



MBBS SECOND PROFESSIONAL
MODEL PAPER FOR ANNUAL 2009
Pharmacology and Therapeutics
(Short Essay Questions)

Max. Marks 70

Time Allowed 2 hours

1. a) Give one example of a drug that shows the following types of drug tolerance.
 - i) Pharmacodynamic tolerance. 0.5
 - ii) Cross tolerance. 0.5
 - iii) Pharmacokinetic tolerance. 0.5
- b) Explain the basis for alkalization of urine in salicylate (weak acid) poisoning. 02
- c) Name THREE drugs that exhibit extensive FIRST PASS EFFECT. 1.5
(0.5 Each)

2. a) Explain the pharmacological basis for the use of the following:
 - i) Atropine as a pre-anesthetic agent. 1
 - ii) Dopamine in cardiogenic shock. 1
 - iii) Prazosin in BENIGN PROSTATIC HYPERPLASIA (BPH). 1
- b) Explain why NEOSTIGMINE is preferred to PHYSOSTIGMINE in MYASTHENIA GRAVIS? 02

3. a)
 - i) Describe THREE comparative features of TRICYCLIC ANTIDEPRESSANTS and SSRI's. 1.5
(0.5 Each)
 - ii) Explain the result of concurrent administration of MAO-INHIBITORS and TRICYCLIC ANTIDEPRESSANTS. 01
- b)
 - i) Enlist FOUR features of clozapine in treatment of schizophrenia. 02(0.5 Each)
 - ii) Why regular monitoring of blood count is required during clozapine therapy? 0.5

4. A child was brought to emergency six hours after ingestion of toxic dose of acetoaminophen with vomiting and diaphoresis. Besides supportive treatment he was prescribed N-acetylcysteine.
 - a)
 - i) What is the rationale of using N-acetylcysteine in this case? 02
 - ii) Enlist TWO differences between Aspirin and Paracetamol. 0.5, 0.5
 - b)
 - i) Name TWO drugs used in CHRONIC GOUT. 0.5, 0.5
 - ii) Can ALLOPURINOL be given in ACUTE GOUT? 01

5. A middle aged man with history of frequent attacks of angina on moderate exertion is put on a regular prophylactic therapy of β -Blocker and a nitrate.
 - a) Explain how a combination of nitrate + β -blocker will increase effectiveness and decrease incidence of adverse effects in Angina. 03
 - b) Mention TWO drugs used in PSVT (Paroxysmal Supra-Ventricular Tachycardia) and give mechanism of any one of them. 01, 01

6. a) Enlist electrolytic and metabolic adverse effects of LOOP DIURETICS. 03
b) Explain the basis for the use of MANNITOL in ACUTE CONGESTIVE GLAUCOMA. 02
7. a) How do the following produce their beneficial effect?
i) Streptokinase in coronary thrombosis. 1.5
ii) Aspirin in post myocardial infarction patients. 1.5
b)
i) Name low molecular weight Heparins. 01
ii) What is the treatment of Heparin overdose? 01
8. a) Describe the mechanism of anti-emetic and pro-kinetic effects of METOCLOPRAMIDE. 1.5,1.5
b) Name TWO:
i) Opiates used as anti-diarrheals. 01
ii) Major irritant laxatives used. 01
9. A mother brought her ten year old child with complaints of severe breathlessness, wheezing and cough. She stated that the attacks occurred in spring season. Case was diagnosed as Bronchial Asthma.
a) Name drugs used to terminate an attack of acute bronchial asthma. 02
b) Enlist common adverse effects of inhaled steroids used in this disease. 01
c) What prophylactic therapy is advised before the seasonal attack? 02
10. a) Give TWO mechanisms by which resistance may develop to antimicrobial agents (with one example of a drug for each mechanism). 02
b) Explain the basis for the following drug combinations.
i) Amoxicillin + Clavulanic Acid. 1.5
ii) Penicillin G + Probenecid. 1.5
11. A 30 years old lady came to medical OPD with a H/O productive cough, low grade fever, anorexia and weight loss for the last 8 weeks. She was diagnosed as a case of pulmonary TB and put on Anti-Tubercular Therapy (4 drugs) by the physician.
a) Explain the pharmacological basis of multi-drug therapy in TB. 03
b) What is the rationale of using pyridoxine with Isoniazid (INH)? 01
c) What is the duration of "Four Drug Regimen"? 01
12. a)
i) Describe the mechanism of action of Azole anti-fungal agents. 02
ii) What is the major use of fluconazole? 01
b) How is interferon effective as an anti viral agent? 02
13. a) Describe the mechanism of action of ALKYLATING AGENTS in CANCER CHEMOTHERAPY. 02
b) Name TWO agents that cause hemorrhagic cystitis. 01
c) Adverse effects of alkylating agents are seen commonly on which organs. 02
14. a) Classify and enumerate INSULIN PREPARATIONS. 03
b) What is the rationale for the use of CLOMIPHENE in INFERTILITY? 02