



RAN - 2106000102030102

RAN-2106000102030102**S. Y. M.B.B.S. Examination March - 2023****Microbiology : Paper - II****Time: 3 Hours]****[Total Marks: 100****सूचना : / Instructions**

(1)

नीचे दृष्टविले निशानीवाणी विगतो उत्तरवली पर अवश्य लपववी.
Fill up strictly the details of signs on your answer book

Name of the Examination:

S. Y. M.B.B.S.

Name of the Subject :

Microbiology : Paper - II

Subject Code No.: 2106000102030102

Seat No.:

Student's Signature

- (2) Draw a label diagram wherever required with blue pen/pencil only.
- (3) Short notes 100-150 words.
- (4) Write heading of each question properly.

Section - 2A**(Skin and soft tissue infection, Musculoskeletal and respiratory system)**

Que. 1 A 35 year old female from a village of Bihar came to the hospital with history of fever on and off for the past one year and recently developed unilateral swelling of the left lower limb. Her blood sample was sent for peripheral blood smear examination which revealed worm like structures, 240 um in length with pointed tail tip. **(12 marks)**

- a. Name the disease and its etiological agent.
- b. Describe the life cycle, pathogenesis and laboratory diagnosis of this condition.
- c. Explain prevention and treatment of this clinical condition.

Que. 2 Write notes. (any four) **(4 × 7 = 28 marks)**

- a. Etiopathogenesis and laboratory Diagnosis of Madura foot
- b. Etiopathogenesis, laboratory diagnosis and complication in a man with necrotic limb wound that crepitates following a road traffic accident.

- c. Fever with rash in a child: four causative organisms and pathogenesis, laboratory diagnosis and prevention of any one.
- d. Hospital acquired Infections: types, risk factors and preventive measures.
- e. COVID 19 : Laboratory Diagnosis and Vaccines

Que. 3 Multiple Choice Questions.

(10 Marks)

1. Which of the following is correct about lepromatous leprosy:
 - a. Multibacillary
 - b. Langerhans cells are found
 - c. CMI is normal
 - d. Positive lepromin test

2. Which is the most preferred antimicrobial for the treatment of methicillin-resistant *S. aureus* (MRSA)?
 - a. Dicloxacillin
 - b. Cephalexin
 - c. Cefazolin
 - d. Vancomycin

3. Which of the following toxin mediates Scalded skin syndrome :
 - a. Hemolysin
 - b. Coagulase
 - c. Enterotoxin
 - d. Epidermolytic toxin

4. Serotyping of *Streptococcus pyogenes* is based on which of the following protein:
 - a. M protein
 - b. T protein
 - c. R protein
 - d. Carbohydrate antigen

5. CAMP test is useful in identification of:
 - a. *S. pyogenes*
 - b. *S. agalactiae*
 - c. Viridans streptococci
 - d. *S. pneumoniae*

6. Gram-stain morphology of *Bacillus anthracis* is:
 - a. Tennis racket appearance
 - b. Drum stick appearance
 - c. Bamboo stick appearance
 - d. Spectacle glass appearance

7. Which viral infection is responsible for Subacute Sclerosing Pan Encephalitis (SSPE):
 - a. Mumps
 - b. Measles
 - c. Rubella
 - d. Influenza

8. Which of the following is a vector for leishmaniasis:
- a. Sandfly
 - b. Reduviid bug
 - c. Tsetse fly
 - d. Anopheles mosquito
9. Which of the following fungus does not infect nail:
- a. Trichophyton
 - b. Microsporum
 - c. Epidermophyton
 - d. Candida albicans
10. Rhinosporidiosis is characterized by all of the following **EXCEPT**-
- a. It is caused by a fungus
 - b. The fungus is usually found in dirty waters
 - c. It manifests as polyps that bleed easily.
 - d. It can be cultured easily in laboratory.

Section - 2B
(CNS, Genitourinary, HAI, Miscellaneous)

Que. 1 A 25 yr. old man presented with painless ulcer with hard base on penis. He had a history of sex with multiple partners. On examination, inguinal lymph nodes were enlarged, discrete, non-tender and rubbery. The blood specimen was collected and sent to the laboratory for serological test.

(12 marks)

- a. What is the clinical diagnosis and possible causative agent? Justify.
- b. Explain the pathogenesis and laboratory diagnosis of this condition.
- c. Enlist three possible etiological agents in case the man had multiple painful genital ulcers.

Que. 2 Write notes. (any four) **(4 × 7 = 28 marks)**

- a. A 30 years of Male with history of HIV/AIDs presented to casualty with high grade fever, Headache and seizures. CSF microscopy revealed budding yeast cells surrounded by a halo. Identify the etiological agent. Explain pathogenesis and laboratory diagnosis of the condition.
- b. Encephalitis: four causative agents and pathogenesis with laboratory diagnosis of anyone.
- c. Antimicrobial stewardship program: concept and different strategies used in the program
- d. Non-tuberculosis Mycobacterium: classification and significance as human pathogen
- e. Consent: Definition, types and its importance in autonomy is autonomy?

Que. 3 Multiple Choice Questions.

