PAPER CODE B

KHYBER MEDICAL UNIVERSITY, PESHAWAR

THIRD PROFESSIONAL MBBS ANNUAL EXAMINATION 2023

BLOCK H (MULTISYSTEM I, BLOOD II & MSK-II)

PAPER CODE B

Exam Roll No.: _____

Name: _____

Time Allowed: 120 min. Max. Marks: 120

Note:
- Attempt all questions. Select the best answer from given choices. Handover response sheet along with question paper after attempting.
- Use BLUE / BLACK ink only. Do not use RED Color. Filling of more than one option shall not be considered.
- Possession of mobile phone and other electronic accessories are strictly prohibited.

1. A 50-year-old male asthmatic patient presented to the emergency department. On examination, BP was 125/85 with bilateral wheeze. He was treated with albuterol. Which of the following adverse effects is not associated with the use of β2-adrenergic receptor agonists?

a. Hyperkalemia b. Hypoglycemia c. Hypokalemia d. Increase renin secretion e. Tachycardia

2. A trainee medical officer considered prescribing a beta blocker to a 53-year-old patient. What pre-existing condition (comorbidity) would most likely contraindicate the safe use of this drug?

a. Angina b. Essential hypertension c. Hyperthyroidism
d. Hypertrophic obstructive cardiomyopathy e. Peripheral vascular disease

3. A 65-year-old patient presented to the ER with cardiogenic shock. He was treated with IV infusion of Dobutamine. By what adrenergic receptor-mediated action, do therapeutic doses of Dopamine mainly raise cardiac output?

a. α adrenergic agonist b. α adrenergic antagonist c. β1 adrenergic agonist d. β1 adrenergic antagonist
e. Mixed α and β agonist

4. A 50-year-old man with coronary artery disease presented to OPD with a complaint of difficulty in starting to urinate. On examination, his blood pressure was 100/80mmHg and had an enlarged prostate. Which of the following drugs would be useful in treating his symptoms?

a. Doxazosin b. Phentolamine c. Prazosine d. Tamsulosin e. Terazosin

5. A patient with acute lymphocytic leukemia is responding well to Mercaptopurine therapy. However when Allopurinol is added to the regimen to decrease uric acid production, the patient develops toxic symptoms. Which one of the following is the most likely reason of development of toxicity?

a. Allopurinol competes with Mercaptopurine for renal excretion
b. Allopurinol decreases the enterohepatic recycling of Mercaptopurine
c. Allopurinol decreases the plasma protein binding of Mercaptopurine
d. Allopurinol has same toxic effects as Mercaptopurine e. Allopurinol inhibits the metabolism of Mercaptopurine

6. A patient is given epinephrine for some condition. Which one of its following effects will most likely be blocked by phentolamine but not by metoprolol?

a. Bronchodilation b. Contraction of radial muscles of iris c. Increase in cAMP in fatty tissue
d. Relaxation of uterus e. Tachycardia

7. Neostigmine is preferred over physostigmine for the treatment of myasthenia gravis because?

a. It is better absorbed orally. b. It causes irreversible binding to enzyme cholinesterase.
c. It penetrates blood brain barrier rapidly. d. It has direct agonistic action on receptors at muscle end plate.
e. None of the above

8. Which of the following best describes the mechanism of action of scopolamine?

a. Irreversible antagonist at nicotinic receptors b. Irreversible antagonist at muscarinic receptors
c. Physiologic antagonist at muscarinic receptors d. Reversible antagonist at muscarinic receptors
e. Reversible antagonist at nicotinic receptors

9. A 30 years old man has been treated with several autonomic drugs for 4 weeks. He is now admitted with signs of toxicity. Which of the following would distinguish between overdose of ganglion vs muscarinic blocker?

a. Blurred vision b. Dry mouth, constipation c. Mydriasis d. Postural hypotension e. Tachycardia

10. A Hypertensive patient was accidentally given an α_2 agonist instead of an α1 blocker. Which of the following is correct in this situation?

a. α_2 agonists can increase the release of norepinephrine from sympathetic nerve terminals
b. α_2 agonists can reduce blood pressure in this patient c. α_2 agonists can increase blood pressure in this patient
d. α_2 agonists will not affect blood pressure in this patient e. None of the above

11. In the treatment of asthma, different categories of drugs are used having different mechanisms of action. In the treatment of a 55 year old asthmatic patient with comorbid angina pectoris, identify the safest muscarinic antagonist that which is a competitive antagonist and relatively safe in ischemic heart disease?

a. Albuterol b. Theophylline c. Disodium cromoglycate d. Atropine e. Ipratropium

12. Beta adrenergic blocker having cardio selectivity. Intrinsic sympathomimetic activity and membrane stabilizing property is.

a. Celiprolol b. Pindolol c. Carvedilol d. Metoprolol e. Acebutalol

13. A 32-year-old woman with Crohn's disease was treated with Infliximab, as the conventional therapy was not providing adequate relief. What is the primary mechanism of action of Infliximab?

a. Enhancement of B-cell activation b. Inhibition of tumor necrosis factor-alpha
c. Inhibition of folic acid synthesis d. Stimulation of natural killer cells e. Suppression of T-cell proliferation

