

**M.B.B.S. SECOND PROFESSIONAL EXAMINATION, FEBRUARY-2022**  
**PHARMACOLOGY**  
**PAPER - FIRST**

[Time allotted: Three hours]

SET - A

[Max Marks: 100]

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

1. The following drugs are potent triggers for malignant hyperthermia **except**:
  - a. Halothane
  - b. Suxamethonium
  - c. Isoflurane
  - d. Calcium
2. Which of the following drug is an inhibitor of cytochrome p450?
  - a. Erythromycin
  - b. Rifampicin
  - c. Phenytoin
  - d. Phenobarbitone
3. Adrenaline added to local anaesthetic solution for infiltration anaesthesia affords the following **except**:
  - a. Prolongs the duration of local anaesthesia
  - b. Makes the injection less painful
  - c. Provides a more bloodless field for surgery
  - d. Reduces systemic toxicity of the local anaesthetic
4. All of the following drugs are useful in an attack of acute gout **except**:
  - a. NSAIDS
  - b. Colchicine
  - c. Allopurinol
  - d. Corticosteroids
5. Indicate the location of Beta 1 adrenoceptor type:
  - a. Heart
  - b. Glands
  - c. Smooth muscle
  - d. Endothelium
6. Which of the following hypnotic drugs is used in anaesthesia:
  - a. Thiopentone
  - b. Phenobarbital
  - c. Flurazepam
  - d. Zolpidem
7. Adrenaline is used in the treatment of all of the following disorders **except**:
  - a. Bronchospasm
  - b. Anaphylactic shock
  - c. Cardiac arrhythmias
  - d. Open-angle glaucoma
8. Morphine is used intravenously in:
  - a. Acute LVF
  - b. Osteonecrosis
  - c. Pre anaesthetic medication
  - d. Acute Gout
9. The drug of choice for absence seizures is:
  - a. Carbamazepine
  - b. Ethosuximide
  - c. Diazepam
  - d. Lamotrigine
10. The antidepressant which selectively blocks 5-hydroxytryptamine uptake is:
  - a. Fluoxetine
  - b. Amoxapine
  - c. Desipramine
  - d. Dothiepin
11. Select the anaesthetic that increases cardiac output and blood pressure:
  - a. Halothane
  - b. Fentanyl
  - c. Ketamine
  - d. Diazepam
12. Select the drug which is a mast cell stabilizer.
  - a. Sodium cromoglycate
  - b. Zafirlukast
  - c. Omalizumab
  - d. Aminophylline
13. The following opioid is more potent than morphine:
  - a. Pethidine
  - b. Fentanyl
  - c. Dextropropoxyphene
  - d. Tramadol
14. Which histamine H2 blocker has most marked inhibitory effect on microsomal cytochrome P-450 enzyme:
  - a. Cimetidine
  - b. Ranitidine
  - c. Roxatidine
  - d. Famotidine
15. Which of the following drug is **not** used in treatment of bronchial asthma
  - a.  $\beta_2$  agonist
  - b. Corticosteroid
  - c. Cholinesterase inhibitor
  - d. Phosphodiesterase inhibitors
16. One of the most common side effect of inhaled beclomethasone dipropionate is:
  - a. Pneumonia
  - b. Oropharyngeal candidiasis
  - c. Atrophic rhinitis
  - d. Pituitary-adrenal suppression
17. Select the opioid antagonist that is preferred for long term opioid blockade therapy of post addicts:
  - a. Nalorphine
  - b. Naloxone
  - c. Naltrexone.
  - d. Nalbuphin
18. Gynaecomastia can occur as a side effect of:
  - a. Bromocriptine
  - b. Cimetidine
  - c. Famotidine
  - d. Levodopa
19. The most important drawback of sucralfate in the treatment of duodenal ulcer is:
  - a. Low ulcer healing efficacy
  - b. Poor relief of ulcer pain
  - c. High incidence of side effects
  - d. Need for taking a big tablet four times a day
20. Dextromethorphan is an:
  - a. Analgesic
  - b. Antitussive
  - c. Expectorant
  - d. Antihistaminic