1. Which of the following is the causative agent of chancroid?
 - a. Haemophilus ducreyi
 - b. Klebsiella granulomatis
 - c. Mycoplasma hominis
 - d. Candida albicans

2. Causative agents of non gonococcal urethritis may be:
 - a. Chlamydia trachomatis
 - b. Ureaplasma urealyticum
 - c. Mycoplasma genitalium
 - d. All of the above

3. Which of the following fungi are associated with zygomycosis?
 - a. Mucor
 - b. Rhizopus
 - c. Absidia
 - d. All of the above

4. Which of the following pigment is diagnostic of Pseudomonas aeruginosa?
 - a. Pyocyanin
 - b. Pyorubin
 - c. Pyomelanin
 - d. Fluorescin

5. What is significant bacteriuria?
 - a. Bacterial count $>10^5$ per mL
 - b. Bacterial count between 10^4 to 10^5 per mL
 - c. Bacterial count $<10^4$ per mL
 - d. None of the above

6. Which of the following depict decreasing order of risk of transmission following occupational exposure:
 - a. HIV > HBV > HCV
 - b. HBV > HIV > HCV
 - c. HBV > HCV > HIV
 - d. HCV > HBV > HIV

7. Which of the following microbe is **NOT** used as indicator organism of fecal contamination of water:
 - a. Fecal E. coli
 - b. Fecal streptococci
 - b. Pseudomonas
 - d. Vibrio cholerae

8. The most effective way of preventing tetanus is:
 - a. Hyperbaric oxygen
 - b. Antibiotics
 - c. Tetanus toxoid
 - d. Surgical debridement and toilet

9. Neonatal meningitis acquired through colonized/infected birth canal is due to:
- a. *S. pyogenes*
 - b. Viridans streptococci
 - c. *S. agalactiae*
 - d. *S. pneumoniae*
10. Humans acquire *cysticercus cellulosae* infection by all of the following mechanisms, **EXCEPT**:
- a. Ingestion of contaminated vegetables
 - b. Reverse peristalsis
 - c. Autoinfection
 - d. Ingestion of contaminated pigs meat
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RAN-2106000102030101

RAN-2106000102030101

S. Y. M.B.B.S. Examination March - 2023

Microbiology : Paper - I

Time: 3 Hours]

[Total Marks: 100

सूचना : / Instructions

(1)

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Name of the Examination:

S. Y. M.B.B.S.

Name of the Subject :

Microbiology : Paper - I

Subject Code No.: **2106000102030101**

Seat No.:

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Student's Signature

- (2) Draw a label diagram wherever required with blue pen/pencil only.
- (3) Short notes 100-150 words.
- (4) Write heading of each question properly.

SECTION - IA

(General Microbiology and Immunology)

Que. 1 Define and differentiate Sterilization from disinfection. Explain the principle, application and control of any one method of sterilization based on heat used in patient care. Explain the concept and use of CSSD in hospitals. **(12 marks)**

Que. 2 Write notes. (any four) **(4 × 7 = 28 marks)**

- a. Principle, applications and modifications of Polymerase Chain Reaction in patient care.
- b. Classification, types and diagnostic modalities of Immunodeficiency diseases.
- c. Define vaccine. Describe National Immunization Schedule and the types of vaccines used in it.
- d. A girl presented in emergency with sudden onset of itching, redness and erythema following unknown bite. Identify the condition. Explain the immuno-pathogenesis of her condition.
- e. Mechanisms of transferable drug resistance in bacteria.

Que. 3 Multiple Choice Questions.

(10 marks)

1. *Cryptococcus neoformans* can be best demonstrated by:
 - a. Gram staining
 - b. Negative staining
 - c. Acid-fast staining
 - d. Albert staining

2. The type of microscope best suited for studying microbial motility is:
 - a. Light microscope
 - b. Electron microscope
 - c. Phase contrast microscope
 - d. Atomic force microscope

3. Bacteria are uniformly stained in which of the following phase of growth curve?
 - a. Lag phase
 - b. Log phase
 - c. Stationary phase
 - d. Declining phase

4. All of the following are the basic steps of PCR cycle **EXCEPT**:
 - a. Denaturation
 - b. Amplification
 - c. Extension
 - d. Gel documentation

5. Horizontal transmission of 'R' factor is by:
 - a. Transformation
 - b. Transduction
 - c. Conjugation
 - d. Fusion

6. If the infection occurs at a much higher rate than usual in a particular geographic area, it is known as:
 - a. Epidemic
 - b. Endemic
 - c. Hyper endemic
 - d. Sporadic

7. All are agglutination reactions, **EXCEPT**:
 - a. VDRL test
 - b. Standard agglutination test
 - c. Widal test
 - d. Paul Bunnell test

8. T cell area of lymph node is:
 - a. Cortex
 - b. Para cortical area
 - c. Medulla
 - d. All of the above

9. Cell type which lacks HLA antigen is:
 - a. Monocyte
 - b. Thrombocyte
 - c. Neutrophil
 - d. RBC

10. Application of skin graft for the second time from the same donor will result in:
 - a. First set rejection
 - b. Second set rejection
 - c. Both
 - d. None

SECTION-IB

(Infection of Blood stream, Cardiovascular system, Gastrointestinal tract, Hepatobiliary system)

- Que. 1** A young adult female was admitted to the hospital with intense headache, abdominal discomfort for past five days. She had also developed fever which is of remittent type with gradual rise in a step ladder fashion. On examination, she was toxic with temperature of 101°F, tongue was coated and mild splenomegaly was present. **(12 marks)**
- What is the most probable etiological diagnosis? Give justification
 - Describe the pathogenesis of this condition.
 - Explain the choice of test, sample collection and laboratory diagnosis of the condition.
 - Suggest preventive measures for the disease.