14. A patient has an episode of hematemesis for which he is prescribed a drug Tranexamic acid. Which one of the following options describes its mechanism of action?
a. Activates the glycoprotein receptors on platelets b. Crosslinks fibrin within a clot
c. Inhibits the activation of plasminogen d. Increases the activity of COX enzyme e. Inhibits the activity of Antithrombin III

15. Which of the following has longest duration of action?
a. Urokinase b. Anisteplase c. Streptokinase d. Tenecteplase e. Alteplase

16. A 48-year-old man presented to the ER with a complaint of excruciating pain in his first metatarsophalangeal joint. On examination, the joint appeared warm, tender, red, and swollen. A synovial fluid analysis showed crystals engulfed by phagocytes. Which of the following drugs would be most appropriate to treat the patient's pain?
a. Allopurinol b. Aspirin c. Febuxostat d. Indomethacin e. Methotrexate

17. A 48-year-old woman underwent heart surgery for the placement of an artificial valve. Anesthesia was induced by thiopental, and a muscle relaxant was then given intravenously to facilitate intubation. Soon after the administration of the drug, the patient exhibited transient muscle fasciculation that progressed to generalized paralysis within 1 minute. Which of the following muscle relaxants was most likely given?
a. Cisatracurium b. Dantrolene c. Succinylcholine d. Tubocurarine e. Vecuronium

18. A patient with rheumatoid arthritis is taking a DMARD. After sometime he presents with painful ulcerative lesions at the labial mucosa and the floor of the mouth. Considering that these are drug induced, which one of the following DMARDs is most likely responsible for these symptoms?
a. Auranofin b. Chloroquine c. Etanercept d. Infliximab e. Methotrexate

19. A woman deemed at high risk of postmenopausal osteoporosis is started on alendronate. What is this drug's main mechanism of action?
a. Activates vitamin D and so facilitates absorption of dietary calcium
b. Contains lots of calcium, which supplements dietary calcium intake c. Directly forms hydroxyapatite crystals in bone
d. Provides supplemental phosphate, which indirectly elevates plasma calcium
e. Reduces the number and activity of osteoclasts in bone

20. Which of the following is correct regarding the use of 'Isotretinoin' in the treatment of Acne Vulgaris?
a. Isotretinoin acts primarily on the membrane receptors
b. Isotretinoin is contraindicated in pregnancy due to its high risk of birth defects
c. Isotretinoin is given intravenously in the treatment of Acne
d. If given in high doses, isotretinoin can indirectly increase the concentration of Propionibacterium acnes bacteria
e. Isotretinoin activates prostaglandin E2 and collagenase, which causes the adverse effect of inflammation

21. Scab or crust of abrasion is formed and appears brown. What is the age of the injury?
a. Between 12-24 hours b. Between 02-03 days c. Between 05-07 days d. Between 04-05 days e. Between 01-02 week

22. A body was found in a dry desert environment. Upon examination, the forensic expert noticed mummification and desiccation of the body, with minimal insect activity. What environmental factor is most likely responsible for this condition?
a. High humidity b. Low temperature c. Excessive moisture d. Dry and arid conditions e. Acidic soil

23. In case of custodial deaths, the forensic examiner should carefully look for:
a. Blunt trauma b. Concealed blunt trauma c. Concealed punctured wounds d. Self-inflicted wounds
e. Trauma due to sharp instruments

24. The condition in which the body temperature fails to rise in the first two hours after death is:
a. Acute pneumonia b. Asphyxia c. Drowning d. Heat stroke e. Tetanus

25. During a forensic autopsy of an unidentified deceased person, the forensic doctor discovers a deep, irregular, and jagged wound on the victim's forearm. The wound is characterized by tissue bridging and extensive tissue damage. Based on the postmortem findings, what term best describes this type of injury?
a. Abrasions b. Lacerations c. Contusions d. Ecchymosis e. Hematoma

26. Police has brought a middle aged strong built man's dead body for autopsy. On examination doctor has found multiple bruises which is confusing with postmortem lividity, to make final decision which test can help him differentiating bruises from post-mortem staining:
a. Diaphanous test b. Gettler's test c. Icard test d. Incision test e. Stas-Otto test

27. A person was hit with a baseball bat in a fight with his neighbors. His parents went to police to file an FIR (First Information Report). The police brought the victim to the authorized Medical Officer. The on-duty doctor noted that he had a deep muscular injury that appeared blue in color with a slight rupture of skin. The victim was well oriented in time, place and person. As per Qisas and Diyat Act 1997, what opinion will be framed in respect of this victim?
a. Jurh Ghayr Jaifah Badiah b. Jurh Ghayr Jaifah Damiyah c. Jurh Ghayr Jaifah Hashimah
d. Jurh Ghayr Jaifah Mutalahimah e. Jurh Jaifah

28. A young boy accidently fell into a freshwater stream near his home. He was rescued in 5-6 min but unfortunately couldn't did not survive. In freshwater drowning, death occurs within 4-5 mins of submersion due to ventricular fibrillation, which of following best explains the mechanism of such a death?
a. Deoxy HB 75% b. Hem dilution, overloading of heart & hemolysis resulting in release of potassium
c. Hemoancartration of blood causes by osmotic pressure effect d. Laryngospasm causing vagal inhibition
e. Total asphyxia due to fresh water