**PHARMACOLOGY**  
**PAPER- FIRST**

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

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- Q. 2. Give reasons:** **(5 x 2 = 10)**
- a. Latanoprost is preferred in open angle glaucoma
  - b. Inhaled corticosteroid are preferred in bronchial asthma
  - c. Morphine is required in acute left ventricular failure.
  - d. Fexofenadine is preferred over conventional antihistaminics in allergic conditions
  - e. Benzodiazepines are preferred over barbiturates as sedative hypnotics.
- Q. 3. Problem based question:** **(2+2+2+4 = 10)**
- A 32 years female patient is brought to OPD with 2 weeks history of auditory hallucination. She has firm belief that her colleague in the office is conspiring against her. She is restless and at times violent.
- a. What is the probable diagnosis?
  - b. What drug(s) can be used for treatment in this case?
  - c. Write mechanism of action of the main drug used.
  - d. Write adverse effects and drug interactions of the prescribed drug.
- Q. 4. Write briefly on:** **(4 x 6 = 24)**
- a. Inhalational steroids in bronchial asthma.
  - b. Selective serotonin reuptake inhibitors
  - c. Drugs used in H Pylori-eradication
  - d. Barriers to implementation of health care as a universal right
- Q. 5. (i) Classify sympatholytic drugs, Discuss briefly therapeutic uses, contraindication and adverse effects of beta blockers.** **(3+3+2+2= 10)**
- (ii)** **(3+2+3+2= 10)**
- a. Classify NSAIDs.
  - b. Write the mechanism of action of Aspirin
  - c. Write adverse effects of Aspirin
  - d. Management of paracetamol poisoning
- Q. 6. Answer as indicated:** **(4 x 4 = 16)**
- a. Allopurinol
  - b. Proton Pump Inhibitors
  - c. Draw labelled diagramme showing drugs acting on GABA chloride channel complex.
  - d. Draw labelled diagramme showing site of action of drugs used in Glaucoma.

[Time allotted: Three hours]

SET - A

[Max Marks: 100]

