P6183

RAN-26060001020370 01

RAN-2606000102037001 / 2406000102030701

2nd MBBS Examination September - 2026

Microbiology Paper - 1

[Total Marks: 100

સૂચના : / Instructions	Seat No.:
(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book	Student's Signature

SECTION - I

Q.1. **MCQ** **1 × 20 = 20**

1. The most commonly used method for sterilization of culture media is:
   A. Hot air oven B. Autoclaving
   C. Pasteurization D. Filtration
2. The mordant used in Gram staining is:
   A. Safranin B. Acetone
   C. Gram's iodine D. Carbol fuchsin
3. Bacterial endospores are commonly produced by species belonging to:
   A. Neisseria and Moraxella B. Bacillus and Clostridium
   C. Staphylococcus and Streptococcus D. Mycoplasma and Ureaplasma
4. Direct transfer of plasmid DNA from one bacterium to another usually occurs by:
   A. Conjugation B. Transduction
   C. Transformation D. Sporulation
5. Endotoxin is principally associated with:
   A. Peptidoglycan of Gram-positive bacteria
   B. Lipopolysaccharide of Gram-negative bacteria
   C. Bacterial capsule
   D. Flagellar protein
6. A kidney transplant recipient develops acute rejection despite ABO compatibility. The rejection is most likely due to differences in:
   A. PIatelet antigens B. HLA antigens
   C. Rh antigens D. Hemoglobin variants
7. A 35-year-old man presents with lower abdominal pain, fever, and frequent passage of small volume stools mixed with blood and mucus for the past 5 days. He complains of tenesmus. Stool microscopy demonstrates motile trophozoites containing ingested red blood cells. What is the likely organism?
   A. Giardia lamblia
   B. Entamoeba histolytica
   C. Cryptosporidium parvum
   D. Balantidium coli

8. A pregnant woman in her third trimester develops acute hepatitis after consuming contaminated water. She rapidly progresses to acute liver failure. Which virus is the most likely cause?
   A. HDV
   B. HBV
   C. HCV
   D. HEV

9. The primary lymphoid organs are:
   A. Spleen and lymph nodes
   B. Thymus and bone marrow
   C. Tonsils and spleen
   D. Peyer patches and lymph nodes

10. The immunoglobulin that can normally cross the placenta is :
   A. IgA
   B. IgE
   C. IgG
   D. IgM

11. The classical complement pathway is commonly activated by:
   A. Antigen-antibody complexes
   B. Bacterial endotoxin alone
   C. Mannose residues
   D. Interferons

12. CD4-positive T lymphocytes recognize antigens presented with :
   A. MHC class I
   B. MHC class II
   C. lgG
   D. Complement C3

13. Serum sickness is an example of:
   A. Type I hypersensitivity
   B. Type II hypersensitivity
   C. Type III hypersensitivity
   D. Type IV hypersensitivity

14. A 30-year-old man presents with profuse watery diarrhoea after consuming contaminated street food. On examination, he is severely dehydrated. His stool resembles "rice-water." Stool microscopy shows comma-shaped, Gram-negative bacilli with darting motility. Which transport medium is preferred?
   A. Stuart transport medium
   B. Amies transport medium
   C. Cary-Blair transport medium
   D. Robertson's cooked meat medium

15. A 35-year-old veterinarian presents with intermittent fever for 3 weeks, excessive sweating (especially at night), malaise, and low back pain. He regularly assists in the delivery of cattle and consumes unpasteurized milk. Blood culture later grows small Gram-negative coccobacilli. What is the most likely diagnosis?
   A. Leptospirosis
   B. Brucellosis
   C. Tuberculosis
   D. Q fever

16. The tissue morphology of Histoplasma capsulatum is:
   A. Large yeast with broad-based budding
   B. lntracellular small yeast within macrophages
   C. Septate hyphae with acute-angle branching
   D. Thick-walled spherules

17. Which of the following intestinal helminth eggs are characteristically bile-stained?
   A. Enterobius vermicularis
   B. Ascaris lumbricoides
   C. Hymenolepis nana
   D. Ancylostoma duodenale

18. A suspected case of infective endocarditis was admitted to the ICU. Which one of the following is best sample for this case?
   A. Three blood sample from three different site
   B. One blood sample during peak of fever
   C. One blood and One urine sample
   D. Peripheral blood for smear, CRP and ESR

19. Which of the following laboratory test is used to diagnose dengue infection within 3 days of fever?
A. IgM antibody by ELISA
B. IgG antibody by ELISA
C. NS1 antigen by ELISA
D. HRP2 antigen by rapid card test

20. Negri bodies are seen in
A. Adeno virus
B. HIV virus
C. Chandipura virus
D. Rabies virus

SECTION - II

Q.2. Clinical Scenario Based Questions **12 MARKS**

1. A 35 year old female, admitted in the hospital started complaining of breathlessness, tightness in chest following administration of an injection of Penicillin. She developed rashes all over the body along with erythematous, oedematous plaque and urticarial wheal. She was treated as an emergency and she recovered fully by the next day.
a) What type of immune reaction is this? **(1)**
b) Explain the immunological mediators and mechanism of action of this reaction. **(5)**
c) Which are the manifestations of such type of immune reaction? **(3)**
d) Describe the treatment for this & precautions to be taken to avoid such events in the future. **(3)**