85. A 30 years old male patient was brought to emergency unit with complaints of bleeding from nose. On examination, there were profuse bruises on the skin. The patient admits of being bitten by snake in the fields before developing the symptoms. Laboratory investigations showed prolonged Prothrombin Time, Activated Partial Thromboplastin Time and Bleeding Time. D-dimers and fibrinogen degradation products were also increased. What is the most probable diagnosis in this case?

a. Acute promyelocytic leukemia b. Disseminated intravascular coagulation c. G6PD deficiency anemia
d. Hemophilia e. Paroxysmal nocturnal hemoglobinuria

86. A 6 months old child presented with severe anemia and failure to thrive. The child had slight frontal bossing, was afebrile and had palpable liver and spleen. His Hemoglobin level was 6 gm/dl, and the child was on regular blood transfusions to maintain adequate hemoglobin. Which of the following condition best describes the child condition?

a. Childhood MDS b. Iron deficiency anemia c. Leukemia d. Megaloblastic anemia e. Thalassemia major

87. A 65-years-old diabetic patient presented with the abrupt onset of a single hot, swollen, and very painful joint. Patient was diagnosed as a case of non-gonococcal septic arthritis. What is the primary pathogen responsible for majority of such cases and what is the most likely joint affected?

a. Beta-hemolytic Streptococci affecting hip joint b. Neisseria gonorrhea affecting multiple joints
c. Streptococcus Pneumonia affecting shoulder joint d. Staphylococcus aureus affecting knee joint
e. Polymicrobial affecting any joint

88. A 7-years-old male with proximal muscle weakness and pseudo-hypertrophic calf muscles was diagnosed as a case of Duchenne muscular dystrophy. Which enzyme is found mostly deficient in the patient?

a. Adenosine biphosphate Dystrophin kinase b. Carbonic anhydrase c. Creatinine phosphokinase
d. Dystrophin kinase e. Lactate dehydrogenase

89. A 9-years-old male presented with muscle weakness. Muscle biopsy reveals variation in myofiber size, fatty replacement and endomysial fibrosis. Which is the most common protein whose production is affected in Duchene muscular dystrophy?

a. Actin b. Dystrophin c. Leucovorin d. Myosin e. Myotropin

90. A 30-years-old male patient presented with fever, chills, severe throbbing pain over the knee, and is reluctant to use affected leg. On examination there is localized area of tenderness. WBC count was significantly raised. Radiograph shows large fragment of necrotic cortex is visible deep within the draining sinus, with a collar of reactive bone around the draining lesion in the midshaft of tibia. This Reactive bone is called?

a. Bony spur b. Involucrum c. Osteophyte d. Osteosarcoma e. Sequestrum

91. The precursors to melanoma are generally considered to be related to nevi of different types. Which of the following is the precursor lesion to malignant nevi?

a. Dysplastic nevi b. Eczematous dermatitis c. Freckle d. Nevocellular nevi e. Vitiligo

92. A skin biopsy from a 20 years old man was submitted for histopathological examination. Which of the following changes would be more consistent with the diagnosis of acute spongiotic dermatitis?

a. Acanthosis b. Epidermotropism c. Intra-epidermal edema d. Papillomatosis e. Parakeratosis

93. As part of a third-year elective, a medical student rotating through a medical genetics service is assigned to counsel a patient who is concerned about a family history of hypertension. To be properly prepared for the counselling session, the student reviews course notes on modes of inheritance of various disorders. Knowledge of which of the following modes of inheritance is most pertinent to the upcoming discussion with the patient?

a. Autosomal dominant b. Autosomal recessive c. Multi-factorial d. X-Linked dominant e. X-linked recessive

94. An 88-year-old woman with marked kyphosis and loss of height that had been gradually progressive over many years experiences the sudden onset of acute back pain following a sudden change in position. Radiographic examination demonstrates generalized osteopenia and a fracture of a lower thoracic vertebra. Which of the following is an association or characteristic of the patient's generalized bone disorder?

a. Postmenopausal state and estrogen deficiency b. Physical inactivity c. Hypothyroidism
d. Excessive calcium intake e. Increased serum calcium and phosphate levels

95. A small sliver of wood becomes embedded in the finger of a 25-year-old man. He does not remove it, and over the next 3 days the area around the sliver becomes red, swollen, and tender. Neutrophils migrate into the injured tissue. Expression of which of the following substances on endothelial cells is most instrumental in promoting this inflammatory reaction?

a. E-selectin & P-selectin b. Hageman factor c. Interferon gamma d. Lysozyme e. Prostacyclin

96. A 42 years old woman presents with signs of Jaundice and hepatic failure. Physical examination find that she has uncontrolled choreiform movements of the arms, and a rust-colored ring is seen at the periphery of both corneas. Laboratory examination finds increased serum and urine levels of copper with decreased level of serum ceruloplasmin. Which of the following is the most likely diagnosis?