- Que. 2 Write notes. (any four)** **(4 × 7 = 28 marks)**
- Laboratory diagnosis and Post exposure prophylaxis of HIV.
 - Describe the pathogenesis and laboratory diagnosis of a female brought to emergency department with sunken eyes. Relatives gave history of sudden onset of watery diarrhea (15-20 times per day) without blood and mucus and abdominal pain.
 - Mycotic food poisoning.
 - Pyrexia of unknown origin: definition, causes and diagnostic test used
 - Importance of effective communication skill in Doctor Patient relationship.

- Que. 3 Multiple Choice Questions.** **(10 marks)**
- Most common agent causing native valve endocarditis is:
 - S.aureus
 - S.epidermidis
 - Viridans streptococci
 - Enterococci
 - Infections causing Megaloblastic anemia include:
 - Babesia microti
 - Diphyllobothrium latum
 - Bartonella bacilliformis
 - Leishmania donovani
 - Antibodies against which of the following antigen appear in typhoid carrier?
 - Vi antigen
 - O antigen
 - H antigen
 - Capsular antigen

4. Which of the following is the infective form of the malarial parasite to man:
- a. Merozoite
 - b. Sporozoite
 - c. Trophozoite
 - d. Gametocyte
5. Which of the following is responsible for transmission of HBV infection:
- a. HBsAg
 - b. HBeAg
 - c. HBcAg
 - d. HBV DNA
6. Single most important agent of traveler's diarrhea is:
- a. Enterotoxigenic E. coli
 - b. Enteroaggregative E. Coli
 - c. Campylobacter jejuni
 - d. Non Typhoidal salmonella
7. Which of the following is **NOT** a commensal in human female genital tract?
- a. Lactobacillus
 - b. Streptococcus agalactiae
 - c. Neisseria
 - d. Trichomonas vaginalis
8. *Leishmania donovani* can be cultivated in:
- a. Blood agar
 - b. NNN medium
 - c. Diamonds medium
 - d. RPMI 1640 medium
9. During the window period of patient with AIDS, best diagnostic test is:
- a. ELISA
 - b. Western Blot
 - c. Rapid test
 - d. RT-PCR
10. Trench fever is caused by:
- a. B.henselae
 - b. B.quintana
 - c. B.bacilliformis
 - d. C.burnetii
-



RAN - 2106000102020101

RAN-2106000102020101

Phase II M.B.B.S. Examination March - 2023

Pharmacology Paper - I

Time: 3 Hours]

[Total Marks: 100

सूचना : / Instructions

(१)

नीचे दृष्टविले निशानीवाणी विगतो उत्तरवही पर अवश्य लभवी.
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Name of the Examination:

Phase II M.B.B.S.

Name of the Subject :

Pharmacology Paper - I

Subject Code No.: 2106000102020101

Seat No.:

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- (2) Answers should be precise and to the point.
- (3) Give examples and figures if needed.
- (4) First 20 mins have been allotted to solve multiple choice questions.

Section I

Instructions:

- (1) Encircle the single most appropriate answer.
- (2) Each question carries one mark and there is no negative marking.
- (3) Overwriting is not allowed.

Q.1 Multiple Choice Questions (MCQs)

(20)

1. Therapeutic index is an assessment of:
 - a. Potency of drug
 - b. Onset of action
 - c. Duration of action
 - d. Margin of safety
2. All of the following statements for flumazenil are true EXCEPT :
 - a. It is a specific antagonist of benzodiazepines.
 - b. It may be used to treat barbiturate poisoning.
 - c. It is given intravenously.
 - d. It acts on same site on GABA channels where benzodiazepines bind.

3. When is Ketamine NOT preferred as an anaesthetic agent ?
 - a. Glaucoma
 - b. Emergency conditions with full stomach
 - c. Short surgeries in asthmatic patients
 - d. For dissociative anaesthesia
4. Drug of choice for alcohol withdrawal is :
 - a. Chlordiazepoxide
 - b. Disulfiram
 - c. Naltrexone
 - d. Diazepam
5. The most vulnerable period of pregnancy for the causation of foetal malformations due to drugs is :
 - a. 18-55 days of gestation
 - b. 56-84 days of gestation
 - c. Second trimester
 - d. 36 weeks onwards
6. In drug metabolism, hepatic cytochrome P-450 (CYP-450) system is responsible for :
 - a. Phase I reactions
 - b. Phase II reactions
 - c. Both (a) and (b)
 - d. Converting hydrophilic metabolites to lipophilic metabolites
7. All of the following statements for COX-2 are correct EXCEPT :
 - a. Induced at the site of inflammation
 - b. Activation of COX-2 leads to ulcer protective effect on gastric mucosa
 - c. It is constitutionally expressed on some cell surfaces
 - d. It is utilized in generation of eicosanoids with a ring structure
8. Which of the following drug is commonly used in narcoanalysis?
 - a. Atropine sulfate
 - b. Scopolamine hydrochloride
 - c. Phenobarbitone
 - d. Morphine
9. For which of the following drugs a warning is written: 'To be sold by retail on the prescription of registered medical practitioner only'.
 - a. Schedule C
 - b. Schedule X
 - c. Schedule Y
 - d. Schedule H
10. Antihistaminics used for motion sickness is :
 - a. Cetirizine
 - b. Meclizine
 - c. Diphenhydramine
 - d. Fexofenadine