Q.3. Short Note (Any 4 out of 5) **(7 × 4) = 28 Marks**

1. Define anaerobic bacteria with 2 examples. Describe different methods of anaerobiosis.
2. Write differences between endotoxin and exotoxin
3. Methods of gene transfer in bacteria.
4. Principle, applications and modifications of polymerase chain reactions in patient care.
5. Write difference between gram positive and gram negative bacterial cell wall. Enumerate functions and methods of detection of bacterial well wall

SECTION - III

Q.4. Essay Type Question/Clinical Scenario Based Questions **12 MARKS**

A 30 year old male with history of multiple sex partners is admitted with complaints of unexplained fever, progressive loss of weight, persistent diarrhoea and generalized lymphadenopathy for the past 6 months. (1+2+2+3+4)
a) What is the most probable diagnosis? **(1)**
b) What are the different modes of transmission? **(2)**
c) Write the Pathogenesis. **(2)**
d) Write in details WHO clinical stages for this condition. **(3)**
e) Write in details the Laboratory Diagnosis of this condition. **(4)**

Q.5. Short Note (Any 4 out of 5; AETCOM Compulsory) **(7 × 4) = 28 Marks**

1. What is Communication? What are the different types of communication? Discuss the importance of efficient communication in health care setting **(1+3+3)**
2. Discuss Pathogenesis, Complications and Laboratory diagnosis of Malaria. **(3+4)**
3. Systemic Fungal Infections. **(7)**
4. Laboratory diagnosis of Enteric Fever. **(7)**
5. Life cycle and laboratory diagnosis of Ascaris Lumbricoides **(4+3)**

P6184

RAN-26060001020370002

RAN-26060001020370002/2406000102030702

IInd MBBS Examination September - 2026

Microbiology Paper - II

Time: 3 Hours] **[Total Marks: 100**

સૂચના : / Instructions
(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book

Seat No.:

Student's Signature

Q.1. MCQs **1 × 20 = 20**

1. A patient presents with high fever, severe myalgia, retro-orbital pain and thrombocytopenia during monsoon season. The vector is most likely:
   A. Anopheles mosquito B. Culex mosquito
   C. Aedes mosquito D. Sandfly
2. An HIV-positive patient presents with headache and meningitis. CSF examination shows an encapsulated budding yeast. The most likely organism is:
   A. Candida albicans B. Cryptococcus neoformans
   C. Aspergillus fumigatus D. Histoplasma capsulatum
3. A patient develops itchy, ring-shaped lesions over the trunk with central clearing. The causative organisms primarily infect:
   A. Blood vessels B. Keratinized tissues
   C. Intestinal mucosa D. Hepatocytes
4. A patient with recurrent seizures undergoes brain imaging that reveals multiple cystic lesions with an eccentric scolex. The most likely diagnosis is:
   A. Hydatid disease B. C. Cerebral malaria
   C. Neurocysticercosis D. Toxoplasmosis
5. A patient presents with fever and painful enlarged inguinal lymph nodes after exposure to rats and fleas. The likely causative organism is:
   A. Brucella melitensis B. Yersinia pestis
   C. Francisella tularensis D. Coxiella burnetii
6. A hospital notices an increasing number of catheter-associated urinary tract infections in the ICU. Which infection-control activity is most useful for identifying trends and evaluating preventive measures?
   A. Routine prophylactic antibiotics B. Infection surveillance
   C. Daily fumigation D. Routine patient isolation
7. The most common bacterial cause of community-acquired pneumonia in adults is:
   A. *Staphylococcus aureus* B. *Streptococcus pneumoniae*
   C *Klebsiella pneumoniae* D. *Pseudomonas aeruginosa*

8. A typical pneumonia associated with cold agglutinins is classically caused by:
   A. *Mycoplasma pneumoniae*
   B. *Chlamydia trachomatis*
   C. *Legionella pneumophila*
   D. *Coxiella burnetii*

9. Which enzyme helps Staphylococcus aureus form a protective clot around itself?
   A. Streptokinase
   B. Coagulase
   C. Hyaluronidase
   D. DNase

10. A young woman presents with dysuria and vaginal discharge. Intracellular Gram-negative diplococci are seen in the urethral smear. The likely organism is:
   A. *Neisseria gonorrhoeae*
   B. *Chlamydia trachomatis*
   C. *Treponema pallidum*
   D. *Gardnerella vaginalis*

11. The recommended screening test for syphilis commonly used in routine practice is:
   A. VDRL/RPR
   B. Widal test
   C. Weil-Felix test
   D. ASO titre

12. Which organism is particularly important as a cause of meningitis in neonates?
   A. *Streptococcus agalactiae*
   B. *Vibrio cholerae*
   C. *Shigella dysenteriae*
   D. *Staphylococcus epidermidis*

13. *Which of the following is the best indicator organism of fecal contamination of water?*
   A. *Coliform (other than Escherichia coli)*
   B. *Fecal (thermotolerant) Escherichia coli*
   C. *Pseudomonas aeruginosa*
   D. *Clostridium perfringens*

14. *Which organism is classified as a Category A bioterrorism agent because of its high mortality and ease of dissemination?*
   A. *Vibrio cholerae*
   B. *Bacillus anthracis*
   C. *Staphylococcus aureus*
   D. *Salmonella Typhi*

