Q.P. Code: MBN201

M.B.B.S. 2nd Prof.

(New Scheme w.e.f. 2019 admission onwards)

BF/2024/02

Pathology – A

M.M. : 100 Time : 3 Hours(First 30 Min. for MCQs)

Note: 1. **Use OMR Sheet to answer Multiple Choice Questions(MCQs).**
2. Attempt all questions. Illustrate your answers with suitable diagrams
3. **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/PROVIDED**
4. ***The student must write Q.P. Code in the space provided on OMR Sheet and the Title page of the Answer Book.***

Q.1 **MCQs** (Attempt on OMR sheet) [1x20]

1. A 10-year-old male came with a 4-day history of bloody diarrhea. On admission, significant laboratory findings: Hb 10.5 g/dL, platelets 45 x 10^9 /L, BUN 43 mg/dL, creatinine 2.46 mg/dL, and lactate dehydrogenase of 5455 U/L, PT/aPTT- Normal. Schistocytes are present in peripheral blood smear. Which of the following is the most probable diagnosis?
   a. Disseminated intravascuLar coagulation b. Hemolytic uremic syndrome
   c. Wiscott Aldrich syndrome d. Thrombotic thrombocytopenic purpura
2. A 25-year-old man is given anti-malarial prophylaxis for a trip to Africa. Over the next few weeks, he developed increasing fatigue. On physical examination, he is afebrile, and there are no remarkable findings. CBC shows a mild normocytic anemia, but the peripheral blood smear shows scattered "bite cells" in the population of RBCs. Which of the following is the patient affected with?
   a. Hereditary spherocytosis b. Hexokinase deficiency
   c. Glucose 6 phosphate deficiency d. Autoimmune hemolytic anemia
3. Wrinkled tissue paper" cytoplasmic appearance of cells is characteristic of
   a. Von Gierke Disease b. Niemann Pick Disease
   c. Gaucher Disease d. Tay Sach Disease
4. A 38-year-old woman complaints of fatigue for the past 6 months. She had noted purple purpuric areas on her skin. There was no hepatosplenomegaly or lymphadenopathy on examination. Laboratory investigations showed hemoglobin of 7.2 g/dL, hematocrit of 21.7%, platelet count of 23 x 10^9 /L, WBC count of 1.31x 10^9/L. Bone marrow is hypocellular with increased iron stores. Which of the following is the diagnosis?
   a. Aplastic Anemia b. Storage disorder
   c. Myelodysplastic syndrome d. Megaloblastic anemia
5. A 28-year-old woman has had a constant feeling of lethargy since childhood. On physical examination, she is afebrile, and the spleen tip is palpable, but there is no abdominal pain or tenderness. Laboratory studies show hemoglobin of 11.7 g/dL, platelet count of 159x10^9 /L, and WBC count of 5.39 x10^9 /L. The peripheral blood smear shows small round erythrocytes that lack a zone of central pallor. Which of the following is the most likely diagnosis?
   a. Glucose 6 phosphate deficiency b. Hemolytic uremic syndrome
   c. Autoimmune hemolytic anemia d. Hereditary spherocytosis

6. A 65-year-old female presents with burning and pain in the hands accompanied by erythema. She has constant headaches and dizziness. Physical examination shows splenomegaly. Laboratory studies show Hb 21.7 g/dL; Hct 65%; platelet count 450x10^9 /L/; and WBC count 8 x 10^9 /L. Which of the following is the immediate treatment for this?
   a. Iron therapy b. Phlebotomy
   c. Vitamin B12 d. Folic acid supplementation