11. The sympathetic and parasympathetic systems exert functionally opposite influences on the following parameters except:
- Heart rate
 - Atrial refractory period
 - Pupil diameter
 - Intestinal motility
12. Gastric lavage is contraindicated in :
- Salicylate poisoning
 - Organophosphate poisoning
 - Kerosene poisoning
 - Morphine poisoning
13. Regarding efficacy and potency of a drug all are true EXCEPT :
- In a clinical setup, efficacy is more important than potency
 - In the log dose response curve, the height of the curve corresponds with efficacy
 - ED₅₀ of the drug corresponds to the efficacy
 - Drugs that produce similar pharmacological effect can have different levels of efficacy
14. Tachyphylaxis is seen after use of:
- Tamoxifen
 - Ephedrine
 - Morphine
 - Chlorpromazine
15. Correctly matched pair of heavy metal and its respective chelating agent is :
- Iron - BAL
 - Mercury - Calcium disodium edetate
 - Copper - d-penicillamine
 - Arsenic - Desferioxamine
16. Caution is advised for the use of Aspirin in which of the following group of patients :
- In diabetics - can cause hyperglycaemia
 - In children with viral disease - risk of acute renal failure
 - In gout - can increase serum uric acid levels
 - In pregnancy- risk of teratogenicity
17. Timolol eye drops are preferred over pilocarpine eye drops by glaucoma patients because :
- Timolol is more effective than pilocarpine
 - Timolol acts by enhancing uveo-scleral outflow
 - Timolol produces less ocular side effects
 - There are no contraindications to timolol

18. Use of morphine in preanaesthetic medication:
- Is routine except in the presence of contraindications
 - Is restricted to patients being anaesthetised with ether
 - Should be made only in combination with atropine
 - Is restricted mostly to patients in pain preoperatively
19. How would a drug that competes with ACh for receptors at the motor end plate affect skeletal muscle? It would :
- Produce uncontrolled muscle spasms
 - Cause the muscles to contract and be unable to relax
 - Cause muscles to relax and be unable to contract
 - Make the muscles more excitable
20. Transdermal drug delivery systems offer the following advantages EXCEPT :
- Produces high peak plasma concentration of the drug
 - Produces smooth and non-fluctuating plasma concentration of the drug
 - Minimises inter-individual variations in the achieved plasma drug concentration
 - Avoids hepatic first-pass metabolism of the drug

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

- Explain the concept of "Placebo".
- Compare and contrast neostigmine vs physostigmine.
- What is microsomal enzyme induction? Give suitable examples.
- Define drug antagonism. Describe its types with suitable examples.
- Short note on kinetics of elimination.
- Enumerate therapeutic uses and adverse effects of selective COX-2 inhibitors.

Q. 3 Write short notes [any three] : **[5×3=15]**

- Classify α - blocker drugs. Discuss their therapeutic uses and adverse effect profile.
- Which drugs are indicated for glaucoma? Discuss the pharmacotherapy for open angle glaucoma.
- Describe the concept of potency and efficacy with suitable examples and graphs.
- Enumerate various atropine substitutes and/or derivatives. Describe their clinical uses.

Q. 4 Case based questions :

[10×1=10]

A 34-year-old female presented with chief complaints of sudden onset of severe pain in the right big toe. Her physical examination and laboratory investigations were suggestive of acute gout. She was prescribed tablet allopurinol 100 mg once a day for one month and tablet naproxen 500 mg twice a day for three days. She returned after 10 days with recurrence of symptoms as severe as the initial episode. On further investigation, she mentioned that the pain had completely subsided initially but had recurred just the previous night.

Answer the following questions :

- a. Was the approach towards the initial episode in this case appropriate? Explain. How will you manage this case? [2+2]
- b. Classify the drugs for gout. [2]
- c. Describe uricosuric agents briefly. [4]

Section II

Q. 5 Answer in brief [any five] :

[3×5=15]

- a. Management of methanol poisoning.
- b. Mention agents used in spinal anaesthesia. Which are the complications of spinal anaesthesia?
- c. Describe pre-anaesthetic medications with their basis of use.
- d. Name two mucolytic agents. Explain briefly role of mucolytic in the treatment of cough.
- e. Classify antipsychotic agents. Describe its adverse effects profile briefly.
- f. Write a note on "Pharmacovigilance".