a. Alpha 1 antitrypsin deficiency b. Budd-Chiari Syndrome c. Primary Biliary Cirrhosis
d. Whipple's disease e. Wilson disease

97. A 62-year-old man has had several episodes of hematuria in the past week. On physical examination, there are no abnormal findings. A urinalysis shows 4+ hematuria, and cytologic examination of the urine shows that atypical cells are present. The urologist performs a cystoscopy and observes a 4-cm sessile mass with a nodular, ulcerated surface in the dome of the bladder. Which of the following terms best describes this lesion?

a. Papilloma b. Carcinoma c. Adenoma d. Sarcoma e. Fibroma

98. Which of the following ovarian tumors are of germ cell origin?

a. Mucinous cystadenoma b. Teratoma c. Serous cystadenoma d. Granulosa-theca cell tumor e. C and D

99. Cervical biopsy of a 30-year-old woman reveals invasive tumor containing areas of squamous epithelium, with pearls of keratin. In situ hybridization shows the presence of human papillomavirus type 16 (HPV-16) DNA within the tumor cells. Which of the following molecular abnormalities in this tumor is most likely related to infection with HPV-16?
a. Trapping of the RAS protein in a GTP-bound state b. Increased expression of laminin receptor genes
c. Inability to repair DNA damage d. Functional inactivation of the RB1 protein
e. Increased expression of epidermal growth factor receptor

100. A 50-year-old woman is diagnosed with well-differentiated ductal carcinoma of the breast. There is no family history of cancer. Which of the following molecular abnormalities is most likely to be found in this setting?
a. Inactivation of one BRCA1 gene copy b. Deletion of one p53 gene copy c. Amplification of the ERBB2 (HER2) gene
d. Deletion of an RB gene locus e. Fusion of BCR and C-ABL genes

101. A 55-year-old male, a chronic smoker, develops a productive cough with hemoptysis, anorexia and significant weight loss. Subsequent investigations reveal a squamous cell carcinoma of the lung. Laboratory investigations show elevated serum calcium levels. This phenomenon is best explained by which of the following?
a. Ectopic production of ACTH b. Ectopic production of ADH c. Ectopic production of PTH-related protein
d. Ectopic production of Erythropoietin e. Ectopic production of Insulin or insulin-like substance

102. Conditions show anticipation in paternal transmission is:
a. Cystic fibrosis b. Fragile X syndrome c. Huntington disease d. Marfan syndrome e. Hemophilia

103. An otherwise healthy 44-year-old man with no prior medical history has had increasing back pain and right hip pain for the past decade. The pain is worse at the end of the day. On physical examination he has bony enlargement of the distal interphalangeal joints. A radiograph of the spine reveals the presence of prominent osteophytes involving the vertebral bodies. There is sclerosis with narrowing of the joint space at the right acetabulum seen on a radiograph of the pelvis. Which of the following diseases is he most likely to have?
a. Gout b. Rheumatoid arthritis c. Osteoarthritis d. Pseudogout e. Osteomyelitis

104. An 11-year-old boy has pain in his left leg that has persisted for 3 weeks. On physical examination his temperature is 37.9°C. A radiograph of the leg reveals a mass in the diaphyseal region of the left femur with overlying cortical erosion and soft tissue extension. A bone biopsy is performed and the lesion on microscopic examination shows numerous small round blue cells. Karyotypic analysis of these cells shows t(11;22). Which of the following neoplasms is he most likely to have?
a. Ewing sarcoma b. Medulloblastoma c. Neuroblastoma d. Chondroblastoma e. Osteoblastoma

105. Disabling joint disease, nodular lesions in the lung associated with dust borne diseases, xerostomia, and splenomegaly characterize a rheumatologic disease with which one of the following laboratory abnormalities?
a. Positive serum antinuclear antibody with a rim pattern b. Anti-centromere antibodies c. IgM antibodies against IgG
d. Positive band test on a skin biopsy e. Anti-ribonucleoprotein antibodies

106. A 17 years boy presented with pain and swelling about left knee for the past 1 month and was severe enough to cause him limp. Radiographs of the knee demonstrated a lifting of the periosteum and a speculated sunburst pattern in distal femur. Which of the following is most likely diagnosis?
a. Giant cell tumor b. Chondrosarcoma c. Ewing sarcoma d. Knee sprain e. Osteosarcoma

107. CD4 + T cells that respond to intracellular pathogens by recruiting and activating phagocytic cells are termed as:
a. Antigen-presenting cells. b. Cytotoxic T lymphocytes. c. Th0 cells. d. Th1 cells. e. Th2 cells

108. A 28-year-old woman is found to have pulmonary sarcoidosis. The granulomas contain large numbers of T helper (TH1) ce These cells are known to secrete which of the following substances?
a. Complement component C5A b. Elastase and lysyl-hydroxylase c. Interleukin-2 (IL-2) and interferon-γ
d. IL-8 and TGF-β e. Leukotriene C4

109. Within minutes of a bee sting, a 23-year-old woman develops generalized pruritus and hyperemia of the skin, followed sh by swelling of the face and eyelids, dyspnea, and laryngeal edema. This reaction is mediated by;
a. Antigen-antibody complexes. b. Cytotoxic T cells. c. IgA antibodies. d. IgE antibodies. e. IgG antibodie