7. A 16-year-old boy notices passage of dark urine. He has a history of multiple bacterial infections and venous thromboses for the past 10 years, including cerebral vein thrombosis in the previous year. On physical examination, his right leg is swollen and tender. CBC shows Hb 9.8 g/dL; Hct 29.9%; MCV 92 fl; platelet count 150 x l06^6/L; and WBC count 3.8 x l0^6/L. He has reticulocytosis, and his serum haptoglobin level is very low. Which of the following is the diagnosis?
   a. Autoimmune haemolytic anemia
   b. Iron deficiency anemia
   c. Alkaptanuria
   d. Paroxysmal nocturnal hemoglobinuria
8. LMP-l gene plays a role in oncogenesis induced by
   a. Human T cell leukemia virus type
   b. Hepatitis B
   c. Epstein Barr virus
   d. Human papilloma virus
9. Apoptotic bodies can be recognized with the presence of these on the surface
   a. phosphatidyl tyrosine
   b. phosphatidylinositol
   c. phosphatidylcholine
   d. phosphatidylserine
10. A 35-year-old, woman with history of menorrhagia started experiencing fatigue on exertion and palpitations for the past 9 months. On physical examination, there are no remarkable findings. Laboratory studies show Hb of 8.7 g/dL, Hct of 30.8%, MCV of 70fl, platelet count of 315 x 10^9 /L, and WBC count of 8.5 x 10 ^{9}/L . Which of the following is the most sensitive and cost-effective test that the physician should order to help determine the cause of these findings?
   a. Serum ferritin studies
   b. Bone marrow examination
   c. Serum iron studies
   d. Molecular studies
11. In cases of renal failure on long-term haemodialysis, there is development of following type of amyloid:
   a. Amyloid light chain
   b. Amyloid-associated protein
   c. Amyloid beta 2 microglobulin
   d. Beta amyloid protein
12. A 37-year-old woman diagnosed case of Crohn's disease was not responding to medical therapy, and part of the colon and terminal ileum were removed. After nearly a year she complains of easy fatigability. The CBC findings show Hb of 10.6 g/dL, RBC count of 2.69 xl0^{12}/L, MCV of 118 fl, platelet count of 378 x 10^9 /L, and WBC count of 98 x 10^9 /L. The reticulocyte count is 0.3%. Which of the following conditions produces these hematologic findings?
   a. Iron deficiency anemia
   b. Megaloblastic anemia
   c. Sideroblastic anemia
   d. Anemia of chronic disease
13. A 12-year-old boy has had worsening problems with joint mobility involving his ankles and legs, particularly his knees and ankles, for the past 6 years. He has been receiving therapy for this condition. His elder brother had a similar condition and died at age 25 years. On physical examination, he has no visible petechiae or areas of purpura. Laboratory studies show that prothrombin time is normal, and partial thromboplastin time is prolonged. His platelet function studies are normal. Which of the following factor deficiency is the most possible cause?
   a. Factor VII
   b. Factor VIII
   c. Tissue factor
   c. Factor XIII
14. A 36-year-old woman has a cough and fever for 1 week. On physical examination, her temperature is 38.3°C and revealed splenomegaly 3 cm below LCM. She has diffuse crackles in all lung fields. A chest radiograph shows bilateral extensive infiltrates. CBC shows Hb 13.9 gl dL; Hct 42%; MCV 89 fl; platelet count 210 x l0^{9}L; and WBC count 56 x l0^9/L with myeloid left shift including 1% blasts, 6% Eosinophils, and 4% basophils. LAP score is low. What is the most common mutation seen in this condition?
   a. CALR
   b. JAK2
   c. BCR-ABL
   d. MPL
15. A 4-year-old boy has appeared listless during the past week. He exhibits irritability when his arms or legs are touched. In the past 2 days, large ecchymoses have appeared on the right thigh and left shoulder. CBC shows Hb 9.3 g/dL; Hct 28.7%; MCV 96 fl; platelet count 45 xl0 ^{9} /L; and WBC count 13.9 x10^9/L. The peripheral blood smear shows blasts that have PAS positive aggregates. Flow cytometry shows the phenotype of blasts to be CDI9+, TdT-, CD3-, and slg+. Which of the following is the most likely diagnosis?
   a. Acute myeloid leukemia
   b. Acute lymphoblastic lymphoma
   c. Chronic myeloid leukemia
   d. Chronic lymphocytic leukemia

16. Grading of cancer is based on which of the following statements:
    a. Size of the primary tumor.
    b. Spread of cancer cells to regional lymph nodes.
    c. Presence of blood born metastasis.
    d. Degree of differentiation of tumor cells, anaplasia and number of mitosis

17. A l0 year-old boy has bad increasing abdominal distention and pain for the past 3 days. Abdominal CT scan shows a 7-cm mass involving the ileocecal valve. Resected mass microscopically shows sheets of intermediate-sized lymphoid cells, with nuclei having coarse chromatin, several nucleoli, and many mitotic figures. Cytogenetic analysis shows a t(8;14) karyotype. Flow cytometric analysis reveals 40% of the cells in S phase. The tumor shrinks dramatically after a course of chemotherapy. What is the translocation seen in this condition?
    a. Burkitt's Lymphoma
    b. Acute lymphoblastic lymphoma
    c. Chronic myeloid leukemia
    d. Chronic lymphocytic leukemia

18. Tumor lyses syndrome (TLS) is characterized by all except
    a. Hyperuricemia
    b. Hypercalcaemia
    c. Hyperkalemia
    d. Hyperphosphatemia

19. Which of the following pair does not correctly match the tumor with its causative agent:
    a. Anogenital carcinoma - HPV (Type 16 & 18).
    b. Burkitts lymphoma - EBV.
    c. Hepatocellular carcinoma - Hepatitis A virus.
    d. Carcinoma stomach - Helicobacter pylori

20. All of the following mutations are associated with familial hypercholesterolemia except?
    a. Mutations in HMG-CoA reductase
    b. Mutations in LDLR gene
    c. Mutations in gene encoding ApoB
    d. Activating mutations in PCSK9 gene

Q2. A 28 year old female presents with history of intermittent fever, cough and generalised weakness for past 3 months. She complains of night sweats, loss of appetite and weight loss to the tune of 8kg over the last 3 months. General physical examination revealed pallor and matted cervical lymphadenopathy. Per abdomen Examination shows cervical lymphadenopathy and hepatosplenomegaly. Xray shows fibrocavitary lesion in right lung USG Abdomen reveals multiple enlarged lymph nodes in peripancreatic, para-aortic and peri caval location along with well defined 2.5x2.5cm mass in right iliac fossa. [1+3+2+4+2]

    a. What is the possible diagnosis?
    b. Describe the histopathological findings in the organs involved
    c. What additional laboratory tests should be done to confirm the diagnosis?
    d. Discuss the pathogenesis of the underlying disease.
    e. What are the possible complications?

