

Time: 3 hours, Marks: 100

Ph. D Entrance Test

Subject: Pharmacology in Pharmacy

Guidelines:

1. Section I consists of 40 multiple choice objective type questions. All are compulsory.
2. The section II consists of short answer questions.
3. The section III consists of long answer questions.

Section I

All questions are compulsory

(40 X 1=40 marks)

- 1) Transdermal drug delivery systems offer the following advantages except:
 - a) They produce high peak plasma concentration of the drug
 - b) They produce smooth and non-fluctuating plasma concentration of the drug
 - c) They minimise interindividual variations in the achieved plasma drug concentration
 - d) They avoid hepatic first-pass metabolism of the drug
- 2) _____ is a Glycoprotein IIb/IIIa inhibitor.
 - a) Roxifiban
 - b) Aspirin
 - c) Ticlopidine
 - d) Clopidogrel
- 3) Select the drug combination which does not exhibit supraadditive synergism:
 - a) Nalidixic acid + Nitrofurantoin
 - b) Amoxicillin + Clavulanic acid
 - c) Pyrimethamine + Sulfadoxine
 - d) Sulfamethoxazole + Trimethoprim
- 4) For a patient of peptic ulcer, the safest nonopioid analgesic is:
 - a) Celecoxib
 - b) Diclofenac sodium
 - c) Paracetamol
 - d) Ibuprofen

Turn Over

- 5) Atropine produces the following actions except:
- Tachycardia
 - Mydriasis
 - Dryness of mouth
 - Urinary incontinence
- 6) The most vulnerable period of pregnancy for the causation of foetal malformations due to drugs is:
- 18-55 days of gestation
 - 56-84 days of gestation
 - Second trimester
 - 36 weeks onwards
- 7) Presently, the goal of antiretroviral therapy is:
- Eradication of HIV from the body of the patient
 - Inhibit viral replication to undetectable levels
 - Restore immune competence of the patient to effective level
 - Both 'B' and 'C'
- 8) Select the cell cycle nonspecific antineoplastic drug:
- Vincristine
 - Bleomycin
 - Methotrexate
 - 5-Fluorouracil
- 9) The most important drawback of sucralfate in the treatment of duodenal ulcer is:
- Low ulcer healing efficacy
 - Poor relief of ulcer pain
 - High incidence of side effects
 - Need for taking a big tablet four times a day
- 10) Malignant hyperthermia is associated with :
- Ether
 - Halothane
 - Pentobarbitone
 - Midazolam
- 11) The adverse effects of angiotensin converting enzyme II inhibitors are:
- Cough
 - Angioedema
 - Hypotension
 - All of the above

Turn Over

- 12) Use of anticoagulants in acute myocardial infarction affords the following benefit(s):
- Reduces short-term mortality
 - Prevents thrombus extension and subsequent attack
 - Prevents venous thromboembolism
 - All of the above
- 13) The following factor(s) is/are required for the absorption of dietary vitamin B₁₂:
- Gastric acid
 - Gastric intrinsic factor
 - Transcobalamine
 - Both 'A' and 'B'
- 14) Aplastic anemia with Chloramphenicol is a Type _____ adverse drug reaction.
- A
 - B
 - C
 - D
- 15) The current therapeutic indication of acetazolamide is:
- Congestive heart failure
 - Renal insufficiency
 - Cirrhosis of liver
 - Glaucoma
- 16) Morphine is _____ in patients with biliary colic.
- Contraindicated
 - Prescribed
 - First line therapy
 - Recommended
- 17) Rebound hypertension on sudden stoppage of medication is most likely to occur with:
- Hydrochlorothiazide
 - Prazosin
 - Clonidine
 - Lisinopril
- 18) Which of the following drugs is a potassium channel opener:
- Nicorandil
 - Hydralazine
 - Glibenclamide
 - Amiloride