15. *Which virus is associated with Burkitt lymphoma?*
   A. Human papillomavirus
   B. *Epstein-Barr virus*
   C. *Hepatitis A virus*
   D. *Rota virus*

16. *The species of Haemophilus that requires both X and V factors for its growth is:*
   A. *H. parahaemolyticus*
   B. *H. ducreyi*
   C. *H. influenzae*
   D. *H.parainfluenzae*

17. Which of the following is a dimorphic fungus?
   A. Histoplasma capsulatum
   B. Cryptococcus neoformans
   C. Candida albicans
   D. Mucor species

18. What is the primary vector for the transmission of the chandipura virus?
   A. Mosquito
   B. Ticks
   C. Sandflies
   D. Fleas

19. The most common organism causing furuncle is:
   A. Streptococcus pneumoniae
   B. Staphylococcus aureus
   C. Escherichia coli
   D. Mycobacterium tuberculosis

20. Which of the following viruses is associated with hand, foot, and mouth disease?
   A. Enterovirus 71
   B. Coxsackie virus type A 16
   C. Coxsackie virus type 23
   D. A and B both

Section - 2

Q.2. A 5 year-old child visited OPD with complain of high grade fever, neck rigidity, irritability and altered sensorium since last 2 days. CSF is collected and sent to central laboratory. CSF was turbid with total cell count 1800 cells/cu.mm. (90% neutrophils), raised protein & reduced glucose. Gram stain of the CSF shows Gram positive, lanceolate shaped diplococci. **12**

a. What is the probable clinical diagnosis, and likely causative agents for this condition. **(3)**

b. Describe the pathogenesis &laboratory diagnosis of this condition. **(6)**

c. Write about immunization for this disease. **(3)**

Q.3. **Answer in brief (4 out of 5)** **(7 Marks × 4) = 28**

a. Classify helminths and write in detail about Wuchereria bancrofti. **(2 + 5)**

b. Morphology, Pathogenesis and Laboratory diagnosis of Cryptococcus infections. **(2 + 2 + 3)**

c. Enumerate various types of larva migrans along with their etiological agents. Describe pathogenesis & laboratory diagnosis of any one . **(4 + 3)**

d. Write in detail about prions.

e. A 20 year old hostel student presented with sudden fever, myalgia, headache, cough etc. On asking he informed that many other students are also affected suggesting a seasonal viral infection well known for its antigenic variations. Identify the virus, describe its antigenic variations &laboratory diagnosis. **(1+3+3)**

Section 3

Q.4. A 28 year old male patient presented to out-patient department with non-itchy rash involving palms and swollen inguinal lymphnodes. O/E mucocutaneous papules forming large pink to greyish lesions and a macular rash with a crater like scarred painless lesions on scrotum, probably in a healing phase. The patient provides a history of multiple sexual partners. **12**

a. What is the probable clinical diagnosis and name the causative organism. **(2)**

b. Mention the various clinical stages of this disease. **(4)**

c. Write in details about laboratory diagnosis. **(6)**

Q.5. **Answer in brief (4 out of 5, AETCOM compulsory)** **(7 Marks × 4) = 28**

a. A 29 year old man presents with intense itching, burning and peeling skin between the toes. He reports a history of wearing tight, sweaty shoes continuously. O/E erythematous, itchy patches with fissures and maceration between the toes was observed. **(2+5)**

(1) Identify clinical condition &causative organisms and

(2) Describe the pathogenesis &laboratory diagnosis of such skin infection.

b. Morphology, classification and Laboratory diagnosis of Herpes Virus. **(2+2+3)**

c. Discuss emerging and re-emergengin infections. **(7)**

d. Enlist four viral infections transmitted through arthropod vector. Write in detail a bout any one. **(2+5)**

e. What is empathy, What is its role in patient care.

P6173

RAN-26060001020150 01

RAN-26060001020150 01/2406000102010501

IInd M.B.B.S. Examination August - 2026

Pharmacology, (Paper - I) Set 1

Time: 3 Hours] **[Total Marks: 100**

સૂચના : / Instructions
(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book

Seat No.:

Student's Signature

Section I

Q.1. MCQs **1×20 = 20**

1. "Nicotinic"sites include all of the following except
   a) Bronchial smooth muscle b) Adrenal medullary cells
   c) Skeletal muscle d) Sympathetic ganglia

2. Acidic drugs mainly bind to plasma with
   a) Albumin b) αl- acid glycoprotein
   c) Both (a) and (b) d) None of the above

3. The choose the drug to be used as trans-dermal patch for management of cancer pain from the following options
   a) Morphine b) Pethidine
   c) Fentanyl d) Tramadol

4. The drug of choice for anaphylactic shock is
   a) Adrenaline 0.5ml 1: 1000 solution IM.
   b) Adrenaline 0.5ml 1:1000 solution s.c.
   c) Adrenaline 0.5ml 1:10,000 solution IM.
   d) Adrenaline 0.5ml 1:10,000 solution s.c.

