d) Adenylyl exlase, phospholi pase C, ion channel.

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[Turn over



- iii) Indomethacin and related drugs reduce antihypertensive effect of
- a) Losartan b) Atenolol
c) Prazosin d) Captopril.
- iv) The neurotransmitter system in the brain most affected in Alzheimer's disease is
- a) Glutaminergic b) Gabaergic
c) Dopaminergic d) Cholinergic.
- v) Which of the following is a relatively cerebroselective anticholinesterase found to afford symptomatic improvement in Alzheimer's disease ?
- a) Donepezil b) Gemfibrozil
c) Pyridostigmine d) Piracetam.
- vi) Select the drug which is used exclusively in organ transplantation and autoimmune disease, but not in cancers
- a) Cyclophosphamide b) Cyclosporine
c) Methotrexate d) 6-Mercaptopurine.
- vii) Examples of physiological antagonism are
- a) Acetylcholine and noradrenaline
b) Histamine and Adrenaline
c) Both (a) and (b)
d) None of these.
- viii) Bcl-2 protein is oncogenic because it
- a) induces apoptosis b) inhibits apoptosis
c) induces cell cycle d) inhibits cell cycle.



- ix) The 'Apoptosome' is a complex of
- Procaspase 8, Cytochrome 'C' and Apaf-1 protein
 - Procaspase 3, Cytochrome 'C' and Apaf-1 protein
 - only Procaspase 9, Cytochrome 'C'
 - Procaspase 9, Cytochrome 'C' and Apaf-1 protein.
- x) All the following drugs act on cancer cell and their toxicity is generally expressed in the 'S' phase, *except*
- cytarabine
 - topotecus
 - hydroxyurea
 - doxorubicin.
- xi) Antacids containing aluminium salt decrease absorption of
- iron
 - tetracycline
 - both (a) and (b)
 - none of these.
- xii) Nuclear receptors are
- extra cellular protein
 - intra cellular protein
 - membrane bound protein
 - none of these.

GROUP – B

(Short Answer Type Questions)

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

- Explain the cell cycle in brief.
- Why is levodopa combined with carbidopa in the management of Parkinson's disease ?
 - Name two drugs to treat Myasthenia Gravis. $3 + 2$

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



4. Write a short note on drug-food interaction.
5. Write a note explaining the four point assay.
6. Write the mechanism and site of action of Alkylating agent and Antimetabolites useful in neoplastic disease.

GROUP – C

(Long Answer Type Questions)

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

7. a) Explain the terms receptor, ligand and signal transduction.
b) Discuss the pathway by which metabotropic receptors act. $5 + 10$
8. a) Classify immunostimulant and immunosuppressant drugs with proper examples.
b) Explain the induction and effector phases of lymphocyte activation with the site of action of immunosuppressant drugs. $5 + 10$
9. What is biotransformation ? Explain in detail various phases of biotransformation. 15
10. a) What is cerebractive drug ?
b) Write down the indications of cognition enhancers. How do they act ?
c) Write about tacrine as a drug of Alzheimer's disease. $2 + 5 + 3 + 5$
11. a) Define the terms 'Apoptosis' and 'Angiogenesis'.
b) Outline the two main pathways in apoptosis in detail.
c) Write down the therapeutic implication of Apoptosis. $(1 + 1) + 9 + 4$