110. A 20-year-old woman presents with malar rash, arthralgias, low-grade fever, and high titer antibodies to double-strande DNA and to the Sm (Smith) antigen. Which of the following forms of hypersensitivity is the primary mechanism of the abnormalities found in this disorder?
a. Type I (immediate or anaphylactic) hypersensitivity b. Type II (antibody-mediated or cytotoxic) hypersensitivity
c. Type III (immune complex-mediated disorders) hypersensitivity d. Type IV (cell-mediated) hypersensitivity
e. Both options I & IV

111. A febrile 23 year old college coed presents with fatigue and difficulty with swallowing. Physical exam reveals exudative tonsillitis, palatal petechia, cervical lymphadenopathy and tender hepatosplenomegaly. A CBC reveals a mild microcyti anemia, lymphocytic leukocytosis with 20% of the atypical lymphocytes, and a mild thrombocytopenia. You would exp patient to have?
a. A low TIBC b. A normal serum ferritin c. An elevated total bilirubin d. Heterophile antibodies
e. Normal serum AST and ALT titers

112. 20-year-old woman presents with depigmented white patches of skin on the face, neck, and hands. She has a past hist Graves disease. Which of the following is the most likely diagnosis?
a. Ocular albinism b. Oculocutaneous albinism c. Vitiligo d. Freckle e. Verruca vulgaris (common wart

68. A 9 months old boy presented with pallor for the last 3 months. He is a product of consanguineous marriage and his elder sister died of some blood disorder at the age of 9 years. On examination he is pale, afebrile and has hepato-splenomegaly. You suspect him as case of Thalassemia. Which of the following investigation will help in making the definitive diagnosis?
a. CBC b. Hb Electrophoresis c. S. Ferritin d. Bone Marrow Examination e. Osmotic Fragility Test.

69. A flat discolouration on skin is called:
a. Macule b. Plaque c. Boil d. Papule e. Wheal

70. A 25 year old presents with recurrent episodes of flexural eczema, contact urticaria, recurrent skin infections and severe abdominal cramps and diarrhea upon taking sea foods. He is suffering from?
a. Seborrheic dermatitis b. Atopic dermatitis c. Airborne contact dermatitis
d. Nummular dermatitis e. Eczema

71. In addition to a focus of invasive carcinoma, the pathologist identifies dysplastic squamous cells occupying the entire thickness of the cervical epithelium, with no evidence of epithelial maturation. The basal membrane in these areas appears intact. Which of the following terms best describes this cervical lesion?
a. Squamous cell carcinoma b. Carcinoma in situ c. Metaplasia d. Hyperplasia e. Acanthosis

72. Which of the following cytochemical stains distinguishes myeloblast from lymphoblast?
a. Alkaline phosphatase b. Myeloesterase c. Myeloperoxidase d. PAS e. Sudan Black

73. Conventional (hyaline/myxoid), Clear cell, Dedifferentiated and Mesenchymal are subtypes of which of the following malignant tumors?
a. Fibrosarcoma b. Chondrosarcoma c. Osteosarcoma d. Malignant mesothelioma e. Rhabdomyosarcoma

74. Which of the following terms is used for hyperplasia of stratum spinosum of skin?
a. Acanthosis b. Acantholysis c. Excoriation d. Hyperkeratosis e. Parakeratosis

75. Which of the following caspases act as executor caspases in the process of apoptosis?
a. Caspase 3,6 b. Caspase 8,9 c. Caspase 3,7 d. Caspase 6,8 e. Caspase 3,9

76. A 50-year-old lady has joint pain with morning stiffness. She was diagnosed a case of Osteoarthritis. Which of the following feature differentiates Osteoarthritis from Rheumatoid arthritis on biopsy of the lesion?
a. Bone erosion b. Cartilage necrosis c. Inflammation d. Osteophytes
e. Swollen inflamed synovial membrane

77. A 42 year old diabetic and hypertensive male came to A and E department at 3 am screaming due to excruciating pain in right big toe. The pains started suddenly and awaken him up from sleep. He gave a history of attending a party last night in which he ate lots of sushi and steak. What is your most likely diagnosis?
a. Options list Septic arthritis b. Psoriatic arthritis c. Bursitis d. Acute gouty arthritis e. Chronic gout

78. What kind of anemia is the result of disturbance in intrinsic factors Synthesis by gastric parietal cells?
a. Aplastic anemia. b. Hemolytic anemia. c. Iron deficiency anemia. d. Sickle cell anemia.
e. Vitamin B12 deficiency anemia

79. Which of the following investigations should be done immediately done to best confirm a non matched blood transfusion reaction?
a. Antibody in donor . b. Antibody in patient serum. c. Allergic reaction. d. Direct comb's test. e. Indirect comb's test

80. A 25-year-old woman came to OPD with a lump in her left breast. She has no family history of cancer and is taking low-dose oral contraceptives. On examination, she has a 2-cm rubbery, round, freely mobile mass. An ultrasound is performed showing a solid mass. Core needle biopsy is reported as a fibroadenoma. Which of the following characteristics was most likely observed in her biopsy report?
a. Anaplastic cells b. Cellular hyperplasia with glandular architecture c. High nucleus to cytoplasm ratio
d. High fraction of cells with mitotic spindles e. Loss of glandular architecture