5. The following NSAID cannot be prescribed to a patient of epilepcy
   a) Piroxicam b) Indomethacine
   c) Ketorolac d) Aspirin

6. The following sympathmimetic amine has agonist action only on β_1 & β_2 receptors
   a) Adrenaline b) Noradrenaline
   c) Isoprenaline d) Mephentermine

7. Drug used as diagnostic agent for myasthenia gravis
   a) Physostigmine b) Neostigmine
   c) Pyridostigmine d) Edrophonium

8. Drugs useful for cessation of smoking are all except
   a) Nicotine
   b) Varenicline
   c) Bupropion
   d) Amoxapine

9. All are drugs used for open angle glaucoma except
   a) Netarsudil
   b) Neostigmine
   c) Brimonidine
   d) Levobunolol

10. The following drug is not from 3rd generation anti-hypertensives drug which boasts of additional properties
   a) Carvedilol
   b) Labetolol
   c) Betaxolol
   d) Metoprolol

11. All are indications of 3rd generation anti-histaminic therapy except
   a) Allergic rhinitis
   b) Hay fever
   c) Red watering itching eyes
   d) Dermographism

12. Drug used to control vertigo in Meniere's disease is
   a) Betahistine
   b) Mizolastine
   c) Rupatadine
   d) Fexofenadine

13. Inhaled medication recommended as the 1st line bronchodilator for maintenance of treatment of symptomatic COPD
   a) Inhaled corticosteroids
   b) Long Acting Bronchodilator (LABA or LAMA)
   c) Oral theophylline alone
   d) Systemic corticosteroids

14. Before administering intravenous 50% dextrose in an unconscious chronic alcoholic, an essential vitamin to be administered to prevent Wernicke's encephalopathy is
   a) Vitamin B_6 (Pyridoxine)
   b) Vitamine B_1 (Thiamine)
   c) Vitamin B_{12} (Cyanocobalamin)
   d) Vitamin C (Ascorbic acid)

15. A2-5mcg/kg/min dose of dopamine in cardiogenic shock will increase
   a) Cardiac output
   b) Urine output
   c) Both (a) & (b)
   d) Heart rate

16. Therapeutic Index is
   a) Value of ED_{50}/ LD_{50}
   b) A range between LD & ED
   c) LD_{50} / ED_{50}
   d) ED_{50} X LD_{50}

17. Deficiency of CYP2D6 enzyme leads to
   a) Increase activity of warfarin
   b) Failure of analgesic activity produced by codeine
   c) Resistance to coumarin anticoagulant
   d) Acute intermittent porphyria

18. The earliest evidence that a drug is stored in tissue is
    a) An increase in plasma protein binding
    b) A large apparent volume of distribution (Vd)
    c) A decrease in the rate of formation of metabolites by the liver
    d) An increase in the number of side effects produced by the drug

19. The following drug is mydriatic but not cycloplegic
    a) Phenylephrine
    b) Tropicamide
    c) Cyclopentolate
    d) Atropine

20. Adrenergic β_2 agonist 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) & (c)

Section II

Q.2. Answer in short (Any five) **3×5 = 15**

a) Give the definition of pharmacovigilance (Pv) & the activities involved in Pv. Discuss the process of causality assessment done under Pv program.
b) Give the mechanism of action of lignocaine. Discuss the advantages & disadvantages of fixed dose combinations (FDC) of lignocaine with adrenaline used for local anaesthesia.
c) What is phase IV of a clinical trial? Discuss the participants included in this phase & also give importance of a Phase IV clinical trial.
d) Enumerate the three different doses of Aspirin used in therapeutics. Based on pharmacological action give the rationale behind this usage.
e) Give the advantages of Methadone substitution therapy for opioid dependence.
f) Describe & discuss the role of a physician in health care system

Q.3. Write answers in detail (Any three) **5×3= 15**

a) Define agonist & antagonist. By drawing Dose Response Curve (DRC) with appropriate examples, explain the phenomenon of competitive & non competitive antagonism.
b) Give therapeutic indications of β-blockers.
c) Give the mechanism of action, therapeutic indication & side effects of the vesico-relaxant agent Mirabegron.
d) Give the drug therapy of status asthmaticus.

Q.4. Case Based Question **10**

A 40-year-old male visited OPD of orthopedic department complaining of severe pain in small joints of his foot with excruciating pain & swelling in his first metatarsal joint of right foot (big toe). He had attended a friend's pre-wedding party the previous night where he had consumed a hearty meal of butter paneer & chole kulche with a few alcoholic drinks as well! After detailed history & blood tests, his serum uric acid was found to be quite high with total blood count & WBC also on the higher side. He admitted to being a treated case of gout with occasional flare ups which he would manage with use of OTC analgesics like ibuprofen & diclofenac sodium. Patient was prescribed oral tab colchicine in adequate doses to take care of the acute episode. He was advised to look out for a certain adverse effects & report to the emergency in case of severe ADR.

Answer the following questions :

1. Give the mechanism of action of colchicine in acute gout. Also give the specific ADR of colchicine when prescribed for gout, which is also considered diagnostic for gout when it appears. **02+01**
2. Give the names of at least two drugs belonging to other groups used for management of a case of chronic gout. **02**
3. Give the mechanism of action of probenecid in management of chronic gout. Give one contraindication to prescription of probenecid in a patient of gout. **02+01**
4. Name two conditions other than gout where serum uric acid can be high (secondary hyperuricaemia) **02**

Section III

Q.5. Answer in short [Any five] **3×5 = 15**

a) Give the mechanism of action & adverse effects of disulfiram. Give examples of two other drugs causing disulfiram like reaction.
b) Discuss the concept of "on & off phenomenon in relation to Parkinson's disease.
c) Why prescription for an infant & a prescription for a geriatric patient be different from an adult patient? Give justification for your answer with examples.
d) Define "shelf-life" of a drug. Give its importance in therapeutics.
e) Give the mechanism of action of nasal decongestants available as OTC drug. Explain why nasal decongestants are to be used with caution in patients on anti-hypertensive therapy.
f) Name two anti-cholinergic drugs used in therapeutics. Explain why anti-cholinergic drugs are contraindicated in elderly men.