Q. 6 Write short notes [any three] :

[5×3=15]

- a. Mention various anti-epileptic agents. Explain the pharmacological basis of phenytoin in grand mal epilepsy. Describe adverse effects of phenytoin.
- b. Enumerate various neuromuscular blocking agents. Explain the difference between non-depolarizing and depolarizing block. Mention two therapeutic uses of succinylcholine.
- c. Classify drugs used in asthma. Write treatment for status asthmaticus.
- d. Write a note on phases of clinical trial.

Q.7

Case based questions :

[10*1=10]

A 50-year-old male patient presents to the medicine out-patient department with tremors at rest in one hand, difficulty in initiating movements, mask like face, defective posture and gait along with dementia. After a thorough clinical and central nervous system examination, he was diagnosed as a case of parkinson's disease. The clinician prescribed a combination of levodopa 100 mg and carbidopa 10 mg orally once daily for one month. The patient was asked to visit for follow-up after a month.

Answer the following questions :

- a. Explain the rationale for prescribing a fixed dose combination of levodopa + carbidopa. Discuss the consequences of initial as well as prolonged levodopa therapy. [2 + 2]
- b. Classify the drugs prescribed for parkinsonism. [2]
- c. What is drug induced parkinsonism? How will you treat such a case? [2]
- d. Mention recent developments in the treatment of parkinsonism. [2]



RAN - 2106000102020102

RAN-2106000102020102**II M.B.B.S. Examination March - 2023****Pharmacology****सूचना : / Instructions**

(१)

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Name of the Examination:

II M.B.B.S.

Name of the Subject :

Pharmacology

Subject Code No.: 2106000102020102

Seat No.:

Student's Signature

- (2) Encircle the single most appropriate answer.
(3) Each question carries one mark and there is no negative marking.
(4) Overwriting is not allowed.

Q. 1 Multiple Choice Questions. (MCQs)**[Marks 20]**

- Which diuretic is preferred in cirrhotic ascites ?
a) Furosemide b) Spironolactone
c) Acetazolamide d) All of the above
- A clinician diagnosed isoniazid induced neurological disturbances in a 30-year-old male patient on anti-tubercular drug regimen. Which vitamin should be prescribed ?
a) Vitamin B1 b) Vitamin B6
c) Vitamin B12 d) Vitamin B2
- The management of thyrotoxicosis crisis includes all the following except:
a) Propranolol b) Hydrocortisone
c) Oral I¹³¹ d) Propylthiouracil
- Combine oral contraceptive pill reduces the risk of:
a) Breast cancer b) Ovarian cancer
c) Cervical cancer d) Vaginal cancer

5. Which drug should not be given in pregnancy ?
 - a) Labetalol
 - b) Hydralazine
 - c) ACE inhibitors
 - d) Methyldopa

6. Which of the following statements about octreotide is FALSE ?
 - a) It is used for the treatment of acromegaly
 - b) It stops oesophageal variceal bleeding
 - c) It can be used for the management of secretory diarrhoea
 - d) It is effective orally

7. The following antianginal drug is most likely to produce tachycardia as a side effect:
 - a) Amlodipine
 - b) Nifedipine
 - c) Diltiazem
 - d) Verapamil

8. When are proton pump inhibitors most effective ?
 - a) After meals
 - b) Along with H2 blockers
 - c) Shortly before meals
 - d) During prolonged fasting periods

9. Which of the following purgative increases the fecal bulk due to their water absorbing and retaining capacity ?
 - a) Methyl cellulose
 - b) Lactulose
 - c) Liquid paraffin
 - d) Dioctyl sodium sulfosuccinate

10. The drug of choice for neurocysticercosis is :
 - a) Albendazole
 - b) Niclosamide
 - c) Praziquantel
 - d) Ivermectin

11. The multidrug therapy of leprosy is superior to monotherapy on the following basis :
 - a) It prevents emergence of dapsone resistance
 - b) It is effective in cases with primary dapsone resistance
 - c) It shortens the total duration of drug therapy and improves compliance
 - d) All of the above

12. Dobutamine is preferred over dopamine in cardiogenic shock because of its relatedness to :
 - a) Better cardiac stimulation
 - b) Less peripheral vasoconstriction
 - c) Lower risk of cardiac arrhythmias
 - d) More CNS stimulation

PHARMACOLOGY PAPER II

Time: 3 Hours]

[Total Marks: 100

Instructions:

- (1) Answers should be precise and to the point.
- (2) Give examples and figures if needed.
- (3) First 20 mins have been allotted to solve multiple choice questions.

SECTION I

Q.1 Multiple choice questions. [1×20=20]

Q.2 Answer in brief. [any five] [3×5=15]

- a) Describe various types of oral contraceptives. What is the rationale of combining estrogen and progesterone for contraception?
- b) Write a note on management of erectile dysfunction.
- c) Classify thyroid inhibitors. Write a note on thyroid storm management.
- d) Outline the pharmacotherapy of psoriasis.
- e) Write a note on drug therapy for constipation.
- f) Discuss briefly about heparin versus warfarin.

Q.3 Write short notes. [any three] [5×3=15]

- a) Discuss various insulin preparations available. Write in detail about newer insulin preparations, their uses, pros and cons of each.
- b) Mention various thrombolytic agents. Describe their uses, mechanism of action and precautions required while using them.
- c) Classify diuretic agents. Explain mechanism of action, uses and adverse effect profile of thiazide-like diuretics in detail.
- d) Enumerate commonly used glucocorticoids. Discuss their adverse effect profile.

