2406000102010501
EXAMINATION DECEMBER 2024
BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (SECOND YEAR)
PHARMACOLOGY (PAPER - I) (NEW) (OMR)

[Time: As Per Schedule] **[Max. Marks: 100]**

Instructions:
1. **Fill up strictly the following details on your answer book**
   a. Name of the Examination : **BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (SECOND YEAR)**
   b. Name of the Subject : **PHARMACOLOGY (PAPER - I) (NEW) (OMR)**
   c. Subject Code No : **2406000102010501**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

Student's Signature

SECTION: I

Q.1 MCQs **20**

1. An 'orphan drug' is:
   a) A very cheap drug
   b) A drug which has no therapeutic use
   c) A drug needed for treatment or prevention of a rare disease
   d) A drug which acts on Orphanin receptors

2. When therapeutic effects decline both below and above a narrow range of doses, a drug is said to exhibit:
   a) Ceiling effect
   b) Desensitization
   c) Therapeutic window phenomenon
   d) Nonreceptor mediated action

3. A partial agonist can antagonise the effects of a full agonist because it has:
   a) High affinity but low intrinsic activity
   b) Low affinity but high intrinsic activity
   c) No affinity and low intrinsic activity
   d) High affinity but no intrinsic activity

4. Which of the following types of drug metabolizing enzymes are inducible:
    a) Microsomal enzymes
    b) Nonmicrosomal enzymes
    c) Both microsomal and nonmicrosomal enzymes
    d) Mitochondrial enzymes

5. The plasma half-life of penicillin-G is longer in the new born because their:
    a) Plasma protein level is low
    b) Drug metabolizing enzymes are immature
    c) Glomerular filtration rate is low
    d) Tubular transport mechanisms are not well developed

6. Apraclonidine is a clonidine congener which is used:
    a) To suppress opioid withdrawal syndrome
    b) To suppress menopausal syndrome
    c) As Analgesic
    d) To reduce intraocular tension

7. Pralidoxime can reactivate cholinesterase enzyme that has been inactivated by:
    a) Carbamate anticholinesterases
    b) Organophosphate anticholinesterases
    c) Both carbamate and organophosphate anticholinesterases
    d) Reversible anticholinesterases

8. The following sympathomimetic amine has agonistic action on $\alpha 1 + \alpha 2 + \beta 1 + \beta 3$ adrenoceptors, but not on β2 receptors:
    a) Adrenaline
    b) Noradrenaline
    c) Isoprenaline
    d) Phenylephrine

9. Adrenergic β2 agonists produce muscle tremor by:
    a) Facilitating neuromuscular transmission
    b) Incomplete fusion of contractile response of individual fibres
    c) Enhanced firing of muscle spindles
    d) Both (b) and (c)

10. Labetalol differs from propranolol in that:
    a) It has additional αl blocking property
    b) It is a selective β1 blocker
    c) It does not undergo first pass metabolism
    d) All of the above

11. Succinylcholine is the preferred muscle relaxant for tracheal intubation because:
    a) It produces rapid and complete paralysis of respiratory muscles with quick recovery
    b) It does not alter heart rate or blood pressure
    c) It does not cause histamine release
    d) It does not produce postoperative muscle soreness

12. Dantrolene sodium reduces skeletal muscle tone by:
    a) Reducing acetylcholine release from motor nerve endings
    b) Suppressing spinal polysynaptic reflexes
    c) Inhibiting the generation of muscle action potential
    d) Reducing Ca2+ release from sarcoplasmic reticulum in the muscle fibre

13. Local anaesthetics block nerve conduction by:
    a) Blocking all cation channels in the neuronal membrane
    b) Hyperpolarizing the neuronal membrane
    c) Interfering with depolarization of the neuronal membrane
    d) Both (b) and (c)

14. Which of the following processes plays the major role in terminating the action of phenobarbitone:
    a) Biliary excretion
    b) Renal excretion
    c) Hepatic metabolism
    d) Redistribution