Q.6. Answer in detail [Any three] **5×3 = 15**

a) Discuss the therapeutic uses of various prostaglandin analogues.
b) Give the classification of anti-tussive drugs. Discuss how the management of dry cough differs from productive cough with the mechanism of action of drugs used for the same.
c) Explain how the 3rd generation β-adrenergic blocking drugs are different from the older previously used 2nd & 1st generation drugs.
d) Give the mechanism of action, therapeutic indication & uses of Lamotrigine.

Q.7. Case based question **10**

During a routine ophthalamic examination, the optician noted a raised intra ocular pressure with optic nerve changes in a 56-year-old woman. Further tests revealed that she had open-angle (simple) glaucoma. Based on this case history

Answer the following -

1. Enumerate the various drugs useful for the management of glaucoma. **03**
2. Give the most effective& appropriate drug for therapy of an open angle glaucoma. Discuss the mechanism of action & adverse effects of the chosen drug. **01+02+02**
3. Give how α_2 agonists analogue is helpful in the therapy of open angle glaucoma. Also give the name of pro-drug of adrenaline used in open angle glaucoma. **01+01**

P6174

RAN-26060001020150 02

RAN-26060001020150 02/2406000102010502

IInd M.B.B.S. Examination August - 2026

Pharmacology, (Paper - II) Set 1

Time: 3 Hours] **[Total Marks: 100**

સૂચના : / Instructions
(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book

Seat No.:

Student's Signature

Section I

Q.1. MCQs **1×20 = 20**

1. All are drug of choice for hook worm infestation except
   a) Albendazole b) Pyrental pamoate
   c) Levamisol d) Praziquantal

2. A patient of chronic liver disease develops drowsiness & flapping tremor (asterixis). The preferred drug commonly used to reduce ammonia level is
   a) Neomycine b) Lactulose
   c) Ursodeoxycholic acid d) Framycetin

3. The standard intensive phase regimen for a newly diagnosed drug-sensitive pulmonary tuberculosis patient under the National TB Elimination Programme (NTEP) consists of
   a) HR for 2 months b) HRZE for 2 months
   c) HRE for 4 months d) HRZ for 6 months

4. Direct thrombin inhibitor is
   a) Rivaroxaban b) Bivalirudin
   c) Fondaparinux d) Both (a) & (b)

5. Indications of primaquine therapy is
   a) Plasmodium vivax infection b) G-6-PD defeciency
   c) Pregnancy d) 4 month old infant

6. Antihypertensive contraindicated in pregnancy is
   a) Labetalol b) Hydralazine
   c) Enalapril d) Methyldopa

7. Which of the following is a class III anti-arrythmic drug is
   a) Adenosine b) Pindolol
   c) Amiodarone d) Propranolol

8. Drug causing highest increase in serum high density lipoprotein (HDL) is
   a) Ezetimibe
   b) Rosuvastatin
   c) Niacin
   d) Gemfibrozil

9. Of the following drugs causing vasodilatation, which of the following is a arteriolar venodilator?
   a) Nifedipine
   b) Minoxidil
   c) Hydralazine
   d) Nitroprusside

10. The following antithyroid drug is relatively safe in 1st trimester of pregnancy
   a) Methimazole
   b) Propylthiouracil
   c) Carbimazole
   d) Iodine

11. The following anti-tubercular drug acts by inhibiting mycobacterium ATP synthase inhibition
   a) Levofloxacin
   b) Ethambutol
   c) Bidaquiline
   d) Linezolide

12. Drug used in oral candidiasis is
   a) Terbinafine
   b) Nystatin
   c) Gresiofulvin
   d) Clotrimazole

13. Benzodiazepine antagonist is
   a) Methadone
   b) Flumazenil
   c) Naloxone
   d) Disulfiram

14. All are the drugs used in management of postpartum hemorrhage except
   a) Ergometrine
   b) Oxytocin
   c) Misoprostal
   d) Magnesium sulfate

15. Which of the following is potassium channel opener
   a) Nimodipine
   b) Nicorandil
   c) Nitrendipine
   d) Nifedipine

16. Drug of choice in megaloblastic anaemia is
   a) Vitamin B6
   b) Vitamin B12
   c) Vitamin Bl
   d) Folic acid

17. ACE Inhibitors are not indicated in patients with the following conditions except
   a) Bilateral renal artery stenosis
   b) Hyperkalaemia
   c) Pregnancy
   d) Congestive heat failure

18. Antidote for Heparin toxicity is
   a) Vitamin K
   b) Naltrexone
   c) Protamine sulfate
   d) Pralidoxime

19. The following laxatives are used in therapy of irritable bowel syndrome (IBS) except
   a) Lubiprostone
   b) Bisacodyl
   c) Linaclotide
   d) Tenapanor

