



KENYATTA UNIVERSITY
EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE AND
BACHELOR OF SURGERY (MBChB Level III)

HPA II : PATHOLOGY II – MUTIPLE CHOICE QUESTIONS (MCQs)

2ND SEMESTER 2022/2023

TIME: 2 HOURS

INSTRUCTIONS:

ANSWER ALL QUESTIONS IN THE PROVIDED ANSWER SHEETS

For question 1 - 5 select the best response from the following list A that matches with statements numbered 1 to 5 (list B) below.

List A

- a) Serous cystadenocarcinoma
- b) Struma ovarii
- c) Dysgerminoma
- d) Granulosa – theca tumour
- e) Pseudomyxoma peritonei
- f) Michaeli-Guttman bodies
- g) Psammoma bodies

List B

- 1) () Tumour has potential for elaboration of large amounts of estrogen
- 2) () Most common malignant germ cell tumor
- 3) () A monodermal/specialized teratoma
- 4) () Most common malignant tumor of ovary
- 5) () Associated with mucinous tumors

For question 6 - 10 select the best response from the following list A that matches with statements numbered 6 to 10 (list B) below.

List A

Match the analyte to its function

- a) Diagnosis of pregnancy
- b) Follow up of breast cancer after treatment
- c) Diagnosis of osteoporosis
- d) Diagnosis of pseudogout
- e) Monitoring of glycaemic status
- f) Diagnosis of heart failure

List B

- 6) Haemoglobin A1c
- 7) N-terminal fragment of the prohormone of brain natriuretic peptide
- 8) C terminal telopeptide
- 9) Serum beta hCG
- 10) Mammoglobin

For question 11 - 15 select the best response of the definition of carcinoma of the prostate from the following list A that matches with tumour type numbered 11 to 15 (list B) below.

LIST A:

- a) Carcinoma found in an organ distant from the prostate
- b) Carcinoma found in specimens of prostatectomies done for benign enlargement of the prostate.
- c) Carcinoma type in which the patient has no symptoms of prostatic carcinoma but shows evidence of metastases on clinical examination and investigations.
- d) Non-invasive carcinoma found in the acini of the prostate
- e) Prostate carcinoma diagnosed on serum prostate specific antigen measurement
- f) Prostatic carcinoma detected by rectal examination and confirmed by pathologic examination of biopsy of the prostate
- g) Tumour found unexpectedly as a small focus of carcinoma in the prostate during autopsy studies in men dying of other causes.

List B

- 11) Occult carcinoma
- 12) Metastatic carcinoma
- 13) Latent carcinoma
- 14) Incidental carcinoma
- 15) Clinical carcinoma

For question 16 - 20 select the best response of the description for parts of a simple chronic benign ulcer in list A that matches with the responses numbered 16 to 20 (list B) below.

LIST A:

- a) Scar tissue
- b) Reparative tissue
- c) Necrotic slough
- d) Keloid
- e) Inflammatory infiltrate
- f) Granuloma
- g) Granulation tissue

LIST B:

- 16) Consists of dense fibrous tissue
- 17) Most superficial layer
- 18) Eventually forms the scab of a wound
- 19) Deepest layer
- 20) Contains newly proliferated capillaries

21) A medical officer wants to collect blood for the analysis of coagulation function. One of the following tubes is best to use:

- a) Red top (Plain)
- b) Blue top (Citrate)
- c) Gold top (serum separator)
- d) Grey top (Fluoride)
- e) Purple top (EDTA)

22) A 45-year-old man experiences crushing substernal chest pain radiating to his left arm after arriving at work one morning. He waits until the end of his 8-hour shift to go to the hospital. An elevated serum value of ONE of the following laboratory would be most useful for diagnosis of this patient on admission to the hospital:

- a) AST
- b) CK-MB fraction
- c) C-reactive protein
- d) LDH-1
- e) Troponin T

23) ONE of the following laboratory findings is consistent with respiratory acidosis:

- a) pH increased; PCO₂ normal; Bicarbonate increased
- b) pH increased; PCO₂ decreased; Bicarbonate normal
- c) pH normal; pCO₂ decreased; Bicarbonate decreased
- d) pH decreased; PCO₂ normal; Bicarbonate decreased
- e) pH decreased; PCO₂ increased; Bicarbonate normal;

24) A 51-year-old man has complained of pain in his foot over the past year. On examination, the right toe is deformed, red and hot to touch. Aspiration of material from the joints is performed. ONE of the following types of crystals is most likely to be seen:

- a) Calcium pyrophosphate dihydrate
- b) Cholesterol
- c) Cystine
- d) Hydroxyapatite
- e) Sodium urate

25) A 7-year-old boy has had increasing lethargy for a week. On physical examination he has periorbital edema and pitting edema at the ankles, but is normotensive and afebrile. ONE of the following changes in his blood is most likely the cause of oedema:

- a) Decreased antidiuretic hormone
- b) Inflammatory changes

- c) Increased sodium
- d) Increased cortisol
- e) Decreased albumin

26) Three weeks after a meal at a roadside cafe, a 28-year-old man develops malaise, fatigue, and loss of appetite. Laboratory studies show serum AST of 62 U/L and ALT of 58 U/L. The total bilirubin concentration is 100 umol/L and the direct bilirubin concentration is 58 umol/L. His symptoms abate over the next 3 weeks. ONE of the following serologic test results is most likely to be positive in this patient:

- a) IgM anti-HDV
- b) IgG anti-HAV
- c) Anti-HCV
- d) Anti-HBs
- e) Anti HbSAg

27) After a bout of the flu, a 25-year-old man notices several 0.3-cm, clear vesicles on his upper lip which rupture and leave shallow painful ulcers that heal spontaneously. Several months later, after a stressful examination period, similar vesicles develop. ONE of the following findings is associated with these lesions:

- a) Positive serologic test for herpes simplex virus type 1
- b) Serologic evidence of HIV-1 infection
- c) Peripheral blood smear showing atypical lymphocytes
- d) Cytologic scraping showing budding cells with pseudohyphae
- e) Biopsy specimen showing mononuclear inflammatory infiltrate

28) A 50-year-old man has an infiltrating mass filling the right nasal cavity. Microscopic examination shows that it is composed of large epithelial cells with indistinct borders and prominent nuclei. Mature lymphocytes are scattered throughout the undifferentiated neoplasm. ONE of the following etiologic factors is most important in the development of this lesion:

- a) Epstein-Barr virus infection
- b) Sjögren syndrome

- c) Smoking tobacco
- d) Allergic rhinitis
- e) Male gender

29) A 95-year-old man has noted a fluctuant, bluish, 1-cm swelling of his lower lip for the past month. Microscopic examination of the mass shows granulation tissue. State the most likely aetiology for this lesion:

- a) Eating chili peppers
- b) UV exposure
- c) Trauma
- d) Pipe smoking
- e) Chewing gum

30) A 5-year-old boy has had earache for three days. On examination by the physician, he has a red, bulging tympanic membrane with a small amount of yellowish exudate. ONE following is the likeliest aetiological agent:

- a) *Staphylococcus aureus*
- b) *Candida albicans*
- c) Herpes Simplex virus
- d) *Pseudomonas aeruginosa*
- e) *Streptococcus pneumoniae*

31) A 28-year-old man is a professional choir singer. Over the last 4 months, he noticed that his voice has become progressively hoarser. He does not have a cough and does not smoke. ONE of the following is most likely to produce these findings:

- a) Epiglottitis
- b) Tonsillitis
- c) Squamous cell carcinoma
- d) Reactive nodule
- e) Acute bronchiolitis

32) A 2-year-old child is brought to the family physician because of failure to thrive. Physical examination shows that the child is small for age and has a protruding tongue, and an umbilical hernia. Profound mental retardation is also apparent. A deficiency of ONE of the following hormones is most likely to explain these findings:

- a) Cortisol
- b) Somatostatin
- c) Thyroxine
- d) Insulin
- e) Adrenaline

33) The parents of a 5-year-boy notice that he has developed features that suggest puberty over the past 6 months. ONE of the following morphologic features is most likely to be seen in his adrenal glands:

- a) Bilateral adrenal cortical hyperplasia
- b) Bilateral adrenal cortical atrophy
- c) Bilateral adrenal medullary hyperplasia
- d) Nodule in the left adrenal cortex
- e) Nodule in the left adrenal medulla

34) A 40-year-old man sees his physician because of weight loss, increased appetite, and double vision. On physical examination, his temperature and blood pressure are on the upper limit of normal for his age. Serum TSH level is undetectable. ONE of the following best describes the microscopic appearance of the patient's thyroid gland:

- a) Papillary projections in thyroid follicles and lymphoid aggregates in the stroma
- b) Follicular destruction with inflammatory infiltrates containing giant cells
- c) Enlarged thyroid follicles lined by flattened epithelial cells
- d) Destruction of follicles, lymphoid aggregates, and Hürthle cell metaplasia
- e) Atypical follicular cells with invasion into thyroid capsule

- 35) A 70-year-old man has a 35-year history of diabetes mellitus with poor compliance to treatment. He now has problems with sexual function, including difficulty attaining an erection. He also has difficulty with urination. These problems are most likely to originate from ONE of the following mechanisms of cellular injury:
- a) Coagulative necrosis
 - b) Sorbitol accumulation
 - c) Nonenzymatic glycosylation
 - d) Leukocytic infiltration
 - e) Chronic scarring
- 36) One of the following is the most common complication for transcutaneous fine needle aspiration:
- a) Spread of malignancy
 - b) Pneumothorax
 - c) Introduction of infections
 - d) Haemothorax
 - e) Bleeding
- 37) One of the following is a special stain in cytology:
- a) Haematoxylin.
 - b) Orange G-6
 - c) Gram stain
 - d) Eosin Y
 - e) Eosin Azur
- 38) In conventional Pap smear cytology, one of the following statement is true of the endometrial cells:
- a) The cells appear singly
 - b) The cells are frequently encountered in second half menstrual cycle.
 - c) The cells are frequently encountered in the first half of menstrual cycle
 - d) The cells are obtained directly by endometrial aspiration.
 - e) The cells obtained from vaginal pool are usually well preserved.

39) One of the following is a clearing agent used in cytology:

- a) Xylene
- b) Acetone
- c) DPX
- d) Ethanol
- e) Formalin

40) One of the following statements is true of exfoliative cytology:

- a) Method enriches the cell sample
- b) Sub epithelial lesion may be sampled
- c) The cells obtained are poorly preserved
- d) The cells are obtained by brushing
- e) Wide range of target site is sampled

41) Epithelium of vaginal mucosa is composed of:

- a) Non keratinized squamous cells
- b) Ciliated columnar cells
- c) Single layer of cuboidal cells
- d) Non ciliated columnar cells
- e) Mucinous cells

42) One of the following is NOT a characteristic of superficial squamous cells in a PAP smear:

- a) Have affinity for acidic dyes
- b) Have nuclear size that is bigger than that of an intermediate cell
- c) The cytoplasm stains deeply blue
- d) May appear singly
- e) Are round

43) One are the predominant cells seen in pap smear from a woman in proliferative phase of menstrual cycle:

- a) Superficial cells
- b) Parabasal cells
- c) Intermediate cells
- d) Endometrial
- e) Basal cells

44) 14. The most common fixative in cytology is:

- a) Formalin
- b) Acetone
- c) Methanol
- d) Propanol
- e) Ethanol

45) When delay in preparation of sputum specimen is anticipated, one of the following fixatives is used before transportation to the laboratory:

- a) 10% formalin
- b) 10% Propanol
- c) 50-70% ethanol.
- d) 98% ethanol
- e) Absolute ethanol

46) One of the following is a mountant:

- a) DPX.
- b) Xylene
- c) Propanol
- d) Acetone
- e) Absolute alcohol

47) Papanicolaou's earliest work in human cancer concentrated on study of one of the following organ system:

- a) Respiratory
- b) Urinary
- c) The skin
- d) Gastrointestinal
- e) Female reproductive

48) Epithelium of ectocervix is composed of:

- a) Ciliated columnar cells
- b) Goblet cells
- c) Metaplastic squamous cells
- d) Non ciliated columnar cells
- e) Non keratinized squamous cells

49) Epithelium of labia minora is composed of:

- a) Metaplastic squamous cells
- b) Ciliated columnar cells
- c) Keratinized squamous cells
- d) Non ciliated columnar cells
- e) Non keratinized squamous cells

50) One of the following is the most common site of endometriosis:

- a) Pelvic peritoneum
- b) Ovary
- c) Retrovaginal septum
- d) Uterine ligament
- e) Vagina

51) One of these factors stimulates the proliferation of smooth-muscle cells and relates to the pathogenesis of atherosclerosis:

- a) Platelet-derived growth factor
- b) Tumor necrosis factor
- c) Transforming growth factor β
- d) Interleukin 1
- e) Interferon α

- 52) The most characteristic and frequent feature of chronic rheumatic heart disease is the development of:
- a) Vegetations on the endocardium
 - b) Stenosis of the mitral valve
 - c) Incompetence of the pulmonary valve
 - d) Fibrin deposits within the pericardium
 - e) Aschoff bodies within the myocardium
- 53) All the following conditions are correctly paired with their corresponding pathologic findings, EXCEPT:
- a) Systemic Hypertension – concentric hypertrophy of the left ventricle
 - b) Fibrinous pericarditis - Rheumatic heart disease.
 - c) Hemangiosarcoma – well demarcated, minimally invasive mass on the epicardial surface
 - d) Hypertrophic Cardiomyopathy – systolic anterior motion of mitral valve leaflet causing left ventricular outflow tract obstruction
 - e) Parvovirus – necrotizing myocarditis
- 54) Marfan's syndrome is most associated with:
- a) Endocarditis
 - b) Aortic dissection
 - c) Arrhythmia
 - d) Left ventricular dilation with markedly reduced contractile function
 - e) Restrictive cardiomyopathy
- 55) One of the following is NOT a small vessel vasculitis:
- a) Wegener granulomatosis
 - b) Polyarteritis Nodosa
 - c) Microscopic polyangiitis
 - d) HenochSchonleinPurpura
 - e) Churg-Strauss syndrome

56) One of the following is correct regarding acute interstitial pneumonia:

- a) Is thought to be triggered by an unknown insult to the alveolar epithelium
- b) Has a mean age of 30yrs for affected patients
- c) Has a low mortality rate of 5%
- d) Early phase also called the organizing phase shows fibroblastic proliferation
- e) Affects men far greater than women

57) The type of emphysema commonly caused by cigarette smoking is:

- a) Pan acinar
- b) Irregular
- c) Distal acinar
- d) Concentric
- e) Centriacinar

58) Regarding nonatopic asthma:

- a) Is also called extrinsic type asthma
- b) Is often of later onset and more persistent.
- c) Is the most common type of asthma
- d) Is typically triggered by bacterial respiratory infection
- e) Produces positive skin tests

59) One of the following is correct about asbestos related diseases:

- a) Symptoms of asbestos exposure occur immediately after contact with the mineral.
- b) Asbestos acts as a tumour initiator and promoter
- c) Concomitant smoking is not an increased risk for carcinoma related to asbestos exposure
- d) Mesothelioma but not lung carcinoma is a common cancer related to asbestos exposure
- e) Serpentine asbestos fibre types are the most pathogenic