81. Most B cell responses to an antigen require the interaction of B cells with T helper cells (thymus-dependent activation). Which one of the following sets of cells can present antigen to the helper T cells?
a. B cells and cytotoxic T cells b. B cells and dendritic cells c. Macrophages and eosinophils
d. Neutrophils and cytotoxic T cells e. Neutrophils and plasma cells

82. A 42-year-old auto mechanic had been diagnosed with end-stage renal disease. His twin brother was HLA identical at all MHC loci and volunteers to donate a kidney to his brother. Which of the following terms best describes the type of graft transplant in this situation?
a. Allograft b. Autograft c. Heterograft d. Isograft e. Xenograft

83. Sequential activation of complement components occurs via one of three pathways. Which one of the following pathway(s) serves as first line of defense against microorganism and participates in the innate arm of the immune response?
a. Alternative Pathway b. Alternative pathway and Mannan binding lectin pathway
c. Alternative pathway and classical pathway d. Classical pathway e. Mannan binding lectin pathway

84. A 58 year old female presented with complaints of fatigue and bruises. Physical examination revealed multiple bruises all over her body in different regions. CBC report revealed abnormal granularity of platelets and granulocytes while red cells appeared to be dimorphic. Bone marrow revealed 20% ringed sideroblasts with dysplastic changes in RBC & WBC precursors. No cytogenetic abnormalities were found. Based on these findings, what can be the possible diagnosis?
a. Acute leukemia b. Chronic lymphocytic leukemia c. Chronic Myeloid leukemia
d. Myeloproliferative syndrome e. Myelodysplastic syndrome

52. After identifying the important variables & establishing the logical resourcing the theoretical framework. The next step in the research process is
a. To Conduct Survey's b. To generate hypothesis c. To focus group discussion
d. To use experiment in investigation e. To analyze data

53. A researcher aims to investigate if women who breastfeed experience a reduced risk of breast cancer later in life. What study design would be most suitable for the researcher:
a. Case-control study design b. Cohort study design c. Cross-sectional study design
d. Experimental study design e. Longitudinal study design

54. A doctor recommended a patient to have chemotherapy for her lung cancer, but the patient refused the treatment, and the doctor respected the patient's wishes and subsequently discharged the patient. Which ethical principle did the doctor demonstrate?
a. Autonomy b. Beneficence c. Fidelity d. Non -maleficence e. Justice

55. The role of peer-reviewed journals in the context of medical research is:
a. Promoting unpublished research b. Providing a platform for personal opinions
c. Evaluating and ensuring the quality of research articles d. Publishing articles without rigorous review
e. Focusing on sensationalism rather than scientific rigor

56. Department of health, KP started surveillance program for Dengue hemorrhagic fever in the province. Data was collected from the clinical record of OPD & Medical wards in a hospital. The most suitable type of this Data is;
a. Cooked data b. Primary data c. Processed data d. Raw data e. Secondary data

57. A researcher conducted research on Insomnia among medical students. He will describe research participants in detail in which section of research plan?
a. Introduction b. Rationale c. Methodology d. Data analysis e. Discussion

58. A 30 years old lady presented with two months history of fever and lethargy. She is pale on examination and has splenomegaly. She has investigations requested and peripheral blood smear is to hand. It shows Increased number of neutrophils, band cells, myelocytes, basophils, eosinophils and platelets. What is the most likely diagnosis?
a. Acute lymphoblastic leukemia b. Acute myeloid leukemia c. Chronic myelocytic leukemia
d. Chronic lymphocytic leukemia e. Hairy cell leukemia

59. A 40 years old male patient presented with weakness which tends to be more in the evening and had bilateral ptosis on examination. The best diagnostic test for his condition would be
a. Muscle biopsy b. Nerve conduction studies c. Single fiber EMG d. Myoglobin e. MRI orbit

60. 25 years old female presented with joint pain and excessive hair fall. On examination she had a malar rash and seemed to be Anaemic. The most likely diagnosis would be?
a. Systemic sclerosis b. Systemic lupus erythromatosis c. Rheumatoid arthritis d. Dermatomyositis e. Polymyositis

61. A 40 years old male came to outpatient department with complaints of burning sensation in epigastrium for 2 months. He also complaints of multiple joints pain for last 2 years for with he was taking pain killers and hakeemi medicines. On examination he was pale looking with visible joints deformities in hands. His labs: Hb:7g/dl, MCV:63fl, PVC:20%, WBC:10000/cmm. What type of anemia is present in this patient?
a. Ascorbic acid deficiency anemia b. Cobalamine deficiency anemia c. Folic acid deficiency anemia
d. Iron deficiency anemia e. Thiamine deficiency anemia