20. In women of child bearing age, clomiphene citrate produces the following effects except
    a) Hot flushes
    b) Ovulation
    c) Decreased FSH and LH secretion
    d) Polycystic ovaries

Section II

Q.2. Answer in short (Any five) **3×5 = 15**

a) What is antibiotic stewardship program (ASP)? Based on WHO-AWaRe classification of antibiotics, discuss the importance of judicious usage of antimicrobial agents.
b) Give the mechanism of action of methotrexate as anticancer drug.
c) Discuss the mechanism of action, use's & adverse effects of phosphodiesterase-5 inhibitors.
d) Enumerate the various therapeutic uses ofAlbendazole.
e) Discuss the responsibilities of patient & doctor in shared decision making ?
f) Write a short note on Sodium-glucose cotransport-2 inhibitors (SGLT-2 inhibitors).

Q.3. Write answers in detail (Any three) **5×3 = 15**

a) Name the drugs used as emergency contraception. Give their mechanism of action & adverse effects. What precautions are to be taken while using emergency contraceptive as an OTC drug?
b) Discuss the regimen for prevention of transmission of HIV to the unborn child in a pregnant patient with HIV.
c) Give the drug therapy of inflammatory bowel disease.
d) Discuss the drug therapy in hypertensive emergencies & urgencies with special emphasis on mechanism of action, adverse reaction & preferred route of drug administration .

Q.4. Case Based Question **10**

An 84-year-old man presented to medicine OPD with swelling over ankle & feet. He also had puffiness around his eyes. He complaint of breathing difficulties & severe cough while lying down. Patient was highly incapacitated, not being able to walk a few steps at a time without shortness of breath. On examination, enlarged liver below his costal margin was found. X-Ray also confirmed cardiomegaly. A diagnosis of moderate heart failure due to dilated cardiomyopathy was made. Patient was prescribed Tablet Furosemide 40 mg once in the morning, Tablet Ramipril 2.5 mg twice in a day. Based on the case history,

Answer the following -

a) Give the different classes of drugs prescribed for a patient with a diagnosis of CHF. Explain the different therapeutic objectives of treating a patient with chronic heart failure? **02+02**
b) Give the therapeutic advantage of Ramipril or its congener in a patient of CHF? Also name one other drugs known to modify the progress of disease in a patients of CHF. Specify its mechanism of action. **02+02**
c) What adverse effects are to be expected from uses of furosemide? **02**

Section III

Q.5. Answer in short [Any five] **3×5 = 15**

a) Write the advantages of LMW (low molecular weight) heparin over UFH (unfractionated heparin).
b) Classify thyroid inhibitors. Discuss the role of propranolol in thyrotoxicosis.
c) Write a short note on stimulant purgatives. Discuss the drawbacks of purgative abuse.
d) Give the adverse effects of aminoglycoside antimicrobial agents.
e) Enumerate the various drugs useful in topical therapy of acne vulgaris.
f) Give the mechanism of action, therapeutic usage & toxicity of vancomycin.

Q.6. Answer in detail [Any three] **5×3 = 15**

a) What is acute iron poisoning? Give the manifestations and drug therapy of acute iron poisoning.
b) Give the classification &therapeutic uses of anti-platelet drugs. Give the mechanism of action of one anti-platelet drug of your choice.
c) Classify various drugs used for management of peptic ulcer. Give the mechanism of action, adverse effects &drug interactions of proton pump inhibitors.
d) Give the various therapeutic indication of corticosteroids. Justify their uses based on pharmacological actions. Discuss means to prevent hypothalamicpituitary- adrenal axis supression in patients on corticosteroid therapy.

Q.7. Case based question **10**

A 40 years old obese patient, presented with symptoms of weakness, lethargy, increased thirst &frequent night awakening for urination. On investigations her fasting blood serum was found to be 187 mg/dl with HbAlC: 8.5%, PPBG: 280 mg/dl. This was repeated several times with similar results. The patient was advised a diet and exercise program. After6 months, patient was able to decrease weight only from 127to 118 kg. There was no significant change in fasting serum glucose levels. A fasting cholesterol level was 290 mg/dl, with a low-density lipoprotein (LDL) 190 mg/dl, HDL: 30 mg/dl,). The renal and hepatic functions were within normal limits. Patient's blood pressure was also within normal limits. Patient was diagnosed with NIDDM & was put on appropriate therapy.

Answer the following Questions

1) Enumerate the available drugs (both oral as well as parenteral) used for the management of NIDDM. **03**
2) Give the indications for switching a patient on oral hypoglycaemic drugs to insulin therapy. **02**
3) Which oral antidiabetic agent would you prefer in a newly diagnosed case of NIDDM? Justify your choice of selection of the drug. Describe the mechanism of action and adverse effect of your chosen drug. **01+01+02**
4) Name one recently approved drug helpful in weight loss for such obese patients with NIDDM. **01**

P6175-A

RAN-2606000102026001-A

RAN-2606000102026001-A / 2406000102020601

Second MBBS Examination September - 2026

Pathology (Paper 1)

Time: 3 Hours] **[Total Marks: 100**

સૂચના : / Instructions
(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book

Seat No.:

Student's Signature

Section 1 : (20 Marks)

Instructions :
(1) Each questions carries one mark.
(2) Encircle the most appropriate option.
(3) All question are compulsory.

