

M.B.B.S. SECOND PROFESSIONAL EXAMINATION, JULY - 2020
PHARMACOLOGY
PAPER - FIRST

[Time allotted: Three hours]

[Max Marks: 40]

Q. 1. Multiple choice questions (attempt all MCQs in the allotted first 20 minutes in the OMR sheet) (½ x 16 = 08)

SET - A

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| <p>1. The following drugs are potent triggers for malignant hyperthermia except:</p> <ol style="list-style-type: none">HalothaneSuxamethoniumIsofluraneCalcium <p>2. Which of the following drug is an inhibitor of cytochrome p450?</p> <ol style="list-style-type: none">KetoconazoleRifampicinPhenytoinPhenobarbitone <p>3. Indicate the local anaesthetic agent, which has a shorter duration of action:</p> <ol style="list-style-type: none">LidocaineProcaineBupivacaineRopivacaine <p>4. Zero order kinetics is followed by all of the following except:</p> <ol style="list-style-type: none">PhenytoinBarbituratesAlcoholTheophylline <p>5. Which of the following drug is useful in an attack of acute gout?</p> <ol style="list-style-type: none">FurosemideSulfinpyrazoneAllopurinolPiroxicam <p>6. Indicate the location of M2 cholinoreceptor type:</p> <ol style="list-style-type: none">HeartGlandsSmooth muscleEndothelium <p>7. Which of the following hypnotic drugs is used intravenously as anaesthesia?</p> <ol style="list-style-type: none">ThiopentonePhenobarbitalFlurazepamZolpidem <p>8. Epinephrine is used in the treatment of all of the following disorders except:</p> <ol style="list-style-type: none">BronchospasmAnaphylactic shockCardiac arrhythmiasOpen-angle glaucoma | <p>9. The drug of choice for febrile seizures is:</p> <ol style="list-style-type: none">CarbamazepineEthosuximideDiazepamLamotrigine <p>10. Morphine is used intravenously in:</p> <ol style="list-style-type: none">Acute LVFOsteonecrosisPre-anaesthetic medicationAcute gout <p>11. Which of the following intravenous anaesthetics has antiemetic action?</p> <ol style="list-style-type: none">ThiopentalPropofolKetamineFentanyl <p>12. Indicate the drug which is a leukotriene receptor antagonist:</p> <ol style="list-style-type: none">Sodium cromoglycateZafirlukastOmalizumabKetotifen <p>13. Long term use of aspirin in rheumatoid arthritis is limited to its propensity to cause:</p> <ol style="list-style-type: none">Metabolic acidosisHypersensitivity reactionGastric mucosal damageSalicyclism <p>14. Which of the following proton pump inhibitor has enzyme inhibitor activity?</p> <ol style="list-style-type: none">RabeprazoleLansoprazolePantoprazoleOmeprazole <p>15. Which of the following drug is not used in treatment of bronchial asthma?</p> <ol style="list-style-type: none">β2 agonistCorticosteroidCholinesterase inhibitorPhosphodiesterase inhibitors <p>16. The following is an antitussive:</p> <ol style="list-style-type: none">DextromethorphanAmbroxolGuaiphenesinBromhexine |
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Note: Attempt all questions.
Draw suitable diagrams (wherever necessary)

- Q. 2. Give reasons:** **(1 x 4 = 04)**
- a. Timolol is used in open angle glaucoma
 - b. Pyridostigmine is used in myasthenia gravis
 - c. Tamsulosin is preferred over phentolamine in BPH
 - d. Alkalinization of urine in salicylic acid poisoning
- Q. 3. Problem based question:** **(1 x 4 = 04)**
- A 55 year old Parkinson patient was stabilized on 2mg/day of levodopa. He had viral fever and weakness for which he took one tablet of vitamin B complex. After five days his symptoms like tremors, bradykinesia started reappearing, for which he went to the physician for advice.
- a. What could be the reason for parkinsonian symptoms to reappear?
 - b. What alterations would you recommend in the therapy?
 - c. What instructions should be given to a patient of parkinsonism while prescribing Levodopa?
 - d. What is the rationale of using centrally acting anticholinergics with levodopa and carbidopa combination?
- Q. 4. Write short notes on:** **(2 x 4 = 08)**
- a. Complications of spinal anaesthesia
 - b. Drugs for treatment of peptic ulcer caused by *H. pylori*
 - c. Dopamine
 - d. Phenytoin
- Q. 5. (i)** **(04)**
- a. Classify antidepressant drugs
 - b. Describe mechanism of action of SNRI's and their major therapeutic uses.
 - c. Write three major differences between TCAs & SSRIs.
 - d. What is serotonin syndrome? Briefly describe its management.
- (ii)** **(2+2 = 04)**
- a. Classify NSAIDs. Write two differences between selective and non-selective COX inhibitors.
 - b. Write the mechanism of action of diclofenac sodium in osteoarthritis. Mention 3 major adverse effects of diclofenac sodium.
- Q. 6. Write in brief about:** **(2 x 4 = 08)**
- a. Potassium sparing diuretics
 - b. Competitive antagonism
 - c. Teratogenicity
 - d. Cardioselective betablockers