Turn Over

- 19) Warfarin and Phenylbutazone co administration can lead to:
- Drug –drug interaction – higher incidences in bleeding
 - Drug –drug interaction – greater pain relief
 - Synergistic effect
 - Supraadditive effect
- 20) Bisphosphonates are useful in :
- Osteoporosis
 - Asthma
 - Neither **a** nor **b**
 - Both **a** and **b**
- 21) Glyceryltrinitrate is administered by the following routes except:
- Oral
 - Sublingual
 - Intramuscular
 - Intravenous
- 22) The principal action common to all class I antiarrhythmic drugs is:
- Na⁺ channel blockade
 - K⁺ channel opening
 - Depression of impulse conduction
 - Prolongation of effective refractory period
- 23) The neurotransmitter system in the brain most affected in Alzheimer's disease is:
- Glutamnergic
 - Gabaergic
 - Dopaminergic
 - Cholinergic
- 24) The protective effects of Sodium cromoglycate in asthma is due to:
- Inhibition of degranulation of mast cells
 - Blocking of H1 receptors
 - Blocking of 5HT receptors
 - Bronchodilation
- 25) The antidote of choice for morphine poisoning is:
- Nalorphine
 - Nalbuphine
 - Naltrexone
 - Naloxone

Turn Over

- 26) The drug inhibiting HMG-CoA reductase is:
- Bezafibrate
 - Rosuvastatin
 - Nicotinic acid
 - Colestipol
- 27) The following adverse effect can occur even long after withdrawal of L-Dopa:
- Paradoxical tachycardia
 - Tardive dyskinesia
 - Malignant hyperthermia
 - Gynaecomastia
- 28) Reye's syndrome is associated with viral infection and _____ use.
- Aspirin
 - Indomethacin
 - Nimesulide
 - Paracetamol
- 29) Drug of choice in Status epilepticus is:
- Ethosuximide
 - Rivastigmine
 - Amphetamine
 - Diazepam
- 30) Allopurinol lowers the plasma concentration of:
- Hypoxanthine
 - Xanthine
 - Uric acid
 - All of the above
- 31) The virus directed reverse transcriptase enzyme is inhibited by: B
- Amantadine
 - Zidovudine
 - Vidarabine
 - Acyclovir
- 32) Therapeutic index is _____:
- LD50/ED50
 - MD50/ED50
 - LD50/MD50
 - ED50/LD50

Turn Over

- 33) A drug which does not produce any action by itself but decreases the slope of the log dose-response curve and suppresses the maximal response to another drug is a:
- Physiological antagonist
 - Competitive antagonist
 - Noncompetitive antagonist
 - Partial agonist
- 34) The drug added to an injection of local anesthetic is:
- Acetyl choline
 - Epinephrine
 - Bupivacaine
 - Amphetamine
- 35) Which of the following is teratogenic:
- Thalidomide
 - Phenytoin
 - Both a and b
 - Only a
- 36) Which scale is used to measure causality of adverse effects:
- Naranjo scale
 - WHO scale
 - Both a and b
 - Neither a and b
- 37) The loading dose of a drug is governed by its:
- Renal clearance
 - Plasma half life
 - Volume of distribution
 - Elimination rate constant
- 38) The most effective drug in Parkinsonism is:
- Bromocriptine
 - Selegiline
 - Levodopa + carbidopa
 - Biperiden
- 39) Phase _____ studies are also known as safety and efficacy studies:
- IV
 - I
 - III
 - II

Turn Over

- 40) Select the drug with low therapeutic index:
- Digoxin
 - Paracetamol
 - Aspirin
 - Roxithromycin

Section II

Attempt **any three** (03) questions out of five (05): (3 X 10=30 marks)

- Q1. Explain the factors which affect bioavailability of a drug? What is the importance of bioavailability and bioequivalence for generic drugs?
- Q2. Discuss the various types of calcium channels and therapeutic areas in which they be modulated.
- Q3. Discuss various methods in pharmacovigilance.
- Q4. Discuss the pharmacotherapy and advances in treatment of: (**any two**)
- Hyperlipidaemia
 - Diabetes mellitus
 - Parkinson's disease.
- Q5. Discuss the phases of clinical trials and the importance of ethics in clinical trials.

Section III

Attempt **any two** (02) questions out of four (04): (2 X 15=30 marks)

- Q1. Discuss in detail the pharmacology of drugs modulating the release, synthesis and metabolism of catecholamines.
- Q2. Discuss in detail the G protein-coupled receptor and its signal transduction pathways.
- Q3. Describe the various preclinical models to evaluate nootropic activity of potential drug molecules.
- Q4. Discuss the regulatory guidelines and the tests which are conducted for toxicity studies.