15. The primary mechanism of action of benzodiazepines is:
    a) Dopamine antagonism
    b) Adenosine antagonism
    c) Opening of neuronal chloride channels
    d) Facilitation of GABA-mediated chloride influx

16. The extrapyramidal adverse effect of antipsychotic drug therapy which does not respond to central anticholinergics is:
    a) Parkinsonism
    b) Acute muscle dystonia
    c) Rabbit syndrome
    d) Tardive dyskinesia

17. The drug that can directly release histamine from mast cells without involving antigen-antibody reaction is:
    a) Aspirin
    b) Procaine
    c) Morphine
    d) Sulfadiazine

18. Codeine is used clinically as:
    a) Analgesic
    b) Antitussive
    c) Antidiarrhoeal
    d) All of the above

19. Select the fastest acting inhaled bronchodilator:
    a) Ipratropium bromide
    b) Formoterol
    c) Salbutamol
    d) Salmeterol

20. Select the correct statement about salmeterol:
    a) It is a long acting selective β2 agonist bronchodilator
    b) It is a bronchodilator with anti-inflammatory property
    c) It is a β blocker that can be safely given to asthmatics
    d) It is an antihistaminic with mast cell stabilizing property

Q.2 Answer in short (Any five) **15**

a) Explain the pharmacological basis of (Silodosin + Dutasteride) for benign prostatic hypertrophy
b) Enlist the routes of drug elimination and describe renal route in detail
c) Write the therapeutic uses of morphine and its analogues
d) Write notes on bioavailability and factors affecting it.
e) Noncardiac uses of beta blockers
f) Uses of centrally acting muscle relaxants

Q.3 Write answers in detail [Any three] **15**

a) Explain the new drug development and mention the phases of clinical trial
b) Classify parasympatholytic agents. Mention their clinical utility
c) Compare and Contrast d-TC vs Succinyl choline (Minimum five points)
d) Describe various methods to prolong action of a drug

Q.4 Case based question: **10**

A 65 year old woman consulted her physician with the complains of bilateral drooping of eyelids, double vision, difficulty in swallowing and slurring of speech for the past two weeks. On electromyographic testing, it was found to have a marked decrementing muscle response. However, with inj edrophonium 2mg by IV route improved her symptoms

Answer the following questions:

1. Diagnose the clinical condition
2. Explain the mechanism of clinical presentations **2**
3. Why inj. Edrophonium improved her symptoms? **2**
4. Name any two drugs of different class used in this condition. **2**
5. What can be the surgical treatment for this case? **2**

Q.5 **SECTION-II**

Answer in short [Any five] **15**

a) Classification of benzodiazepines according to their half-life and therapeutic uses

b) Classify the drugs used for the treatment of bronchial asthma and describe any one bronchodilator in detail.

c) Compare and contrast Benzodiazepines Vs Barbiturates (At least 5 points)

d) Write the Pharmacological basis of co-careldopa (levo-dopa+carbidopa) in parkinsonism

e) Write about adverse effects of antipsychotic agents

f) Write about the labyrinthine suppressants and their clinical utility

Q.6 Answer in detail [Any three] **15**

a) Classify the drugs used in the treatment of epilepsy and write the pharmacotherapy of status epilepticus

b) Write any four comparative features of general Vs local anesthetic agents with suitable example

c) Classify NSAIDs according to the mechanism of action; and mention the uses and side effects of Aspirin

d) Classify DMARDs. Mention the mechanism of action of leflunomide.

Q.7 Case based question **10**

Miss ABC, aged 34 years comes to you with the complaint of breathlessness and coughing. She is having history of similar episodes. On auscultation, rhonchi were heard in bilateral lungs fields. She gives history of dust exposure during cleaning of house during Diwali, which was followed by breathlessness. Her X Ray chest was normal.