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SET - A

1. Which of the following drugs improves insulin sensitivity in peripheral tissues?
 - a. Nateglinide
 - b. Glipizide
 - c. Metformin
 - d. Acarbose
2. The primary purpose of giving low dose aspirin in myocardial infarction is:
 - a. Clot lysis
 - b. Prevent severe debilitating pain
 - c. Prevent platelet aggregation
 - d. All of the above
3. True about statins:
 - a. Promote excessive loss of undigested fats in faeces
 - b. Fenofibrate is a rapidly acting statin
 - c. Inhibit intestinal absorption of triglycerides
 - d. Inhibit HMG Coenzyme A
4. The most frequent route of administration of insulin is:
 - a. Oral
 - b. Intravenous
 - c. Subcutaneous
 - d. Intramuscular
5. Nitrates are useful in angina because they:
 - a. Primarily dilate arteries
 - b. They dilate both arteries and veins
 - c. Constrict veins in periphery but dilate veins in heart
 - d. Constrict small arteries and dilate all veins
6. Loop diuretics can cause:
 - a. Potassium retention
 - b. Hyponatremia
 - c. Hypercalcemia
 - d. Peripheral neuropathy
7. Which of the following drugs blocks T- type calcium channels?
 - a. Verapamil
 - b. Nifedipine
 - c. Ethosuximide
 - d. Milrinone
8. The ATT that causes flu like syndrome:
 - a. Isoniazid
 - b. Ethambutol
 - c. Pyrazinamide
 - d. Rifampicin
9. Multidrug leprosy treatment regimens does **not** include which of the following drug?
 - a. Dapsone
 - b. Clofazamine
 - c. Pyrazinamide
 - d. Rifampicin
10. Finasteride acts by:
 - a. Stimulating 5-GMP synthesis
 - b. Estrogen receptor selective blockade
 - c. Alpha -2 receptor agonism
 - d. Inhibiting enzyme 5 alpha reductase
11. Theophylline acts by:
 - a. Protease inhibition
 - b. Stimulating alfa adrenergic receptors
 - c. Stimulating leukocyte adhesion for lysis of antigen
 - d. Phosphodiesterase inhibition
12. Amiodarone belongs to which class of antiarrhythmics?
 - a. Class I
 - b. Class II
 - c. Class III
 - d. Class IV
13. Acarbose acts by:
 - a. Activating lipases
 - b. Promoting apoptosis
 - c. Inhibiting alpha glucosidases
 - d. Stimulating SGLT-2 receptors
14. ACE inhibitors are absolutely contraindicated in:
 - a. Bilateral renal artery stenosis
 - b. Gout
 - c. Diabetic nephropathy
 - d. Recurring stroke
15. Amlodipine is considered superior to nifedipine because it:
 - a. Suppresses vasomotor centre
 - b. Prevents reflex tachycardia
 - c. Prevents angiotensin mediated remodeling of heart
 - d. Reduces cardiac work
16. True about sulfasalazine is that it is:
 - a. Used for treatment of inflammatory bowel disease
 - b. An excellent antifungal agent
 - c. A prodrug
 - d. A probiotic

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Note: Attempt all questions.
Draw suitable diagrams (wherever necessary)

- Q. 2. Give reasons:** **(1 x 4 = 04)**
- a. Fluoroquinolones are avoided in children.
 - b. Fibrinolytics are used in myocardial infarction.
 - c. Rationale of use of primaquine in malaria.
 - d. Metformin is the preferred oral hypoglycemic when oral therapy for Diabetes mellitus type 2 is initiated.
- Q. 3. Problem based question:** **(1+1+1+1 = 04)**
- A 50 year old lady male came to the OPD with long standing, poorly controlled stage 1 hypertension. He has been taking tablet amlodipine. One month back, the doctor added another drug to his prescription which caused persistent dry cough and angioedema, due to which the patient discontinued it.
- a. What can be the second drug in his prescription and what is its mechanism of action?
 - b. Explain the cause of persistent dry cough and angioedema.
 - c. Can diuretics be used in hypertension? If yes, what can be their adverse drug reactions?
 - d. Name two antihypertensives that are safe in pregnancy.
- Q. 4. Write short notes on:** **(2 x 4 = 08)**
- a. Oxytocin
 - b. Contraindications and precautions of use of systemic steroids
 - c. Pharmacotherapy of nausea and vomiting
 - d. Emergency hormonal contraceptives
- Q. 5. (i)** Classify anti-diabetic drugs. What are the adverse effects of insulin therapy and how can they be treated? **(04)**
- (ii)** Write the mechanism of action of sulfonylureas and their adverse drug reactions. **(04)**
- Q. 6. Write in brief about:** **(2 x 4 = 08)**
- a. How are SERMS different from conventional estrogens in terms of mechanism of action and potential uses?
 - b. How will you treat urinary tract infections?
 - c. Write ADRs of isoniazid and rifampicin.
 - d. Explain drug treatment of typhoid fever.