

UKA TARSADIA UNIVERSITY

M. Pharm (Pharmacology) Semester – I June-2012

040050103 - Advances in Pharmacology

Max Marks: 70

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.
5. Draw diagrams/figures whenever necessary.

Q-1 (A) Do as directed: [07]

- I) Name cholinesterase reactivators.
- II) What is mechanism of sumatriptane
- III) Write functions of Thromboxane A₂.
- IV) Enumerate ganglion blockers
- V) Name macrophages stimulators
- VI) Why neostigmine is preferred over physostigmine in the treatment of Myasthenia gravis.
- VII) What are sources of pilocarpine and Ephedrine.

Q-1 (B) Answer the following in brief: (Any 4) [08]

- I) Differentiate Atropine and Hyoscine
- II) Justify the statement: Pirenzepine is preferred over atropine in the treatment of peptic ulcer.
- III) Briefly write transduction mechanism of various subtypes of muscarinic receptors.
- IV) What are advantages of topical blockers over miotics in treatment of glaucoma.
- V) Briefly describe role of alpha blockers in the treatment of benign hypertrophy of Prostate
- VI) Explain Triple response of Histamine

Q-2 Answer the following: [10]

- (A) Write therapeutic classification of adrenergic drugs.

OR

- (A) Write a note on anorectic agents.
(B) Write a note on second generation antihistaminics and their uses.

OR

- (B) Explain the importance of toll like receptor in the immune mechanism.

Q-3 Answer the following in detail. (Any 2) [10]

- (A) Explain in detail therapeutic uses of various beta blockers
- (B) Write a note on immunosuppressant agents and explain recent advances in immunosuppressive therapy for organ transplantation.
- (C) Describe role of 5HT₃ receptors in metabolic disorders

Q-4 (A) Do as directed: [07]

- I) Enlist mechanism of actions of antibiotics.
- II) Identify the drug comprising following properties
 - 1. Pharmacological analogue but not structural analogue of Sulfonamide.
 - 2. Used topically. 3. Active even in presence of pus
 - 4. Effective against *Pseudomonas* and *Clostridia* which are not inhibited by commonly used sulfonamides.
- III) Drug interaction: Ampicillin and Tetracycline.
- IV) Write mechanism of action of Vincristine as antineoplastic drug.
- V) Identify the drug comprising following properties
 - 1. Semisynthetic derivative of macrocyclic antibiotic produced by *Streptomyces* species. 2. Binds strongly to β -subunit of "DNA dependant RNA polymerase" and inhibits RNA synthesis. 3. Imparts red orange color to urine.
- VI) Drug interaction: Macrolide and Digoxin
- VII) Enlist at least two agents that show Concentration dependent killing (CDK) with prolonged Post antibiotic effect (PAE).

Q-4 (B) Answer the following in brief: (Any 4) [08]

- I) How to minimize Crystalluria and Renal toxicity caused by Sulfonamides?
- II) Enlist mechanisms of development of resistance against penicillins.
- III) Justify. "Aminoglycoside can be administered in single daily dose despite their short half life."
- IV) Explain mechanism of action of Oseltamivir in short.
- V) Classify antimalarial drugs based on clinical use.
- VI) Write category, mechanism of action and two side effects of Isoniazid

Q-5 Answer the following: [10]

- (A) Write a note on aetiology of cancer. Explain mechanism of action, clinical uses and adverse effects of any anticancer drug.

OR

- (A) What is opportunistic infection? Classify antifungal agents. Write a note on Amphotericin-B.
- (B) Explain life cycle of malarial parasite.

OR

- (B) Explain pharmacology of Streptomycin.

Q-6 Answer the following in detail. (Any 2) [10]

- (A) What is DOTS? Explain drug regimen recommended by WHO for the treatment of Tuberculosis.
- (B) Write a note on HAART. Explain the significance of it in treatment of AIDS.
- (C) Name the antimicrobial agent producing following adverse reactions and discuss their symptoms with treatment or prevention.
 - (i) Gray baby syndrome (ii) Ototoxicity