Answer the following questions:

a) What can be the provisional diagnosis? **1**

b) Classify the drugs used in treatment of given condition. **4**

c) Describe mechanism of action of any two groups of drugs used in treatment of given condition. **5**

*****END*****

2406000102010502
EXAMINATION JANUARY 2024
BACHELOR OF MEDICINE AND BACHELOR OF SURGERY
(SECOND YEAR)
PHARMACOLOGY (PAPER - II) (NEW) (OMR)

[Time: As Per Schedule] **[Max. Marks: 100]**

Instructions:
1. **Fill up strictly the following details on your answer book**
   a. Name of the Examination : **BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (SECOND YEAR)**
   b. Name of the Subject : **PHARMACOLOGY (PAPER - II) (NEW) (OMR)**
   c. Subject Code No : **2406000102010502**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. Answer examples and precise and to the point.
6. Give examples and draw diagram if needed.
7. First 20 mins have been allotted to saved multiple choice questions.

Seat No:

Student's Signature

Section I

Q.1 Multiple choice questions (MCQs) **20**

(Each question carries one mark and there is no negative marking.)

1) Drugs that reduce myocardial remodeling in CHF include all of the following EXCEPT
   a. Metoprolol b. Enalapril
   c. Digoxin d. Spironolactone

2) Drug of choice for neurocysticercosis is:
   a. Praziquantel b. Albendazole
   c. Levamisole d. Piperazine

3) Organic nitrate can lead to the development of tolerance when used chronically. Which of the following preparation is least likely to develop tolerance
   a. Sustained release oral nitroglycerine
   b. Sublingual nitroglycerine
   c. Transdermal nitroglycerine
   d. Oral pentaerythritol tetranitrate

4) In the treatment of underdiagnosed megaloblastic anemia, vitamin B12 and folic acid should be given together because:
   a. Vitamin B12 deficiency may result in methylfolate trap
   b. Vitamin B12 act as cofactor for dihydrofolate reductase
   c. Folic acid alone causes improvement of anemic symptoms but neurological dysfunction continues
   d. Folic acid is required for conversion of methylmalonyl-CoA to succinyl CoA

5) Mannitol is contraindicated in the following conditions EXCEPT
   a. Congestive heart failure
   b. Cerebral heamorrhage
   c. Increased intracranial tension
   d. Pulmonary edema

6) Patient returns to her health care provider for routine monitoring after her hypertension regimen was modified. Labs reveal elevated serum potassium. Which is likely responsible for this hyperkalemia?
   a. Chlorthalidone. b. Furosemide.
   c. Losartan. d. Nifedipine

7) Most specific antiemetic for chemotherapy induced vomiting is:
   a. Granisetron b. Tegaserod
   c. Domperidone d. Doxylamine

8) All are used in treatment of amoebic liver abscess EXCEPT.
   a. Diloxanide furoate b. Chloroquine
   c. Metronidazole d. Emetine

9) Androgen is used for following indications, EXCEPT
   a. Delayed puberty in males
   b. Androgen replacement therapy in males
   c. Carcinoma of prostate
   d. Hereditary angioneurotic edema

10) A diabetic patient with bilateral renal artery stenosis requires drug for treatment of high blood pressure which of the following drug will be most appropriate for this patient?
   a. Hydrochlorthiazide b. Enalapril
   c. Metoprolol d. Amlodipine

11)Which one of the statements regarding insulin in pregnancy is NOT correct

a. It does not cross the placenta
b. Insulin requirement does not drop quickly after child birth
c. Reversible resistance to insulin often occurs during pregnancy
d. During pregnancy change over to Insulin is advisable to the patient on oral hypoglycemics

12)Which of the following anti-arrhythmic drug is least cardiotoxic

a. Disopyramide
b. Amiodarone
c. Procainamide
d. Lidocaine

13)Despite their short half-life (2hrs) proton pump inhibitors cause prolonged suppression of acid secretion up to 48hrs because they are:

a. Prodrug and undergo activation gradually
b. Exit from plasma & enter acid secretory canaliculi and stay there blocking acid secretion
c. Irreversible inhibitor of proton pump molecule
d. Available as enteric coated capsules, from which gradually released

14)A patient on lithium therapy was found to be hypertensive also. Which of the following antihypertensive drugs is contraindication in a patient on lithium therapy in order to prevent toxicity?