62. A 39 years old female, who is 3 months post-natal, came to outpatient department with 2 months history of fever with sweats, lethargy, tiredness and abdominal discomfort. On examination: Temperature:100F, blood pressure:110/70mmHg, few cervical lymph nodes and 10cm enlarged spleen. Her Labs: Hb:10g/dl, WBC:100,000/cmm, platelets:450,000/cmm, uric acid:6mg/dl. What is the probable diagnosis?
a. Acute myeloid leukemia b. Chronic myeloid leukemia c. Chronic lymphoid leukemia
d. Hodgkin's lymphoma e. Non-Hodgkin's lymphoma

63. A 65 years old man presents with acute onset of pain, swelling and erythema of the left knee. He denies previous episode or trauma to the knee. The differential diagnosis includes septic arthritis and gout. Which of the following is the best study to differentiate between gout and arthritis.
a. WBC count b. X ray knee c. MRI of knee d. Bone scan e. Evaluation of synovial fluid aspirate

64. After being injured by a bull in his mother's farm, a young man is placed in a cast for a supracondylar fracture of his hemerus. A few hours later he begins to experience intense pain, swelling and weakness in the ipsilateral hand. Pulse are normal in bilateral upper extremities. Which of the following is the most appropriate initial management of this patient?
a. Observation b. Repeat x ray c. Elevation of upper limb d. Remove caste e. Forearm fasciotomy

65. A 4 years old child with muscle weakness of lower limbs has been diagnosed as a case of Congenital Myopathy. What can be the mode of inheritance in this disease?
a. Autosomal dominant and x-linked b. Autosomal recessive and x-linked
c. X-linked, autosomal dominant and autosomal recessive d. New mutation e. Y- linked

66. While examining a case of Duchenne Muscular Dystrophy, which of the following sign is most likely to be present?
a. Babiniski's sign b. Gower's sign c. Murphy's sign d. Rhomberg's sign e. Sun set sign

67. A 4 years old girl has had joint swelling in multiple joints for over 6 months. She is slow to move in the morning and moves as if stiff for the 1st hours of the day. Thereafter, she is an active child. Her ESR is raised. The most probable diagnosis is:
a. Dermatomyositis b. Duchenne Muscular Dystrophy c. Systemic Lupus Erythematosis
d. Congenital Myopathy e. Juvenile Idiopathic Arthritis

29. The body of a 26 years old female was recovered from flowing water as an alleged case of suicide. The clothes and body was mud stained. What will be the most pertinent finding the doctor should look for in favor of ante-mortem drowning?
a. Absent post-mortem lividity b. Fine abundant froth at nose c. Goose skin d. Mud-stained clothes
e. Washer women hands & feet

30. How much time is usually required for fixation of postmortem lividity?
a. 1-2 hour b. 2-3 hours c. 3-5 hours d. 6-7 hours e. 8-9 hours

31. What is the example of concealed trauma leading to death?
a. Brain concussion b. Cot death c. Choking d. Café coronary e. Gagging

32. What are the contents of postmortem burn blister?
a. Air & fluid b. Fluid & protein c. Fluid & chloride d. Fluid & Sodium chloride e. Protein & chloride

33. In which condition among the following, nobbing fracture are more commonly seen?
a. Congenital abnormality b. Drug induced c. Osteomalacia d. Shaken baby syndrome e. Sports injuries

34. Which type of fractures are common in flail chest?
a. Multiple ribs on both sides b. Multiple ribs on one side c. One rib on both side
d. Two ribs on same side e. Two ribs on two sides

35. The caliber of a rifled firearm is measured as a distance between which too parameters?
a. Barrel and muzzle b. Land and groves c. Muzzle end diameter d. Two opposite lands e. Two opposite groves

36. A superficial bruise on the right shoulder, which is not painful, what is the nature of injury?
a. Damiyah b. Badiah c. Mutalahimah d. 337-L1 e. 337 L2

37. Temporary Evidence; easily changed or lost; usually observed by the first officer at the scene is called.
a. Transfer Evidence b. Associative Evidence c. Transient Evidence d. Pattern Evidence e. Conditional Evidence

38. The process of converting esters into soaps and alcohols by the action of aqueous alkali is _____
a. Mummification b. Adiopocere Formation c. Miceration d. Saponification e. Putrefaction

39. A man was given physical torture in the custody of police or 5 days. He was shifted to the casualty of the nearby hospital with the complaints of nausea, vomiting, oliguria and subsequently anuria. On examination multiple bruises were found on various buttocks, back and lower limbs. His blood urea and creatinine were raised. The most likely diagnosis is:
a. Air embolism b. Crush syndrome c. Fat embolism d. Infection e. Neurogenic shock

40. According to the Qisas and Diyat ACT, wounds present on the neck are labelled as:
a. Jurh b. Jurh ghayr jaifa c. Jurh jaifa d. Shajja e. Shajja-e-khafifa

41. If the long axis of a stab wound is at right angle to the cleavage line of Langer, the wound is likely to be:
a. Slit like b. Spindle shaped c. Square shape d. Tear drop like e. Wedge shaped

42. Higher incidence of common cancers is contributed by which of the following risk factor most commonly?
a. Smoking and alcohol use. b. Various types of hormones. c. Chronic infections.
d. Occupational hazards. e. Unbalanced diet

43. Child is prohibited to work in which of the following?
a. Carpet weavy industry b. Domestic servant c. Automobile workshop d. Industrial work e. All of the above