Q. 3 **Write short notes on:** [5x4]

    a. Tumour suppressor genes
    b. Chemical mediators of inflammation
    c. Classification of amyloidosis
    d. Laboratory diagnosis of megaloblastic anemia

Q.4 **Explain why**: [3x5]

    a. Pathogenesis of anemia in chronic diseases
    b. Occurence of haemolytic facies in haemolytic anemias
    c. Occurence of hypercalcemia in squamous cell carcinoma of lung
    d. Explain pathogenesis of metaplasia
    e. Explain the pathogenesis of autosplenectomy in sickle cell anemia

Q.5 **Write short notes on(applied aspects)**: [6x3]

    a. Pathogenesis of septic shock
    b. Approach to the diagnosis of acute leukemias
    c. Tumour immunity

Q.6 **Write short answer:** [5x3]

    a Disseminated intravascular coagulation
    b. Pathogenesis of systemic Lupus erythematosus(SLE)
    c. Pilars of Bioethics

Total No. = 03 pages

Q.P. Code: MBN202

M.B.B.S. 2nd Prof.

(New Scheme w.e.f. 2019 admission onwards)

BF/2024/02

Pathology – B

M.M. : 100 Time : 3 Hours(First 30 Min. for MCQs)

Note: 1. **Use OMR Sheet to answer Multiple Choice Questions(MCQs).**
2. Attempt all questions. Illustrate your answers with suitable diagrams
3. **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/PROVIDED**
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Q.1 **MCQs** (Attempt on OMR sheet) [1x20]

1. Macrophages containing bacteria are seen in:
   a. Tropical sprue b. Whipple disease
   c. Celiac disease d. Amoebiasis

2. In Barret's oesophagus there is:
   a. Hyperplasia of epithelium b. Dysplasia
   c. Metaplasia of squamous epithelium d. Adenocarcinoma

3. Leather bottle appearance seen in which type of macroscopic appearance in carcinoma stomach?
   a. Ulcerative type b. Fungating type
   c. Diffuse infiltrating type d. Polypoidal type

4. Aschoffs nodule is the characteristic feature of:
   a. Rheumatic heart disease b. Libman-sack endocarditis
   c. Infective endocarditis d. Non bacterial thrombotic endocarditis

5. Isolated right heart failure is seen in:
   a. Aortic stenosis b. Mitral stenosis
   c. Pulmonary hypertension d. Anemia

6. Ghon focus is seen in:
   a. Progressive tuberculosis b. Primary tuberculosis
   c. Miliary tuberculosis d. Secondary tuberculosis

7. Which of the following is late complication of myocardial infarction?
   a. Ventricular septal rupture b. Ventricular aneurysm
   c. Arrythmias d. Pericarditis

8. Michaelis-Gutman bodies are seen in:
   a. Alcoholic cirrhosis b. Malakoplakia
   c. Sarcoidosis d. Asbestosis

9. Pulmonary surfactant is secreted by:
   a. Bronchiolar epithelium
   b. Type I pneumocytes
   c. Clara cells
   d. Type II pneumocytes

10. What is characteristic of Non- atopic asthma?
   a. Disease begins in childhood
   b. Respiratory viral infections are common trigger
   c. Skin test gives positive wheal and flare test
   d. Type IV hypersensitivity mediated

11. Nephrocalcinosis is seen in:
   a. Amyloidosis kidney
   b. Hyperparathyroidism
   c. Diabetes mellitus
   d. Lupus nephritis

12. Crescents formation in kidney diseases is due to:
   a. Proliferation of epithelial cells
   b. Proliferation of endothelial cells
   c. Proliferation of mesangial cells
   d. Proliferation of both epithelial and endothelial cells

13. Marker of hepatitis B carrier state is:
   a. HBc Ag
   b. HBs Ag
   c. HBe Ag
   d. IgM anti HBc

14. Flask shaped ulcers in intestine are associated with:
   a. Crohn's disease
   b. Ulcerative colitis
   c. Amebic colitis
   d. TB Intestine

15. Mallory hyaline body seen in all except:
   a. Alcoholic liver disease
   b. Wilson's disease
   c. Indian childhood cirrhosis
   d. Hepatitis C

16. Kernicterus development is seen in which of the following hereditary hyperbilirubinemia?
   a. Criggler-Najjar syndrome type 1
   b. Dubin Johnson syndrome
   c. Gilbert syndrome
   d. Rotor syndrome

17. Schillar-duval bodies are seen in:
   a. Yolk sac tumor
   b. Granulosa cell tumour
   c. Sertoli-Leydig cell tumour
   d. Thecoma