a. Clonidine
b. Beta blockers
c. Calcium channel blockers
d. Diuretics

15)The antiretroviral drug which is also effective in chronic active hepatitis B infection is

a. Zidovudine
b. Nelfinavir
c. Efavirenz
d. Lamivudine

16)Which of the following is not the component of emergency contraceptive pills?

a. Ulipristal
b. Misoprostol
c. Ethinylestradiol
d. Levonorgestrel

17)The therapeutic effect of Sulfasalazine in ulcerative colitis is by

a. Inhibitory action of unabsorbed drug on the abdominal flora
b. Breakdown of the drug in colon to release 5-aminosalicylic acid which suppresses inflammatory activity
c. Release of sulfapyridine having antibacterial activity
d. Systemic immunomodulatory effect of sulfapyridine

18) Which of the following is adverse effect of Cyclophosphamide?

a. Cardiomyopathy
b. Neuropathy
c. Convulsion
d. Hemorrhagic cystitis

19) Which of the following is incorrect pair for drug and antidote for its toxicity/overdosage

a. Heparin-Protamine sulfate
b. Isoniazid - Niacin
c. Digoxin - Digibind
d. Methotrexate - Folinic acid

20) Which amongst the following antimicrobials exhibits a long post antibiotic effect?

a. Fluorouinolones
b. Macrolides
c. Beta-lactams
d. Tetracyclines

Q.2 Answer in Brief [any Five]: 15

a. Enlist Macrolides. Write their therapeutic uses.
b. Write pharmacotherapy for typhoid fever.
c. Give rationale for the use of (i) Aspirin in acute myocardial infarction (MI) and (ii) Adenosine in PSVT.
d. Explain two commonly employed "insulin regimens for diabetes" with suitable diagram.
e. Rationale of use of 'triple drug regimen' in non-healing peptic ulcer. Write any two regimens.
f. Describe Topical drug therapy for Acne vulgaris.

Q.3 Write answer in details [any three]: 15

a. Enlist various glucocorticoids and describe their therapeutic uses. Mention ADRs of prednisolone when used for long term therapy.
b. Classify antianginal drugs. Write formulations of nitrate available for different routes of administration with their indications. Describe briefly mechanism of action of nitrates in classical angina.
c. Enumerate antiemetic drugs from different categories. Describe mechanism of action, adverse effects and therapeutic uses of metoclopramide.
d. Enlist 1st line and 2nd line antitubercular drugs. Discuss two treatment regimens for Multidrug resistant tuberculosis (MDR) according to NTEP 2021 guideline.

Q.4 Answer the following questions based on the given case scenario: **10**

A 45-year-old software engineer goes for routine health check-up. He denies past medical problems, but has been told that his blood pressure was little high. He has no complaints, takes no medications, tries to adhere to a healthy diet, and rarely exercises. On examination his BP was found to be 150/98 mmHg. Other investigations were normal. He is diagnosed as hypertension.

a. What are the treatment options available for this patient? Which drug will you prefer for this patient according to JNC 8 criteria? (2+1)
b. Write in detail mechanism; enumerate therapeutic uses and adverse effects of the drug which you have prescribed for this patient. (4)
c. Write drug of choice for hypertensive emergency. Write its pharmacological basis for the same. (1+2)

Section II

Q.5 Answer in Brief [any Five]: **15**

a. Enumerate drugs used in treatment of helminths (worm infestation). Describe pharmacotherapy of filariasis.
b. Comment on rationality of the following with giving pharmacological basis:
i) Imipenem + Cilastatin
ii) Sulfamethoxazole + Trimethoprim
c. Elaborate role of β-Blockers in Congestive cardiac failure.
d. Give reasons for the following:
(A) Mannitol is not given in pulmonary oedema.
(B) Acetazolamide is not used as diuretic.
e. Write short note on "Clomiphene citrate"
f. Enumerate parenteral iron formulations and write indications of parenteral iron therapy

Q.6 Write answer in details [any three]: **15**

a. Classify oral antidiabetic drugs. Write mechanism and advantages of metformin using in type II Diabetes mellitus.
b. Enumerate Thrombolytics. Describe its mechanism and role in pharmacotherapy of acute myocardial infarction (MI). Write contraindications of thrombolytic therapy.
c. Classify uterine stimulants. Describe pharmacological of action (on myometrium and mammary gland) and therapeutic uses of Oxytocin.

d. What is artemisinin-based combination therapy (ACT)? Explain the rationale for combining the drugs in ACT to treat malaria. Write any two ACT regimens approved in India.