Q. 4 Case based questions : [10×1=10]

An adult 46-year-male, an executive in a multi-national company, has complaints of pain in abdomen since a month, along with occasional heart burn due to which he is unable to sleep. It worsens with ingestion of spicy and oily meals. After a thorough examination, physician diagnosed him as a case of peptic ulcer. Along with appropriate diet and lifestyle modifications, physician prescribed him anti-ulcer drugs.

Answer the following questions :

- a) Enumerate various drugs from different groups which can be prescribed to him along with mechanism of action of any two drug classes. [4]
- b) Write briefly about treatment regimens for H. pylori infection. [4]
- c) Which drugs should be prescribed to the above patient if he develops gastroesophageal reflux disease (GERD)? [2]

SECTION II

Q. 5 Answer in brief. [any five] [3×5=15]

- a) Write a short note on anti-hypertensives in pregnancy.
- b) Elaborate mechanism of action, therapeutic uses and adverse effects of metronidazole.
- c) Outline the pharmacotherapy of urinary tract infection.
- d) Describe measures to prevent antimicrobial drug resistance in detail.
- e) Enumerate HMG-CoA reductase inhibitors along with their uses.
- f) What is post exposure prophylaxis for HIV infection? Write two NACO recommended regimens for same.

Q. 6 Write short notes. [any three] [5×3=15]

- a) Classify fluoroquinolones. Describe the mechanism of action, therapeutic uses and adverse effects of any one fluoroquinolone.
- b) Enlist anti-malarial drugs. Discuss the treatment regimens for chloroquine resistant P. falciparum malaria.
- c) Describe in detail general principles for cancer chemotherapy.
- d) Which are the drugs for congestive heart failure? Discuss the mechanism of action of digoxin in this scenario.

[10×1=10]

Q. 7

Case based questions :

A 50-year-old male patient was admitted to casualty with chief complaints of heaviness in chest, squeezing midsternal pain which was radiating to jaw and left shoulder without any precipitating factor, lasting for about few minutes. He was sweating profusely. His electrocardiogram showed ST segment elevation. He was diagnosed as having acute myocardial infarction.

Answer the following questions :

- a) Write in detail about the management of above-mentioned diagnosis. [5]
- b) Enumerate various anti-anginal drugs. [3]
- c) What is the rationale of using β blocker + long-acting nitrate combination in classical angina? [2]



RAN - 2106000102010102

RAN-2106000102010102

S.Y. M.B.B.S. Examination March - 2023

Pathology : Paper II (Set - 3)

(CBME New Course)

Time: 3 Hours]

[Total Marks: 100

સૂચના : / Instructions

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Fill up strictly the details of signs on your answer book

Name of the Examination:

S.Y. M.B.B.S.

Name of the Subject :

Pathology : Paper II (Set - 3) (CBME New Course)

Subject Code No.: 2106000102010102

Seat No.:

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Student's Signature

- (2) Each question carries one mark.
(3) Encircle ○ the correct answer.

Time: 20 Minutes]

[Total Marks: 20

Section - I

1. Multiple choice questions (*no negative markings)

20

1. Barrett's oesophagus can result from:

- a) H. pylori infection c) Gastroesophageal reflux
b) H. simplex infection d) Varices

2. Incubation period of hepatitis B is:

- a) 6 weeks to 6 months c) 6 months to 6 years
b) 6 days to 6 weeks d) More than 6 years

3. Endodermal sinus tumor is characterised by:

- a) Schiller-Duval body c) Call - Exner body
b) Psammoma body d) Homer-wright rosette

RAN-2106000102010102]

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[P.T.O.]

P1600

4. Extravascular haemolysis causes:
 - a) Hemoglobinemia
 - b) Hemosiderinuria
 - c) Jaundice
 - d) Hemoglobinuria

5. Antoni A and Antoni B regions are seen in:
 - a) Meningioma
 - b) Glioblastoma
 - c) Medulloblastoma
 - d) Schwannoma

6. Best test for assessment of iron status is:
 - a) Transferrin
 - b) Ferritin
 - c) Serum iron
 - d) Hemoglobin

7. Skip lesions are seen in:
 - a) Ulcerative colitis
 - b) Crohn's disease
 - c) Carcinoid syndrome
 - d) Whipple's disease

8. Call -Exner bodies are seen in:
 - a) Dysgerminoma
 - b) Granulosa cell tumor
 - c) Teratoma
 - d) Theca cell tumor

9. All the following are invasive carcinoma breast except:
 - a) Comedocarcinoma
 - b) Colloid carcinoma
 - c) Lobular carcinoma
 - d) Medullary carcinoma

10. Which one of these thyroid cancers cannot be diagnosed by FNAC:
 - a) Papillary carcinoma
 - b) Medullary carcinoma
 - c) Follicular carcinoma
 - d) Anaplastic carcinoma

