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# CS/B.Pharm/SEM-8/PT-809A/2010 2010 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) All the following ACE-inhibitors are prodrugs *except* 
  - a) Ramipril b) Captoril
  - c) Risinopril d) Enalopril.

ii) Theophyline has additive action with

- a) Ephedrine b) Physostigmine
- c) Acetylcholine d) None of these.
- iii) Which of the following is a ganglion blocking agent ?
  - a) Hexamethonium b) Acetylcholine
  - c) Scopolamine d) None of these.
- iv) Select the cell cycle non-specific antineoplastic drug :
  - a) Vincristine b) Bleomycin
  - c) Methotrexate d) 5-Fluorouracil.

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- v) Apoptosis prevented by
  - a) P 51
  - c) P 53 d)



vi) Mesna is administered with cyclophophamide and ifosphamide to

b)

- a) Potentiate their cytotoxic action
- b) Retard their renal excretion
- c) Block their emetic action
- d) Ameliorate cystitis caused by them.
- vii) Piracentam is used as
  - a) Anti-epileptic drugs b) Nootropic drug
  - c) Antibacterial drug d) Antibiotic.
- viii) Ca enters the cell by
  - a) Voltage-gated calcium channel
  - b) Light-gated calcium channel
  - c)  $Na^+ Ca^+$ channel
  - d) All of these.
- ix) Receptor is a
  - a) Enzyme b) Protein
  - c) Vitamin d) None of these.
- x) Gluneapig Ileum is highly sensitive to
  - a) Ach b) Histamine
  - c) Oxytocin d) Serotonin.

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a) Agonist

xi)

- b) Partial agonist
- c) Inverse agonist d) Antagonist.
- xii) Steroid receptors are
  - a) G-protein coupled receptors
  - b) Liquored-gated ion channel
  - c) Nuclear receptors
  - d) None of these.

#### **GROUP – B**

#### (Short Answer Type Questions)

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

- 2. What do you mean by bioassay ? Write down the advantages and disadvantages of bioassay.
- 3. Briefly explain the pathophysiology of Alzheimer's disease.
- 4. Discuss the role of cytochrome P 450 in biotransformation.
- 5. Write a short note on drug interactions.
- 6. Explain the role of B-lymphocytes in the immove system.

#### **GROUP – C**

### ( Long Answer Type Questions )

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

- 7. a) Define and classify receptors.
  - b) Write a note on the functional mechanism of GPCR.

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- c) Define the terms
  - i) Partial agonist
  - ii) Competitive antagonist (with examples). 4 + 7 + 4

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8.

a)

- Define Apoptosis. What is the difference between apoptosis and necrosis ?
- b) Explain the death receptor pathway and mitochondrial pathway in apoptosis.
- 9. a) Define immunomodulators.
  - b) Classify the drug used as immuno-suppressive agents.
  - c) Write down the immuno-suppressive mechanism of cyclosporine & glucocorticoids. 2 + 4 + 9
- 10. a) Explain the pathophysiology of Parkinson's disease.
  - b) Classify the drugs used to treat Parkinson's disease.
  - c) Explain the mechanism of action, adverse effects and ADME of Levodopa in Parkinson's disease.
- 11. a) Describe the steps of the cell cycle.
  - b) What is the relation between cell-cycle and cancer chemotherapy ? Name some cell-cycle specific drugs, mentioning the state at which they act. 8 + 2 + 5