18. Hypoglycemia is characteristic finding in:
   a. Insulinoma
   b. Gastrinoma
   c. Glucagonoma
   d. VIPoma

19. Osteoblastic bony meta stasis seen in
   a. Renal cell carcinoma
   b. Prostatic carcinoma
   c. Thyroid cancer
   d. Breast carcinoma

20. Which of the following is an epiphyseal tumour?
   a. Osteosarcoma
   b. Chondrosarcoma
   c. Chondroblastoma
   d. Ewing's sarcoma

Q2. A 60 year male (chronic smoker) presented with slowly increasing severe exertional dyspnea. On examination, he was barrel-chested, sitting forward in hunched over position and breathing through pursed lips. X-ray chest revealed hyperinflation. [2+5+5]

a. What is your probable diagnosis?
b. Describe pathogenesis of this case.
c. Discus major types with appropriate diagrams.

Q3. **Write short notes on:-** [5x4]

a. Chronic pyelonephritis
b. Prognostic factors of carcinoma breast
c. Morphological changes in Osteosarcoma
d. Discuss legal ethical and social aspect of 'Do not resuscitate'

Q4. **Explain the following:-** [3x5]

a. Low fiber diet is associated with increased risk of colon cancer.
b. Abdominal aortic aneurysm are common in smokers.
c. HbAlc estimation is used for long-term glycemic control in diabetic individuals.
d. CSF examination is useful in determining type of meningitis.
e. Pathogenesis of cirrhosis in alcoholic liver diseases.

Q5. **Write short answers (applied aspect)** [6x3]

a. Approach to a patient presenting with swelling midline neck moving with deglutition.
b. Lab diagnosis of myocardial infarction
c. Urine finding in chronic renal failure.

Q6. **Write short answers on :-** [5x3]

a. Benign prostatic hyperplasia.
b. Krukenberg tumor.
c Celiac disease.

Total No. = 03 pages

Q.P. Code: MBN203

M.B.B.S. 2nd Prof.

(New Scheme w.e.f. 2019 admission onwards)

BF/2024/03

Pharmacology – A

M.M. : 100 Time : 3 Hours(First30 Min. for MCQs)

Note: 1. **Use OMR Sheet to answer Multiple Choice Questions(MCQs).**

2. Attempt all questions. Illustrate your answers with suitable diagrams
3. **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/PROVIDED**
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Q.1 **MCQs** (Attempt on OMR sheet) [1x20]

1. A 60-year-old lady presents in eye OPD with chief complaints of headache, eye ache of mild intensity, difficulty in reading and close work. There was complaint of frequent change of presbyopic glasses. IOP was found to be 35 mm ofHg. Which is the best treatment for this patient?
   a. Travoprost b. Misoprostol
   c. Dinoprostone d. Gemeprost

2. Which of the following is true about effects of a-blocker?
   a. Leads to hypertension. b. Causes mydriasis.
   c. Increases tone of bladder trigone. d. Inhibits ejaculation in males.

3. Which of the following drugs is a cholinergic drug?
   a. Pilocarpine b. Pimozide
   c. Phenylephrine d. Pirenzepine

4. Which of the following is true for tricyclic antidepressants?
   a. Show cholinergic side effects. b. Can lead to postural hypotension.
   c. Action starts as soon as therapy is started. d. Have small volume of distribution.

5. Which of the following is true for morphine?
   a. Can be safely given in bronchial asthma patients.
   b. Decreases intracranial tension in head injury patients.
   c. Used for treatment of constipation.
   d. Can lead to hypotension in some patients.

6. A patient received Halothane and developed increased body temperature and muscle rigidity. Administration of which of the following drugs can increase the risk of present condition?
   a. Dantrolene b. D- Tubocurarine
   c. Succinylcholine d. Atropine

7. Which of the following formulae is used for calculation of loading dose?
   a. Plasma concentration x Bioavailability
   b. Volume of distribution x Target Plasma Concentration
   c. Clearance x Target Plasma Concentration
   d. Dose of drug administered / Plasma Concentration

8. High plasma protein binding of a drug results in-
   a. Decreased glomerular filtration.
   b. High volume of distribution.
   c. Lowers duration of action.
   d. Less drug interaction.

9. Which of the following action is true regarding Aspirin?
   a. It is drug of choice as antipyretic in: children having viral fever.
   b. It enhances tubular secretion of uric acid at analgesic dose.
   c. It can prolong the labour, if given near term to the patient
   d. It produces anti thrombotic action at high dose of 3 to 5 gram/day.