Q.7 Answer the following questions based on the given case scenario: **10**

A 35-year-old woman came to the OPD with complaints of urinary urgency, pain and burning during urination, suprapubic discomfort and low-grade fluctuating fever for the past 2 days. She had 3-4 similar episodes over the last year, for which she took treatment from a local doctor. She is married, has 3 children and her last menstrual period was 10 days back. She is neither using nor is willing to use contraceptive. Physical examination reveals tenderness in the suprapubic region and body temperature 100.4 °F. A diagnosis of acute cystitis is made and she is advised to get urine culture and blood tests done. Since the patient has distressing urinary symptoms and was febrile, empirical antimicrobial treatment was started after urine has been collected for bacteriological testing.

a. Write any two antimicrobial regimens for empirical treatment of this patient.
b. Which drug would you prescribe to rapidly relieve urinary symptoms?
c. Her gynaecologist decided to give long-term prophylactic drug therapy. Which drug (s) would be suitable for her? Why?
d. Write indications for prophylaxis of urinary tract infection.

*****END*****

2106000102020101
Examination February-March 2024
SECOND MBBS
PHARMACOLOGY (PAPER - I) - LEVEL 2

[Time: Three Hours] **[Max. Marks: 100]**

Instructions:
1. **Fill up strictly the following details on your answer book**
   a) Name of the Examination : **SECOND MBBS**
   b) Name of the Subject : **PHARMACOLOGY (PAPER - I) - LEVEL 2**
   c) Subject Code No : **2106000102020101**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. Answers should be precise and to the point.
6. Give examples and figures if needed.
7. First 20 mins have been allotted to solve multiple choice questions.

Seat No:

Student's Signature

SECTION – I

Q.1 Multiple choice questions (MCQs) **1*20=20**
(Each question carries one mark and there is no negative marking.)

1. Alkaline diuresis is done for treatment of poisoning due to:
   a. Morphine b. Amphetamine
   c. Phenobarbitone d. Atropine

2. Which of the following statements best describes an 'orphan drug'?
   a. It is a drug which acts on orphanin receptors
   b. It is a very cheap drug
   c. It is a drug which has no therapeutic use
   d. It is a drug required for treatment or prevention of a rare disease

3. A newborn baby was born with phocomelia. It results due to which drug taken by mother during pregnancy?
   a. Tetracycline b. Thalidomide
   c. Alcohol d. Phenytoin

4. In which of the following phases of clinical trials, healthy normal human volunteers participate:
   a. Phase-I
   b. Phase-II
   c. Phase-II
   d. Phase-IV

5. Major neurotransmitter released at ganglion of the sympathetic division of the autonomic nervous system is:
   a. Adrenaline
   b. Noradrenaline
   c. Dopamine
   d. Acetylcholine

6. Botulinum toxin produces skeletal muscle paralysis by
   a. Enhancing release of norepinephrine
   b. Inhibiting release of acetylcholine
   c. Direct damage to nerve endings
   d. Producing hemolysis

7. A patient was given pilocarpine. All of the following can be the features seen in him except:
   a. Sweating
   b. Salivation
   c. Miosis
   d. Cycloplegia

8. Exogenous adrenaline is metabolized by:
   a. AChE
   b. COMT
   c. Decarboxylase
   d. Acetyl transferase

9. Most common dose limiting adverse effect of colchicine is:
   a. Sedation
   b. Kidney damage
   c. Diarrhea
   d. Muscle paralysis