11. Ewing's sarcoma arises from:
 - a) G cell
 - b) Totipotent cells
 - c) Neuroectodermal cells
 - d) Neurons

12. A 40-year-old hypertensive male admitted to hospital with sudden onset of headache and altered sensorium. On examination his blood pressure was observed to be 220/110 mm hg and the patient died 4 hours later. What is pathological finding in kidneys?
 - a) Small kidney with granular surface
 - b) Small kidney with petechial haemorrhage
 - c) Large kidney with waxy appearance
 - d) Large kidney with granular surface

13. Diagnostic feature in rheumatic heart disease is:
- a) Aschoff nodule
 - b) Mc Callum's patch
 - c) Bread and butter pericarditis
 - d) Shaggy vegetation
14. Ferruginous bodies are seen in:
- a) Silicosis
 - b) Byssinosis
 - c) Asbestosis
 - d) Bagassosis
15. 'Popcorn cells' are seen in which type of Hodgkin's disease:
- a) Lymphocytic dominant
 - b) Lymphocytic depleted
 - c) Nodular sclerosis
 - d) Mixed type
16. Cells seen in myocardial infarction at 48 hours are:
- a) Polymorphs
 - b) Fibroblast
 - c) Lymphocyte
 - d) Macrophage
17. Marker for small cell cancer of lung is:
- a) Cytokeratin
 - b) Chromogranin
 - c) Desmin
 - d) Vimentin
18. Most common cause of nephrotic syndrome in adult:
- a) Membranous glomerulonephritis
 - b) Minimal change disease
 - c) Acute glomerulonephritis
 - d) Focal segmental glomerulonephritis
19. Ascending aorta involvement is the commonest site of which aneurysm?
- a) Syphilitic
 - b) Atherosclerotic
 - c) Mycotic
 - d) None of the above
20. AML with gum infiltration, hepatosplenomegaly is most likely to be
- a) M1
 - b) M2
 - c) M3
 - d) M4

Section- II (40 Marks)

Q-2 Case based long essay questions [13*1=13]

A 70-year-old male presented with changes in bowel habit, bleeding per rectum, loss of weight, fatigue, and weakness of six-month duration. Endoscopy was suggestive of large polypoidal lesion in descending colon and biopsy done.

Biopsy of lesion showed marked pleomorphism of glandular epithelial cells with many atypical mitosis and necrosis

After endoscopic biopsy of colon, left sided hemicolectomy was done

- 1) What is your probable diagnosis? 2 Marks
- 2) Describe etiopathogenesis of it. 5 Marks
- 3) Describe the gross and microscopic features of the resected colon. 6 Marks

Q-3. Long essay questions. (Attempt any three) [9*3=27]

- 1) Describe etiology and morphology of Myocardial Infarction. 3+6
- 2) Classify glomerular disease. Describe etiopathogenesis, morphological features Post streptococcal glomerulonephritis. 3+3+3
- 3) Define and classify Jaundice. Describe laboratory diagnosis of Jaundice. 1+3+5
- 4) Define Pneumoconiosis. Classify Pneumoconiosis and describe Coal-worker's pneumoconiosis. 1+3+5

Section- III (40 Marks)

Q-4. Short notes (Attempt Any 8) [8*5=40]

- 1) Peripheral smear finding of Chronic Myeloid leukaemia.
- 2) Describe etiopathogenesis and morphological features of Bronchiectasis.
- 3) Gross and microscopic features of Chronic pyelonephritis.
- 4) Sickle cell anaemia.
- 5) Benign prostatic hyperplasia.
- 6) Enumerate and explain the causes of Splenomegaly
- 7) Basal cell carcinoma.
- 8) Describe aetiopathogenesis and morphological features of Infective endocarditis.
- 9) Hydatidiform Mole
- 10) Immune thrombocytopenic purpura



RAN - 2106000102010101

RAN-2106000102010101

S. Y. M.B.B.S. Examination March - 2023

Pathology : Paper - I

SET - II

Time: 3 Hours]

[Total Marks: 100

सूचना : / Instructions

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Fill up strictly the details of signs on your answer book

Name of the Examination:

S. Y. M.B.B.S.

Name of the Subject :

Pathology : Paper - I SET - II

Subject Code No.: 2106000102010101

Seat No.:

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- (2) Each question carries one mark.
(3) Encircle ○ the correct answer.

Time: 20 Minutes]

[Total Marks: 20

Section - I

Q:1 Multiple choice questions (*no negative markings) (20)

- Line of Zahn occurs in .
 - Post-mortem clot
 - Infarct
 - Embolus
 - Coraline thrombus
- The concept of clino-pathological correlation (CPC) by study of morbid anatomy was introduced by
 - Hippocrates
 - John hunter
 - Morgagni
 - Virchow
- Histologic sections of a lung tissue from 70-year-old woman Meena with congestive heart failure and progressive breathing problems reveal numerous hemosiderin laden cells within alveoli. Which of the following is the cell of origin of these "heart failure cells"?
 - Endothelial cells
 - Pneumocyte
 - Lymphocyte
 - Macrophage

RAN-2106000102010101]

[1]

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P1599

4. Blood component products are all, except
 - a) Whole blood
 - b) Platelet
 - c) Fresh frozen plasma
 - d) Leukocyte reduced RBC