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

1. Structure of DNA of the cell was described by
   A. Ruska and Lorres. B. Watson and Crick
   C. Nowell Hagerford D. Kary Mullis
2. Alzheimer's disease, cerebral plaques consist of:
   A. ATTR protein B. $A\beta_2$ M protein
   C. Aβ protein. D. Prion protein
3. Virchows triad for thrombosis include all EXCEPT:
   A. Stasis B. Endothelial Injury
   C. Hypercoagulability D. Platlet thrombus
4. For karyotyping, the dividing cells are arrested by addition of colchicine in the following mitotic phase:
   A. Prophase B. Metaphase
   C. Anaphase D. Telophase
5. Tubercle bacilli in caseous lesions are best demonstrated in:
   A. Caseous centre B. Margin of necrosis with viable tissue
   C. Epithelioid cells D. Langhans' giant cells
6. Typically, sarcoid granuloma has the following features except:
   A. Non-caseating granuloma
   B. Gianl cells have cytoplasmic inclusions
   C. Peripheral mantle of lymphocytes
   D. Fibroblastic proliferation at the periphery of a granuloma

7. Chikungunya is transmitted to humans by:
   A. Aedes
   B. Anopheles
   C. Culex
   D. Mansonia
8. Choristoma is :
   A. Normal tissue in abnormal site
   B. Normal tissue in excess at normal site
   C. Abnormal tissue at any site
   D. None of the above
9. Hypercalcaemia as a paraneoplastic syndrome is observed in the following tumours EXCEPT:
   A. Squamous cell carcinoma lung
   B. Small cell carcinoma lung
   C. Renal cell carcinoma
   D. Breast cancer
10. Phosphorylation of retinoblastoma gene:
   A. Inhibits cell replication
   B. Promotes cellular quiescence
   C. Stops cell cycle progression
   D. Promotes cell division
11. Obesity is due to:
   A. Hyperplasia of adipocytes only
   B. Hypertrophy of adipocytes only
   C. Hyperplasia as well as hypertrophy of adipocytes
   D. Fatty change in liver only
12. All of the following are X-linked recessive disorders except:
   A. Haemophilia A
   B. Haemophilia B
   C. G-6-PD deficiency
   D. Sickle cell anaemia
13. Hepar lobatum is seen in:
   A. Primary syphilis
   B. Secondary syphilis
   C. Tertiary syphilis
   D. Congenital syphilis
14. Class I HLA antigens are located on:
   A. All nucleated cells of the body
   B. B and T lymphocytes
   C. Macrophages
   D. Complement system
15. The following type of oedema is characteristically dependent oedema:
   A. Nephrotic edema
   B. Crumpled tissue paper Cytoplasm
   C. Granular Cytoplasm
   D. Clear Cytoplasm
16. Appearance of Cytoplasm seen in Gaucher Cells
   A. Foamy and Vaculated Cytoplasm
   B. Crumpled tissue paper Cytoplasm
   C. Granular Cytoplasm
   D. Clear Cytoplasm

17. Active hyperaemia is the result of:
    A. Dilatation ofcapillaries
    B. Dilatation of arterioles
    C. Venous engorgement
    D. Lymphatic obstruction
18. Connective tissue in scar is formed by the following types of fibrillar collagen
    A. Type III, IV
    B. Type I, Ill
    C. Type II, V
    D. Type V. VII
19. Enzymatic digestion is the prominent event in following type of necrosis;
    A. Coagulative necrosis
    B. Liquefactive necrosis
    C. Caseous necrosis
    D. Fat necrosis
20. All are growth promoting oncogenes EXCEPT:
    A. FGF
    B. TGF-β
    C. TGF-α
    D. PDGF

Section II : (40 Marks)

Instructions:

1) Draw neat and labelled diagram wherever necessary.
2) Figure to the right indicate full marks of the question
3) First 20 min has been allotted to the MCQ

Q. 2. Case Based Long Essay Question **(13×1=13)**

A 45 year old obese women with poorly controlled DM underwent elective abdominal hysterectomy. On 8th post operative day she developed fever and seropurulent discharge from surgical wound which gapped on coughing. Examination revealed separation of wound edges with wound infection. (2+2+4+5)

1. What are steps in repair?
2. Enumerate factors affecting wound healing.
3. Describe the complications of delayed wound healing.
4. Tabulate the differences between healing by primary and secondary intention.

Q. 3. Long Essay Questions (Attempt any three) **(9×3=27)**

1) Write a short note on" guardian of genome" and its role in Neoplasia
2) Define Inflammation. Enumerate the types of it with differentiating features and describe Chemical mediators of inflammation.
3) Enumerate blood components with their shelf life, storage and uses in clinical practice.
4) Cellular ageing

Section III : (40 Marks)

Q. 4. **Short notes (Attempt any 8)** **(5×8=40)**

1) Physical examination of urine
2) Define pathologic calcification. Enumerate its types and pathogenesis.
3) Enumerate the differences between benign and malignant tumor
4) Define embolism. Describe its causes and common types of embolisms.
5) Describe transfusion reactions. Enumerate the steps in the investigations of transfusion reactions.
6) Define necrosis . Describe in brief its type.
7) Describe etio-pathogenesis of meningitis. Enumerate the differentiating features of Pyogenic, Tuberculous and Viral meningitis based on CSF findings.
8) Describe the mechanism of Type III hypersensitivity reaction.
9) Enumerate the differences between necrosis and apoptosis
10) Discuss differential diagnosis of Granulomatous inflammation.