10. Which of the following is a DMARD?
   a. Deferoxamine
   b. Penicillamine
   c. Succimer
   d. Dimercaprol

11. Which prostaglandin helps in cervical ripening?
   a. PGI2
   b. PGF2
   c. PGE2
   d. PGD2

12. Which of the following compounds acts as a benzodiazepine antagonist?
    a. Flumazenil
    b. Naloxone
    c. Furazolidone
    d. Naltrexone

13. Which of the following has highest potential to cause metabolic syndrome?
    a. Clozapine
    b. Risperidone
    c. Quetiapine
    d. Aripiprazole

14. The rationale for using ethanol in methanol poisoning is that it:
    a. Antagonizes the actions of methanol
    b. Stimulates the metabolism of methanol and reduces its blood level
    c. Inhibits the metabolism of methanol and generation of toxic metabolite
    d. Replenishes the folate stores depleted by methanol

15. Antihistaminics used for motion sickness is:
    a. Cetirizine
    b. Meclizine
    c. Diphenhydramine
    d. Fexofenadine

16. Tachyphylaxis is seen after use of
    a. Tamoxifen
    b. Morphine
    c. Ephedrine
    d. Chlorpromazine

17. Omalizumab is indicated for which of the following conditions?
    a. Multiple myeloma
    b. Gout
    c. Bronchial asthma
    d. Rheumatoid arthritis

18. Time for peak plasma concentration (Tmax) indicates:
    a. The rate of elimination
    b. The rate of absorption
    c. The duration of effect
    d. The intensity of effect

19. Which of the following undergoes Hoffmann's elimination?
    a. Atracurium
    b. Pancuronium
    c. Mivacurium
    d. Vecuronium

20. Therapeutic drug monitoring is desirable for
    a. Diazepam
    b. Paracetamol
    c. Digoxin
    d. Nitrous oxide

Q.2 Answer in short [any five]: **3*5=15**

a) Enumerate parenteral routes of drug administration. Enlist the advantages of intravenous route.
b) Write a note on plasma protein binding of drugs.
c) Define therapeutic index. Explain with the help of diagram.
d) Explain the pharmacological basis for the use of prostaglandin analogues in glaucoma.
e) Classify α blockers. Why prazosin is given at bed time?
f) Explain why succinyl choline produces prolonged apnoea in some patients.

Q.3 Write answers in details [any three]: **5*3=15**

a) Discuss drug antagonism. Compare and contrast competitive and noncompetitive antagonists.
b) Enumerate various factors affecting action of a drug. Describe any three in detail.
c) Classify sympathomimetic agents. Write a note on dopamine and dobutamine.
d) Classify β blockers. Describe uses of β blockers.

Q.4 Case based questions: **10*1=10**

A 30 years old male farmer was spraying insecticides in his farm. He developed profuse sweating, lacrimation, excess salivation, labored breathing & pinpoint pupil. He was brought to emergency room. His pulse rate was 50/minute and blood pressure was 90/60 mm Hg.

a. Which may be the culprit agent? Enumerate the agents which cause actions as seen in the above case. **1+2**
b. Explain how the agent will cause the above sign and symptoms in the patient. **3**
c. Which specific antidotes will you give to this patient. Explain the pharmacological basis of use of these antidotes. **1+3**

SECTION – II

Q5 Answer in short [any five]: **3*5=15**

a) Write a note on antitussive agents.
b) Discuss briefly the importance of three different doses of aspirin in therapeutics.
c) Compare and contrast first generation antihistaminics and second generation antihistaminics.
d) Explain why adrenaline is added to local anesthetics.
e) Enumerate the uses and contraindications of morphine.
f) Describe the management of paracetamol poisoning.

Q6 Write answers in details [any three]: **5*3=15**

a) Classify drugs used in asthma. Mention pharmacotherapy for status asthamaticus.
b) Enumerate drugs used for treatment of epilepsy. Describe mechanism of action and adverse effects of Phenytoin.
c) Classify drugs used in treatment of migraine. Mention pharmacotherapy for an acute attack of migraine.
d) Classify antidepressants. Describe the toxic effects of tricyclic antidepressants.