10. Pralidoxime is contraindicated in poisoning caused by:
   a. Carbaryl
   b. Malathion
   c. Dyflos
   d. Diazinon

11. Which of the following Opioids should be avoided to a patient with myocardial infarction to manage the pain?
   a. Morphine
   b. Buprenorphine
   c. Pentazocine
   d. Methadone

12. An 18-year-old young girl who is being treated for epilepsy for a year, presented in dental OPD with massive overgrowth of gingival tissue and some of her teeth are covered with hyper plastic tissue. Which of the following drugs could be responsible for this problem?
   a. Carbamazepine
   b. Lamotrigine
   c. Sodium valproate
   d. Phenytoin

13. Which of the following drugs is used to treat Absence seizures?
   a. Phenytoin
   b. Phenobarbitone
   c. Carbamazepine
   d. Sodium Valproate

14. Which of the following is the action ofBenzodiazepines?
   a. Deprivation of sleep
   b. Increasing Muscle tone
   c. Raising seizure threshold
   d. Increasing gastric secretion

15. Which of the following is true for Selegiline?
   a. It is nonselective MAO inhibitor.
   b. It can lead to hypertensive interactions with Levodopa.
   c. It is safe in patients with convulsive disorders.
   d. Its amphetamine metabolite is responsible for marked sedation.

16. True statement regarding zero order kinetics is:
   a. A constant amount of drug is eliminated in unit time.
   b. A constant fraction of drug is eliminated in unit time.
   c. Clearance remains constant.
   d. Rate of elimination depends on plasma concentration.

17. Which of the following is long acting Beta-2 agonist?
   a. Formoterol
   b. Salbutamol
   c. Isoprenaline
   d. Ephedrine

18. A 12-year-old child presented in emergency department with high grade fever, difficulty in speaking, blurred vision, and rash all over the body. On examination he was found to have dilated pupil, decreased bowel sounds, low BP, weak and rapid pulse. On history taking it was revealed by family members that he had eaten raw fruits of Datura plant. What is the antidote for this condition?
   a. Physostigmine
   b. Neostigmine
   c. Pyridostigmine
   d. Methacholine

19. A 55-year female patient under Halothane developed bradycardia while undergoing surgery (40 beats/ min). What should be given to treat this?

a. Injection Atropine
b. Injection Neostigmine
c. Intravenous Propofol
d. Intravenous Thiopental Sodium

20. Which of the following is used as analgesic in diabetic neuropathy?

a. Buprenorphine
b. Aspirin
c. Pregabalin
d. Tramadol

Q2. A 65 years old male patient comes to OPD with complaints of tremors, difficult in walking, memory loss and excessive salivation. He has been diagnosed to be a case of Parkinsonism. He was prescribed levo dopa with carbidopa and his symptoms improved to some extent. Answer following questions about this disease and drugs used: [4+5+3]

a. Classify drugs used for Parkinsonism
b. Mechanism of action and side effects of drugs used for Parkinsonism
c. Rationale of combined carbidopa with levo dopa

Q.3. **Write in brief about:** [5x4]

a. Newerdrug delivery systems with examples
b. Therapeutic uses and adverse effects of beta blockers
c. What are the phases of clinical trials? Explain about phase 3 of clinical trial.
d. Non depolaring Nm blockers

Q.4. **Explain why:-** [3x5]

a. Pralidoxime is used for the management of OPC poisoning but not in case of carbamate poisoning
b. Need of pharmacovigilance in health professional
c. Beta blockers should be given after alpha blockers in treatment of Pheochromocytoma?
d. Role of topical nasal decongestants
e. Succinylcholine produces prolonged apnea in some patients?

Q.5. **Discuss briefly:** [6x3]

a. Drugs used in chronic gout and their basis of use
b. Treatment of acute exacerbation of asthma
c. Drugs used for prophylaxis and treatment of migraine

Q.6. **Write short notes:-** [5x3]

a. Microsomal enzyme induction and its significance
b. Concept and criteria for selection of essential medicines
c. Autonomy

Total No. = 03 pages

Q.P. Code: MBN204

M.B.B.S. 2nd Prof.

(New Scheme w.e.f. 2019 admission onwards)

BF/2024/03

Pharmacology – B

M.M. : 100 Time : 3 Hours(First30 Min. for MCQs)

Note: 1. **Use OMR Sheet to answer Multiple Choice Questions(MCQs).**

2. Attempt all questions. Illustrate your answers with suitable diagrams
3. **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/PROVIDED**
4. ***The student must write Q.P. Code in the space provided on OMR Sheet and the Title page of the Answer Book.***

Q.1 **MCQs** (Attempt on OMR sheet) [1x20]

1. Vasopressor of choice in pregnancy is?
   a. Ephedrine b. Phenylephrine
   c. Methoxamine d. Mephentermine

2. A patient in shock comes to you in trauma ward. You examine him and decide not to give him vasoconstrictors. Which type of shock patient is having?
   a. Neurogenic shock b. Hemorrhagic shock
   c. Secondary shock d. Hypotension due to spinal anaesthesia

3. All are true about starting beta-blocker therapy in patient with congestive heart failure except?
   a. They should be started with optimum doses. b. They should gradually increase over the weeks.
   c. Special precautions should be taken in cases of NYHA class 3 and 4.
   d. Carvedilol and Metoprolol are the preferred drugs.