5. Most common site for lymphoma in AIDS patient is
 - a) CNS lesions
 - b) Thymus
 - c) Spleen
 - d) Abdomen

6. Tumor suppressor genes are all, except
 - a) APC
 - b) Rb
 - c) P53
 - d) C-myc

7. Which one of the following crystals is found in acidic urine?
 - a) Triple phosphate
 - b) Calcium carbonate
 - c) Calcium oxalate
 - d) Ammonium biurate

8. Marker for ovarian carcinoma in serum is:
 - a) CA-125
 - b) Fibronectin
 - c) Acid phosphatase
 - d) PSA

9. Workers exposed to polyvinyl chloride may develop following liver malignancy:
 - a) Cholangiocarcinoma
 - b) Fibrolamellar carcinoma
 - c) Angiosarcoma
 - d) All the above

10. Father has a Blood group B; mother has AB; children are not likely to have the following blood group
 - a) B
 - b) O
 - c) AB
 - d) A

11. Which of the following is not a granulomatous disease
 - a) Leprosy
 - b) Sarcoidosis
 - c) Tuberculosis
 - d) Amebiasis

12. Both hyperplasia and hypertrophy are seen in?
 - a) Breast enlargement during lactation
 - b) Uterus during pregnancy
 - c) Skeletal muscle enlargement during exercise
 - d) Left ventricular hypertrophy during heart failure

13. The following is Anti apoptotic gene
- a) Bax
 - b) Bad
 - c) Bcl-X
 - d) Bim
14. Which chemical mediator is an arachidonic acid metabolite produced by cyclo-oxygenase pathway?
- a) LXA4
 - b) 5 HETE
 - c) LXB4
 - d) PGH2
15. Anti-ds DNA antibodies are commonly seen in
- a) Systemic Lupus Erythematosus
 - b) Scleroderma
 - c) Dermatomyositis
 - d) Rheumatoid Arthritis
16. Karyotyping is done for
- a) Chromosomal disorder
 - b) Autosomal recessive disorder
 - c) Autosomal dominant disorder
 - d) Linkage disorder
17. HLA is located on
- a) Long arm of chromosome 6
 - b) Long arm of chromosome 3
 - c) Short arm of chromosome 6
 - d) Short arm of chromosome 3
18. Match the column and identify the correct answer
- | | |
|-------------------------|-------------|
| a) PAS Stain | 1) Glycogen |
| b) Oil Red O Stain | 2) Fat |
| c) Congo Red Stain | 3) Amyloid |
| d) Fontana Masson Stain | 4) Melanin |
- a) a-2/b-3/c-1/d-4 c) a-1/b-3/c-2/d-4
b) a-3/b-1/c-4/d-2 d) a-1/b-2/c-3/d-4

19. A man after consuming seafood develops rashes. It is due to
- | | |
|--------------------------|---------------------------|
| a) IgE mediated response | c) Cell mediated response |
| b) Complement activation | d) None of the above |
20. Oedema in nephrotic syndrome occur due to
- | | |
|--|------------------------------|
| a) Na ⁺ and water restriction | c) Increased venous pressure |
| b) Decreased serum albumin | d) Decreased fibrinogen |

Time: 2 Hours 40 Minutes]

[Total Marks: 80

Section- II (40 Marks)

Q. 2. Case based long essay questions. [13 × 1 = 13]

A 19-year-old female presented with a one month history of productive cough, chest pain, evening rise fever, anorexia, and weight loss. On examination: Cervical lymph node enlargement, multiple, matted, firm in consistency.

X- Ray Chest showed patchy areas of consolidation in the right lung.

- | | |
|---|----------------|
| 1) What is your diagnosis based on the above clinical finding? | 2 Marks |
| 2) Describe pathogenesis of the given condition. | 4 Marks |
| 3) Describe microscopic finding and draw a labelled diagram. | 4 Marks |
| 4) Write the difference between acute and chronic inflammation. | 3 Marks |

Q. 3. Long essay questions. (Attempt any three) [9 × 3 = 27]

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|--|------------------|
| 1) Define Necrosis, describe any two types of Necrosis. Enlist difference between Necrosis and Apoptosis. | 1 + 5 + 3 |
| 2) Define Thrombosis. Describe pathophysiology of Thrombosis. Write the clinical effects of Thrombi. | 1 + 6 + 2 |
| 3) Define Neoplasia. Describe various routes of spread of tumor with its mechanism. Enumerate effect of tumor on host. | 1 + 5 + 3 |
| 4) Describe structure of HIV virus. Write pathogenesis of HIV infection and AIDS. | 3 + 6 |

Section- III (40 Marks)

Q. 4. Short notes (Attempt Any 8)

[8 × 5 = 40]

- 1) Enumerate criteria for blood donor selection and describe various transfusion transmitted disease
 - 2) Type -2 Hypersensitivity reaction
 - 3) Klinefelter syndrome
 - 4) Fine needle aspiration cytology
 - 5) Phagocytosis
 - 6) Gangrene
 - 7) Difference between healing by primary intention and secondary intention of Wound.
 - 8) Chronic venous congestion of Lung
 - 9) What is urinary cast? Mention various types of casts and their significance
 - 10) Chemical carcinogenesis
-