Q7 Case based questions: **10*1=10**

➤ A 60-year-old man came to OPD of GMC Surat with progressive worsening of tremors in hand for past 1 year. He noticed that it was harder to walk. He was walking in shuffling gait, his face was expressionless, pin rolling tremor was found in his hands and cogwheel rigidity was found. He was diagnosed as a case of Parkinsons disease and was prescribed Levodopa and Carbidopa combination.

a) Why levodopa is used for treatment of parkinsonism and not dopamine in this case? **1**
b) Explain the rationale for combining carbidopa with levodopa. **3**
c) Describe the adverse effects of levodopa and carbidopa combination that you will observe at the initiation of therapy in this patient? **3**

d) After prolonged treatment with this combination (5 years) what changes in response will you see? How will you manage these changes, if needed at all? 3

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2106000102020102
Examination February-March 2024
SECOND MBBS
PHARMACOLOGY (PAPER - II) - LEVEL 2

[Time: Three Hours] **[Max. Marks: 100]**

Instructions:
1. **Fill up strictly the following details on your answer book**
   a. Name of the Examination: **SECOND MBBS**
   b. Name of the Subject: **PHARMACOLOGY (PAPER - II) - LEVEL 2**
   c. Subject Code No: **2106000102020102**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. Answer should be precise and to the point.
6. Give examples and figures if needed.
7. First 20 mins have been allotted to solve multiple-choice questions.

Seat No:

Student's Signature

SECTION – I

Q.1 Multiple choice questions. **1*20=20**

(Each question carries one mark and there is no negative marking.)

1. Mechanism of action of digoxin is:
   a. Na^+K^+ ATPase pump inhibition
   b. Na^+H^+ ATPase pump inhibition
   c. H^+K^+ ATPase pump inhibition
   d. Na^+Cl^- ATPase pump inhibition

2. Which of the following antihypertensive is NOT used in pregnancy?
   a. Methyldopa b. Nifedipine
   c. Labetalol d. Enalapril

3. Which of the following is a class III antiarrhythmic drug?
   a. Phenytoin b. Pindolol
   c. Amiodarone d. Propafenone

4. Which of the following drug causes highest increases in serum High density lipoprotein (HDL)?
   a. Lovastatin
   b. Gemfibrozil
   c. Niacin
   d. Colestipol

5. Which of the following drug is preferentially a venodilator?
   a. Hydralazine
   b. Minoxidil
   c. Nifedipine
   d. Nitroprusside

6. Captopril causes all of the following adverse reactions EXCEPT
   a. Dry cough
   b. Hypokalemia
   c. Angioedema
   d. Dysguesia

7. All of the following antiplatelet drugs are GpIIb/IIIa antagonist EXCEPT:
   a. Prasugrel
   b. Abciximab
   c. Tirofiban
   d. Eptifibatide

8. Filgrastim is used in treatment of:
   a. Anemia
   b. Neutropenia
   c. Thrombocytopenia
   d. Polycythemia

9. Which of the following antithyroid drug is relatively safer in first trimester of pregnancy?
   a. Methimazole
   b. Propylthiouracil
   c. Amiodarone
   d. Carbimazole

10. Drug used in induction of ovulation is:
   a. Clofibrate
   b. Clomiphene
   c. Clozapine
   d. Clevidipine

11. Corticosteroids are contraindicated in all of the following EXCEPT:
   a. Congestive heart failure
   b. Ileocecal tuberculosis
   c. Bronchial asthma
   d. Peptic ulcer

12. Most common toxicity of bisphosphonates used in therapy of osteoporosis is:
   a. Esophageal irritation
   b. Osteonecrosis of jaw
   c. Chalkstick fracture of femur
   d. Osteomalacia

13. Which of the following is adverse effect of Cyclophosphamide?
    a. Cardiomyopathy
    b. Neuropathy
    c. Convulsion
    d. Hemorrhagic cystitis

14. Cyclosporine inhibits proliferation of which of the following cells:
    a. T Cells
    b. B cells
    c. Both T cells & B cells
    d. NK cells