4. A 56 year old patient with essential hypertension on ACE inhibitors for 6 months developed chronic refractory dry cough. What would be the correct action to be taken?
   a. Reduce the dose of ACE inhibitors. b. Add Anti-tussive.
   c. Change to Angiotensin receptor blocker. d. Order for a CT scan of chest.

5. Which of the following antihypertensive drug is avoided in patients with high serum uric acid levels?
   a. Hydrochlorthiazide b. Atenolo
   c. Prazosin d. Enalapril

6. A 30 year old female presented to the hospital with infertility. After thorough examination and relevant investigations, she was prescribed bromocriptine by the gynecologist. Most likely reason of her infertility is.
   a. Hypogonadotroplc hypogonadism b. Premature ovarian failure
   c. Hyperprolactinemia d. Polycystic ovarian disease

7. All of the following drugs are used in treatment of osteoporosis except?
   a. Milnacipran b. Teriparatide
   c. Strontium renelate d. Denosumab

8. Ulipristal is a relatively new drug being used by gynecologists. It acts as a?
   a. GnRH agonist b. Androgen antagonist
   c. Selective estrogen receptor modulator d. Selective progesterone receptor modulator

9. Which of the following drugs is used for the treatment of syndrome of inappropriate secretion of ADH (SIADH)?
a. Tolvaptan
b. Desmopressin
c. vW factor
d. Terlipressin

10. Insulin having the longest duration of action is?
a. Isophane insulin
b. Insulin glargine
c. Insulin-zinc suspension
d. Insulin degludec

11. All the following drugs increases bleeding when given to a patient on warfarin EXCEPT?
a. Isoniazid
b. Amiodarone
c. Carbamazepine
d. Cimetidine

12. A 36 week pregnant female was taking warfarin for prosthetic heart valves and has INR value of 3. Next step in the management is?
a. Stop warfarin and start heparin.
b. Stop warfarin and start heparin plus aspirin.
c. Continue warfarin and add heparin.
d. Switch to aspirin.

13. A 30-year-old female visits her primary care physician with symptoms of fatigue and generalized weakness. Blood tests reveal that she has iron-deficiency anemia. The physician prescribes oral iron supplements and counsels her on appropriate dosing and treatment duration. For oral iron supplements used for iron deficiency anaemia, which of the following statements is correct?
a. Tolerable dose will deliver 40 to 60 mg of iron per day.
b. Mass oftotal salt is important in determining daily dose.
c. Treatment should be stopped as soon as normal haemoglobin level is reached.
d. Desired rate of haemoglobin improvement is 0.5 g/dl, per day.

14. Which of the following is the drug of choice for the treatment of chemotherapy-induced vomiting?
a. Granisetron
b. Prazosin
c. Clonidine
d. Dimenhydrinate

15. Drug implicated in prolonging QT interval is?
a. Domperidone
b. Metoclopramide
c. Cisapride
d.Omeprazole

16. Identify the INCORRECT statement regarding proton pump inhibitors?
a. Available as enteric coated tablets.
b. Acts from the luminal side of gastric parietal cells.
c. Inactive at neutral pH.
d. Should be taken on empty stomach.

17. A patient of peptic ulcer was prescribed ranitidine and sucralfate in the morning hours. Why is this combination incorrect?
a. Ranitidine combines with sucralfate and prevents its action.
b. Combination of these two drugs produces serious side effects like agranulocytosis.
c. Ranitidine increases the gastric pH so sucralfate is not able to act.
d. Sucralfate inhibits the absorption of ranitidine.

18. Antibiotic used for ESBL [Extended spectrum β lactamase] producing Klebsiella infection is?
a. Spectinomycin
b. Carbapenem
c. Aztreonam
d. Streptomycin

19. A child was admitted to the hospital with H. Influenzae meningitis. Cefotaxime is preferred over ampicillin because?'
a. Cefotaxime has more oral bioavailability.
b. Cefotaxime is more active against H influenza having altered penicillin binding proteins.
c. Cefotaxime is cidal drug whereas ampicillin is bacteriostatic.
d. Cefotaxime is more active against beta-Lactamase producing strains.

20. Which of the following antimalarial drug has gametocidal action against all species of Plasmodia?
a. Quinine
b. Chloroquine
c. Primaquine
d. Artesunate

Q. 2. Classify oral hypoglycemic drugs based upon mechanism of action. Describe mechanism, uses, side effects and contraindications of Metformin. [3+3+2+2+2]

Q. 3. **Write short notes on:-** [5x4)
a. Oral Anticoagulants
b. Thromboxane A2 Inhibitors
c. Proton Pump Inhibitors
d. High ceiling Diuretics.

Q. 4. **Explain why:-** [3x5]

a. In Pernicious anemia Vit. B12 is administered by SC or IM route.
b. Combination of Nitrates with Calcium Channel Blockers is used in prophylaxis of Angina.
c. Principles of bioethics as a guiding principle in patient care
d. ACT regimen is rational for treatment of P. Falciparum infection.
e. Calcium disodium edetate ($Ca\ Na_2$ EDTA) is drug of choice in Lead poisoning.