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

1. Which of the following statement regarding acarbose are true?
  - a. Inhibits the enzyme Alpha-glucosidase
  - b. Increases urinary glucose excretion
  - c. Stimulates PPAR- $\alpha$  receptors
  - d. Very likely to cause hypoglycaemia
2. Use of which of the following drugs is most likely to cause Pseudomembranous Enterocolitis:
  - a. Vancomycin
  - b. Metronidazole
  - c. Clindamycin
  - d. Tetracycline
3. Ethambutol should be administered very carefully in children due to its likelihood to cause this adverse effect?
  - a. Nephrotoxicity
  - b. Flu-like syndrome
  - c. Colour Blindness
  - d. Severe arthralgia
4. Which of the following is a calcineurin inhibitor?
  - a. Mycophenolatemofetil
  - b. Cyclosporine
  - c. Methotrexate
  - d. Azathioprine
5. True about Oral Bisphosphonates tablets:
  - a. Must be chewed very well
  - b. Take with lots of water and maintain upright position for 30 min
  - c. Avoid in patients of paget's disease
  - d. Give with antacids to improve absorption
6. Mechanism of action of Ezetimibe
  - a. Interferes with the absorption of bile acids
  - b. Inhibits CETP
  - c. Interferes with absorption of cholesterol by inhibiting NPCIL1
  - d. Inhibitor of PPAR Alpha
7. Furosemide is best characterized by which of the following?
  - a. A low ceiling diuretic
  - b. Causes dose dependent diuresis
  - c. Raises serum potassium levels
  - d. Causes osmotic diuresis
8. Which of the following inhibits conversion of T4 to T3 is?
  - a. Carbimazole
  - b. Propylthiouracil
  - c. Lugol's iodine
  - d. All of the above
9. Glipizide acts by:
  - a. Improving insulin resistance
  - b. Inhibiting glucose absorption
  - c. Increasing insulin secretion
  - d. Increasing glucose excretion
10. Which of the following antifungal drugs as a liposomal formulation?
  - a. Itraconazole
  - b. Nystatin
  - c. Clotrimazole
  - d. Amphotericin
11. Which of these is a short acting steroid, often used in emergency
  - a. Hydrocortisone
  - b. Dexamethasone
  - c. Betamethasone
  - d. Methylprednisolone
12. Use of which of the following drugs is most likely to cause Disulfiram like reaction:
  - a. Metronidazole
  - b. Clindamycin
  - c. Tetracycline
  - d. Vancomycin
13. The drug which causes toxicity to teeth ad bones?
  - a. Chloramphenicol
  - b. Tetracycline
  - c. Clarithromycin
  - d. Vancomycin
14. What is the molecular target for the vinca alkaloids used as anticancer agents?
  - a. A transport protein
  - b. DNA
  - c. Cell membrane
  - d. Tubulin
15. Gram negative bacteria are generally more resistant to penicillins than Gram positive bacteria because Gram negative bacteria:
  - a. Have a thicker cell wall
  - b. Possess outer hydrophilic membrane that acts as an extra barrier
  - c. Can concentrate  $\beta$ -lactamase enzymes in the periplasmic space
  - d. Have no cell wall
16. The following antidiabetic drug improves peripheral glucose utilization:
  - a. Acarbose
  - b. Gliclazide
  - c. Metformin
  - d. Guar gum
17. Which first line antitubercular drug is only tuberculostatic?
  - a. Rifampin
  - b. Isoniazid
  - c. Ethambutol
  - d. Pyrazinamide
18. The fastest acting schizontocidal drug among the following is:
  - a. Artemether
  - b. Mefloquine
  - c. Chloroquine
  - d. Proguanil
19. Dexamethasone differs from prednisolone in that it is:
  - a. Longer acting
  - b. More potent
  - c. More selective
  - d. All of the above
20. Octreotide is a long acting synthetic analogue of:
  - a. Prolactin
  - b. Growth hormone
  - c. Somatostatin
  - d. Gonadotropin releasing hormone

**PHARMACOLOGY  
PAPER- SECOND**

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

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- Q. 2. Give reasons:** **(5 x 2 = 10)**
- a. Multi drug therapy is used in Tuberculosis
  - b. Oxytocin is better than ergometrine for induction of labor
  - c. ACE inhibitors are used in CHF
  - d. Estrogens combined with Progesterone as Oral contraceptive pills
  - e. Erythropoietin are used for treating anemia of chronic renal failure
- Q. 3. Problem based question:** **(2+2+3+3 = 10)**
- A patient of Moderate hypertension comes to you. He is diabetic and one of the drug you prescribed led to cough and rashes.
- a. Enumerate antihypertensives. Which of them are preferred in hypertensive crisis?
  - b. Which drug is causing cough and rashes and why?
  - c. Explain mechanism of action and contraindications of the drug causing rashes and cough.
  - d. Which category of antihypertensive drugs is most likely to cause a variety of Electrolyte imbalances? Enumerate their ADRs.
- Q. 4. Write briefly on:** **(4 x 6 = 24)**
- a. SERMS
  - b. Artemisinin
  - c. Glucocorticoids
  - d. What are the patient's expectations from a good doctor
- Q. 5. (i)** Name the antibiotics useful against Gram Positive bacteria. Explain mechanism of action of Cephalosporins, along with their uses. Explain rationale of use of combining Imipenem with Cilastatin. **(2+5+3 = 10)**
- (ii)** Explain the mechanism of action of low molecular weight Heparins. Why do we prefer them over Heparin? How do they differ from Warfarin? **(3+4+3 = 10)**
- Q. 6. Answer as indicated:** **(4 x 4 = 16)**
- a. Differences between Metformin and Sulfonylureas-Tabular format
  - b. Site of action of various Diuretics
  - c. Receptors on platelets and drugs acting on them
  - d. Mechanism of action of carbimazole