15. The persistent suppression of bacterial growth after limited exposure to some antimicrobial drug is called:
    a. Time dependent killing
    b. Concentration dependent killing
    c. Post-antibiotic effect
    d. Quorum sensing

16. Aminoglycosides can cause which of the following toxicity?
    a. Ototoxicity
    b. Nephrotoxicity
    c. Neuromuscular Junction Blockade
    d. All of the above

17. Cilastatin is given as fixed dose combination (FDC) with:
    a. Clavulanic acid
    b. Amoxycillin
    c. Piperacillin
    d. Imipenem

18. Which of the following antitubercular drug act by inhibiting mycobacterial ATP synthase?
    a. Linezolid
    b. Levofloxacin
    c. Ethambutol
    d. Bedaquiline

19. Which of the following is not an indication of Metronidazole?
    a. Neurocysticercosis
    b. Pseudomembranous colitis
    c. Giardiasis
    d. Amoebiasis

20. Ondansetron act as an antiemetic by its which of the following action?
    a. Substance P antagonism
    b. D_2 receptor antagonism
    c. 5-HT_3 receptor antagonism
    d. Cannabinoid (CB_1) receptor antagonism

Q.2 Answer in short [any five]: 3*5=15

a. Enumerate drugs used in pharmacotherapy of peptic ulcer. Describe mechanism of action of proton pump inhibitors (PPIs).
b. What is antimicrobial drug resistance? Describe mechanisms underlying antimicrobial drug resistance.
c. Elaborate two prolactin inhibitors giving their uses and adverse effects.
d. Write the mechanism of actions and adverse reactions of tetracycline.
e. Enlist drugs used in osteoporosis. Write mechanism of action and two adverse reactions of bisphosphonates.
f. What is informed consent? Explain its importance in clinical practice with an example.

Q.3 Write answers in details [any three]: 5*3=15

a. Discuss role of nitrates in angina pectoris.
b. Describe the mechanism of action and therapeutic uses of ACE inhibitors.
c. Enumerate oral iron preparation. Describe adverse effects and drug interactions of oral iron therapy.
d. Pharmaco-therapy for urinary tract infection (UTI).

Q.4 Answer the following questions based on the given case scenario: 10*1=10

A 35-year-old female patient had recurrent episodes of nose bleed accompanied by severe headache since last few days. On examination his blood pressure and pulse were 170/90 mm of Hg and 100/minute, respectively. The diagnosis is essential hypertension.

a. Write drug therapy for managing this patient. 4
b. Describe the mechanism of action and two adverse drug reactions to chosen drugs. 4
c. Describe drugs used for treatment of hypertension in pregnancy? 2

SECTION – II

Q.5 Write answers in short [any five]: 3*5=15

a. Describe advantages of Low molecular weight heparin (LMWH) over unfractionated heparin (UFH).

b. Describe the rationale of 'Boosted PI regimen' in pharmacotherapy of HIV.
c. Write a short note on low dose aspirin.
d. What is counterirritation? Describe various counterirritants used topically for relieving muscular pain.
e. Write rationale of combining aluminium hydroxide and magnesium hydroxide as antacids.
f. Describe mechanism of action of penicillin in treatment of gram-positive bacterial infection. Enumerate its clinically important adverse reactions.

Q.6 Write answers in details [any three]: **5*3=15**

a. Write a short note on thiazides.
b. Outline pharmacotherapy of hyperthyroidism.
c. Describe adverse drug reactions of corticosteroids.
d. Mention mechanism of action and uses of fluroquinolones.

Q.7 Answer the following questions based on the given case scenario: **10*1=10**

A 21-year-old lady from Orrisa presents in clinic with a history of fever, anorexia and weakness since last two days. Fever is intermittent in nature accompanied by chills & rigors. Blood smear examination showed P. falciparum. The diagnosis is P. falciparum malaria.

a. Mention suitable drug therapy for this patient. **3**
b. Explain the rationale behind artemisinin-based combination therapy (ACT). **4**
c. Enumerate two drugs used for chemoprophylaxis of malaria along with their adverse reactions. **3**

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