Q.5. **Short notes on(applied aspect):-** [6x3]
a. HAAT regimen in treatment of AIDS
b. Multidrug resistant tuberculosis treatment
c. Treatment of tape worm infestation

Q.6. **Discuss the rationality of pharmacotherpaeutic agents used in the treatment of following conditions:** [5x3]
a. Urinary tract infection
b. Stage 2 hypertension
c. Hormone replacement therapy

Total No. = 03 pages

Q.P. Code: MBN205

M.B.B.S. 2nd Prof.

(New Scheme w.e.f. 2019 admission onwards)

BF/2024/03

Microbiology – A

M.M. : 100 Time : 3 Hours(First 30 Min. for MCQs)

Note: 1. **Use OMR Sheet to answer Multiple Choice Questions(MCQs).**

2. Attempt all questions. Illustrate your answers with suitable diagrams
3. **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/PROVIDED**
4. ***The student must write Q.P. Code in the space provided on OMR Sheet and the Title page of the Answer Book.***

Q.1 **MCQs** (Attempt on OMR sheet) [1x20]

1. Largest Protozoan is :-
   a. E. histolytica b. E.coli
   c. B. coli d. P. vivax

2. All are dimorphic fungi except :-
   a. Histoplasma capsulatum b. Aspergillus niger
   c. Pencillium marneffi d. Coccidioides immitis

3. Which Immunoglobulin is present in secretions:-
   a. IgG b. IgM
   c. IgA d. IgE

4. Following is an example of Enriched medium:-
   a. Blood agar b. MacConkey agar
   c. Alkaline Peptone water d. Nutrient agar

5. Definitive host in Echinococcus granulosis is :-
   a. Human b. Sheep
   c. Dog d. Cattle

6. Cholera toxin acts by :-
   a. Damage of mucus membrane b. Increase in cyclic AMP
   c. Inactivate aminoacyl-tRNA binding d. None of the above

7. The best agent for destroying spores of clostridia is
   a. 5% phenol b. 1% iodine
   c. 1 ppm chlorine d. 2% glutaraldehyde

8. Lactose fermenting colonies can be seen in all except :-
   a. E.coli b. Klebsiellaspp
   c. Enterobacterspp d. Proteus spp

9. Tissue transferred between two genetically identical twins is knownas :-
   a. Autografts b. Isografts
   c. Allografts d. Xenografts

10. Anaphylaxis is which type of Hypersensitivity reaction :-
    a. Type I
    b. Type II
    c. Type III
    d. Type IV

11. Motility in spirochaetes is by
    a. Flagella
    b. Pili
    c. Fimbriae
    d. Endoflagella

12. Albert stain is done to visualize :-
    a. Acid fastness
    b. Bacterial spores
    c. Metachromatic granules
    d. Capsule

13. Which antibody levels rise in allergic conditions :-
    a. IgG
    b. IgM
    c. IgE
    d. IgA

14. Negri bodies are found in which disease:-
    a. Herpes
    b. Chickenpox
    c. Rubella
    d. Rabies

15. All are Autoimmune disorders except :-
    a. Graves Disease
    b. Addison disease
    c. Myasthenia gravis
    d. Diabetes insipidus

16. Widal test is a type of :-
    a. Tube agglutination test
    b. Tube flocculation test
    c. Precipitation test
    d. None ofthe above

17. Most common organism causing UTI is :-
    a. E.coli
    b. Klebsiellaspp
    c. Pseudomonas spp
    d. Proteus spp

18. Thiosulfate Citrate Bile salt Sucrose (TCBS) medium is a
    a. Selective medium
    b. Differential medium
    c. Enrichment medium
    d. Indicator medium

19. Sharp objects are disposed off in which colored bag :-
    a. Red Bag
    b. Yellow bag
    c. Blue Bag
    d. White bag

20. Healthcare associated infections can be all except :-
    a. CAUTI
    b. CLABSI
    c. SSI
    d. STDs

Q2. A 62 year female patient admitted to ICU since last 1 week with history of fever, malaise and blood in stool. [4+4+4]

a. Name organisms causing dysentery.
b. Write sample collection and transport in dysentery.
c. How will you process the sample for microbiological analysis?

Q.3. **Write short notes on:-** [5x4]

a. Sterilization
b. Extraintestinal Amoebiasis
c. Cephalosporins
d. Type IV Hypersensitivity reaction

Q.4. **Explain in short:-** [3x5]

a. Bacterial metabolism
b. Bacterial spore
c. Enumerate three device associated infections.
d. Koch's postulats
e. Rapid diagnostic tests for malaria

Q.5. **Short answers (applied aspects):-** [6x3]

a. DPT Vaccine
b. Lab Diagnosis of Dengue fever
c. Widal Test

Q.6. **Write in brief about:-** [5x3]

a. Informed consent in HIV testing and its relevance
b. Lab diagnosis of helicobacter pylori infection
c. Blood culture for pyogenic organisms

Total No. = 03 pages

Q.P. Code: MBN206

M.B.B.S. 2nd Prof.