44. Among of the following cancers, which type of cancer is most prevalent in Pakistan?
a. Breast cancer. b. Colorectal CA c. Lung CA d. Oroesophygeal CA e. Brain CA

45. Immunity is body's self-defense mechanism against foreign invaders. It can be naturally or artificially acquired. Artificial immunity can be active or passive. Which of the following is used for producing artificial active immunity?
a. B lymphocytes b. Immune globulin c. Neutrophils d. Serum e. Vaccine

46. A system is used to help the storage and transportation of vaccine at low temperature from production site to end user and its breakage can result in loss of effectiveness of vaccine. What is this system called?
a. Cold box b. Cold chain c. Freezer d. Ice pack e. Refrigerator

47. Currently Pakistan is facing an epidemic of viral hepatitis. It is becoming a major health problem with every passing day. To control viral hepatitis knowledge about its epidemiology is essential. What is true about viral hepatitis B?
a. No vaccine available b. Transmit by feco-oral route c. Transmit by fomite
d. Transmit by reuse of infected shaving blades e. Transmits by oral route

48. An industrial worker reported to you with complaints of cough, history of dyspnoea on exertion and pain in the chest. His X-ray chest showed snow storm appearance. The diagnosis would be:
a. Asbestosis b. Siderosis c. Silicosis d. Aspergillosis e. Byssinossis

49. World Health Organisation estimates that 42% of children less than 5 years of age and 40% of pregnant women worldwide are anaemic. Which one of the following infectious diseases common in Pakistan lead to anaemia?
a. Cancer b. COVID 19 c. Malaria d. Parkinson disease e. Scabies

50. A 45-years-old male patient presented to OPD with complaints of persistent and progressive difficulty in swallowing for the last 2 years. Indirect laryngoscopy showed normal oropharynx. She is from low socioeconomic group and barium swallow shows shelf like defect in post cricoid area. What would be the most likely diagnosis?
a. Peritonsillar abscess b. Para pharyngeal abscess c. Plumer Vinson syndrome
d. Hypopharyngeal tumor e. Upper esophageal stricture

51. The four rectus muscles of the eyeball arise from?
a. Annulus tendinous ring b. Medial wall of the orbit c. Roof and adjoining walls of the orbit
d. Optic foramen e. Superior wall of the orbit

PAPER CODE B

113.A 68 year old woman with long standing rheumatoid arthritis presents for evaluation of anemia. Laboratory studies show a hemoglobin of 8, MCV 78, ferritin 350, transferrin saturation 15%, TIBC 220, reticuloyte count 1.5%, white blood cell count 7600/mm', platelet count 340,000/mm³. The likely cause is:

a. Iron Deficiency Anemia b. Anemia of Chronic Disease c. Sickle Cell Anemia d. Aplastic Anemia
e. Sideroblastic anemia

114.A 58-year-old woman is seen in the clinic for reports of severe back pain. Her chest x-ray demonstrates generalized bone demineralization and compression fracture. Blood studies demonstrate elevated calcium levels and renal insufficiency. The most likely diagnosis is:

a. Leukemia b. Myeloma c. Hodgkin disease d. Back trauma e. Non Hodgkin lymphoma

115.A 45 years woman presents with painless cervical lymphadenopathy for 6 months. She has no fever, sweats, or weight loss. Excisional biopsy reveals clonal population of small lymphocytes in the follicular growth pattern, with follicules of different shapes and sizes. Cytogenetic analysis would most likely demonstrate which of the following:

a. C-MYC Overexpression b. P53 mutation c. Cyclin D1 overexpression d. Monosomy 7
e. Bcl-2 overexpression

116.A 5 year old boy presented with High grade fever with rigors and chills for last two days. Peripheral blood smear showed Plasmodium vivax malaria. He was given Chloroquine. Afterward he started passing dark coloured urine. Urine RE showed Haemoglobinuria. His Reticulocyte count was high (7%). Most likely diagnosis is:

a. Iron deficiency anaemia. b. G6PD deficiency. c. Megaloblasticanaemia. d. Chronic renal failure.
e. Aplastic anaemia

117.A 28 year old woman has an anterior mediastinal mass and non-tender lymphadenopathy in the right supraclavicular node is most likely diagnosed with which of the following?

a. Histocytosis X b. Sezary syndrome c. Hodgkin's disease d. Burkitt's lymphoma
e. Immunoblastic lymphoma

118.A 36 year old woman presented with weakness, lassitude and feeling easily tired. Her bone marrow aspirate showed 15% myeloblasts and reduced erythropoiesis. The most likely cause is:

a. Acute myeloid leukaemia b. Acute lymphoid leukaemia. c. Myelofibrosis
d. Myelodysplastic syndrome e. Chronic myeloid leukaemia

119.Which of the following laboratory findings characterize a patient with DIC?

a. Elevated plasminogen b. Elevated protein S and C c. Decreased fibrinogen
d. Normal clotting times (PT, APTT and TT) e. Thrombocytosis

120.Which one of the following is considered to be the hallmark of malignancy?

a. Anaplasia b. Stromal invasion c. Lack of encapsulation d. Regional Lymphadenopathy e. Mitoses