P6176

RAN-2606000102026002

RAN-2606000102026002 / 2406000102020602

IInd M.B.B.S. Examination August - 2026

Pathology (Paper - II)

Time: 3 Hours] **[Total Marks: 100**

સૂચના : / Instructions
(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book

Seat No.:

Student's Signature

Section 1 : (20 Marks)

Instructions :
(1) Each questions carries one mark.
(2) Encircle the most appropriate option.
(3) All question are compulsory. No negative marking.

Q. 1

1. Hemoglobin Bart's is composed of
   A. 4 alpha chain B. 4 gamma chain
   C. 4 beta chain D. 4 delta chain
2. BCR-ABL hybrid gene is present in
   A. Burkitt's Lymphoma B. Retinoblastoma
   C. Breast carcinoma D. Chronic myeloid leukaemia
3. RBC cast is seen in
   A. Minimal change disease B. Renal vein Thrombosis
   C. Blader schistosomiasis D. Rapidly progressive Glomerulonephritis
4. Commonest histological finding in Benign Hypertension.
   A. Proliferative endarteritis B. Necrotizing arteriolitis
   C. Hyaline arteriosclerosis D. Cystic medial necrosis
5. Pleural mesothelioma is associated with
   A. Asbestosis B. Berylliosis
   C. Silicosis D. Bagassosis
6. Tear drop cells are seen in
   A. Myelofibrosis B. CML
   C. CLL D. AML
7. Mallory bodies are composed of
   A. Fat droplet B. Mitochondria
   C. Lysosomal Enzymes D. Intermediate filament

8. Best test for assessment of iron status is
   A. Transferrin B. Ferritin
   C. Serum iron D. Hemoglobin
9. Mosi common site of carcinoid is
   A. Liver B. Ileum
   C. Appendix D. Pancreas
10. Transverse Ulcer are seen in
   A. Typhoid B. Amebiasis
   C. Tuberculosis D. Ulcerative colitis
11. Most appropriate IHC marker for GIST
   A. CD 34 B. CD117
   C. Vimentin D. CD 45
12. Most common cause of intra cerebral haemorrhage
   A. Diabetes mellitus B. Trauma
   C. Hypertension D. Iatrogenic
13. Chronic carrier stage is not found in
   A. Hepatitis B B. Hepatitis C
   C. Hepatitis A D. Hepatitis A & B
14. Gleason's grading is used for
   A. Breast Carcinoma B. Prostate Carcinoma
   C. Pancreatic Carcinoma D. Colon Carcinoma
15. Schiller Dual Bodies are seen in
   A. Teratoma B. Choriocarcinoma
   C. Yolk cell tumour D. Seminoma
16. BRCA 1 gene located on chromosome
   A. Chromosome 13 B. Chromosome 17
   C. Chromosome 11 D. Chromosome 22
17. Calcitonin is marker of thyroid
   A. Papillary carcinoma B. Medullary carcinoma
   C. Anaplastic carcinoma D. Adenocarcinoma
18. Granulomatous inflammation is found in
   A. Ulcerative colitis B. Crohn's disease
   C. Amoebiasis D. Giardiasia
19. All of the following are invasive carcinoma of breast except
   A. Colloid carcinoma B. Lobular carcinoma
   C. Comedocarcinoma D. Medullary carcinoma
20. AML with gum infiltration, hepatosplenomegaly is most likely to be
   A. M2 B. M5
   C. M3 D. M4

Section II : (40 Marks)

Instructions:
1) Draw neat and labelled diagram wherever necessary.
2) Figure to the right indicate full marks of the question
3) First 20 min has been allotted to the MCQ

Q. 2. **Case Based Long Essay Question** **(13×1=13)**

A 50 years male presented with complaint of Evening rise of fever, weight loss, night sweats and productive cough.
ESR 80 mm, X-ray showed cavitary lesion in apical area and Sputum is showing Acid fast bacilli.
What is your probable diagnosis? (2 Marks)
Describe etiopathogenesis, gross and microscopic finding of it.(4+7)

Q. 3. **Long Essay Questions (Attempt any three)**

(9×3=27)

1) Describe etiopathology and morphological finding of Myocardial infarction.
2) Classify Anemia. Describe etiopathology, peripheral smear and bone marrow picture and confirmatory diagnostic test of megaloblastic anemia.
3) Define and classify cirrhosis. Describe etiology &morphology of biliary cirrhosis.
4) Describe etiopathogenesis and morphological finding of Benign and malignant Nephrosclerosis

Section III : (40 Marks)

Q. 4. **Short notes (Attempt any 8)** **(8×5=40)**

1) Describe difference between leukemia and leukemoid reaction
2) Describe pathogenesis and laboratory diagnosis of type 2 diabetes
3) Difference between gastric ulcer and duodenal ulcer
4) Fibroadenoma of breast
5) Basal Cell Carcinoma
6) Benign Prostatic Hyperplasia
7) Gaiter
8) Giant cell tumor of bone
9) Crohn disease.
10) What is informed consent and informed refusal. Discuss with example.