(New Scheme w.e.f. 2019 admission onwards)

BF/2024/03

Microbiology – B

M.M. : 100 Time : 3 Hours(First 30 Min. for MCQs)

Note: 1. **Use OMR Sheet to answer Multiple Choice Questions(MCQs).**

2. Attempt all questions. Illustrate your answers with suitable diagrams
3. **NO SUPPLEMENTARY SHEET SHALL BE ALLOWED/PROVIDED**
4. ***The student must write Q.P. Code in the space provided on OMR Sheet and the Title page of the Answer Book.***

Q.1 **MCQs** (Attempt on OMR sheet) [1x20]

Tick the most appropriate answer:

1. Principle toxin responsible for gas gangrene is
   a. Alfa toxin b. Theta toxin
   c. Beta toxin d. Delta toxin

2. Scalded skin syndrome is mediated by
   a. Hemolysin b. Coagulase
   c. Enterotoxin d. Epidermolytic toxin

3. Malignant pustule is a term used for
   a. Malignant melanoma b. Carbuncle
   c. Rodent ulcer d. Anthrax of skin

4. Vector for leishmaniasis is
   a. Sandfly b. Reduviid bugs
   c. Tsetse fly d. Anopheles mosquito

5. Spherules are seen in
   a. Rhinosporidiosis b. Chromoblastomycosis
   c. Mucormycosis d. Aspergillosis

6. Diphtheria toxin is produced by all except
   a. C. diphtheria b. C. ulcerans
   c. C. pseudotuberculosis d. C. xerosis

7. Wool Sorter's disease is caused by
   a. Bacillus anthracis b. S. aureus
   c. Yersinia pestis d. Rhodococcus equi

8. Which of the following is not used for clinical diagnosis of COVID-19?
   a. RT-PCR b. Truenat
   c. Antigen detection d. Antibody detection

9. Which is the most common agent of UTI?
   a. Escherichia coli b. Klebsiella
   c. Proteus d. Enterobacter

10. Plague is transmitted bey
    a. Rat flea
    b. Soft tick
    c. Hard tick
    d. Louse

11. Aetiological agent of primary atypical pneumonia
    a. Pneumococci
    b. M. tuberculosis
    c. Listeria
    d. Mycoplasma pneumoniae

12. Target hemolysis is exhibited by
    a. C. perfringens
    b. C. tetani
    c. C. botulinum
    d. C. septicum

13. Flat, non palpable discolourtion of skin <5 cm in size is termed as
    a. Nodule
    b. Papule
    c. Ulcer
    d. Macule

14. Fungal ball is
    a. Histoplasma pneumonia
    b. Candida pneumonia
    c. Pneumocystis pneumonia
    d. Aspergilloma

15. Parasite causing haematuria
    a. Trichomons vaginalis
    b. Clonorhis sinensis
    c. Schistosoma haematobium
    d. Naegleria fowleri

16. Small painless papule with ulceration and hard in texture is a feature of
    a. Secondary syphilis
    b. Primary syphilis
    c. Latent syphilis
    d. Haemophilus ducreyi

17. Bamboo-stick appearance on gram stain smear is the characteristic feature of
    a. B. anthracis
    b. B. melitensis
    c. B. fragilis
    d. B. cereus

18. CSF findings in acute bacterial meningitis will show all except:
    a. High sugar level
    b. High protein level
    c. High polymorph count
    d. Turbidity

19. Gram staining of CSF shows gram negative diplococcic. Which of the following is correct answer
    a. Pneumococci
    b. Gonococci
    c. Meningococci
    d. Staphylococci

20. A patient's skin biopsy smear stained homogenously with toluidine blue demonstrated multinucleated giant cells with faced nuclei. This is the characteristic features of which of the following infections?
    a. HPV
    b. HSV
    c. Varicella
    d. EBV

Q.2. A 55 year old man presented with productive cough, evening rise of temperature and weight loss since 3 months. Sputum sample was sent for microscopy and culture, which reported acid fast bacilli.

a. What is the clinical diagnosis and the etiological agent?
b. What are the risk factors that can lead to this condition?
c. What are other common etiological agents that can cause this clinical condition?
d. Describe the laboratory diagnosis for this etiological agent. [4+2+2+4]

Q.3. **Describe briefly:** [5x4]

a. Legionnaire's disease
b. Gonorrhea
c. Brucellosis
d. Tetanus

Q.4. **Write briefly: -** [3x5]

a. Lab diagnosis of SARC CoV2
b. Bacteriological examination of water
c. Herpes zoster
d. Hepatitis B vaccine
e. Standard test for syphilis

Q.5. **Short answer (applied aspect): -** [6x3]

a. How will you diagnose a Mycetoma in microbiology laboratory?
b. Discuss briefly laboratory diagnosis of Primary amebic meningoencephalitis.
c. Lab diagnosis of cryptococcal meningitis.

Q.6. **Write short notes: -** [5x3]

a. Hand hygiene
b. Respect to patient sample
c. Post exposure prophylaxis in rabies