- 60) A 19-year-old female presents with urticaria that developed after taking aspirin. She has a history of chronic rhinitis and nasal polyps. This patient is at an increased risk of developing one of the following pulmonary diseases following the ingestion of aspirin:
- a) Asthma
 - b) Chronic bronchitis
 - c) Emphysema
 - d) Interstitial fibrosis
 - e) Pulmonary hypertension
- 61) One of the following is a correct association concerning the pathogenesis of smoking-induced emphysema:
- a) Destruction of distal acinus = centrilobular emphysema
 - b) Destruction of distal acinus = paraseptal emphysema
 - c) Destruction of entire acinus = panlobular emphysema
 - d) Destruction of proximal acinus = centrilobular emphysema
 - e) Destruction of proximal acinus = paraseptal emphysema
- 62) A 70-year-old male is diagnosed with a brain tumor arising in the white matter. The tumor appears to be rapidly expanding. Microscopic examination of his brain revealed an increased number of glial cells appearing in a palisading manner. A gross feature of this tumor would be:
- a) Variegated appearance
 - b) Spongiform appearance
 - c) Liquefactive necrosis
 - d) Increased gliosis
 - e) Lymphocytic infiltration and lipid laden macrophages
- 63) ONE of the following is the pathogenesis of osteopetrosis (marble bone disease):
- a) Mutations interfering with acidification of the osteoclast resorption pit.
 - b) Defective mineralization of osteoid
 - c) Reduction in trabecular bone mass

- d) Imbalance between osteoclast and osteoblast activity with an osteoclastic phase, a mixed osteoclastic- osteoblastic phase followed by an osteoblastic phase
 - e) Disorders of connective tissue due to mutations in the gene for type I collagen.
- 64) A bone biopsy taken from a 55-year-old male revealed a mosaic bone pattern. Which disease is associated with these results?
- a) Osteoporosis
 - b) Paget's disease of bone
 - c) Osteopetrosis
 - d) Osteomalacia
 - e) Achondroplasia
- 65) Achondroplasia is a disorder of bone whereby there is a mutation in the fibroblast growth factor receptor 3 (FGFR3) gene leading to impaired cartilage proliferation in the growth plate. Why is it that affected children have a normal sized head and vertebral column whilst arms and legs are shortened?
- a) Growth hormone and insulin like growth factor 1 levels only affect long bones
 - b) Intramembranous bone formation (flat bones) vs endochondral bone formation (long bones)
 - c) The entire skeleton is involved
 - d) Flat bones are less susceptible to fracture
 - e) Difference in bone density
- 66) A woman from Asia has increased levels of beta β -HCG and a hemorrhagic friable uterine mass. She recently had a molar pregnancy. Which of the following is a key feature of her disease?
- a) Malignant cytotrophoblasts
 - b) Malignant syncytiotrophoblasts
 - c) Cured with chemotherapy
 - d) Extensive metastasis
 - e) Malignant intermediate trophoblast

- 67) A 39-year-old female presents with history of pelvic pain, dysmenorrhea and infertility. Ultrasound showed multilocular ovarian cysts. What is the likely diagnosis?
- a) Metastatic ovarian cancer
 - b) Endometriosis
 - c) Leiomyomas
 - d) Adenomyosis
 - e) Acute pelvic inflammatory disease
- 68) A 71-year-old male presents with dysphagia and is found to have a 5-cm mass that is located in the middle third of the esophagus and extends into adjacent lung tissue. A biopsy from this mass would most likely reveal:
- a) Infiltrating single cells having intracellular mucin
 - b) Infiltrating sheets of cells forming keratin
 - c) Infiltrating groups of cells forming glandular structures
 - d) A mass composed of benign smooth-muscle cells
 - e) A mass composed of benign cartilage
- 69) Familial polyposis coli is characterized by:
- a) Autosomal recessive pattern of inheritance
 - b) Multiple hamartomatous polyps throughout the colon
 - c) 100% risk of carcinoma
 - d) An association with fibromatosis and multiple osteomas
 - e) An association with tumors of the central nervous system
- 70) Postmortem histologic sections taken from the liver of a 19-year-old female who died from an overdose of acetaminophen would most likely reveal:
- a) Centrilobular necrosis
 - b) Focal scattered necrosis
 - c) Geographic necrosis
 - d) Midzonal necrosis
 - e) Periportal necrosis

71) ONE of the following clinical features is suggestive of severe iron deficiency anaemia:

- a) Jaundice
- b) Angular cheilitis
- c) Koilonychia
- d) Loss of proprioception
- e) Tachycardia

72) One of the following is considered a low grade lymphoma:

- a) Anaplastic large cell lymphoma
- b) Burkitt's lymphoma
- c) Diffuse large B cell lymphoma
- d) Follicular lymphoma
- e) Hodgkin lymphoma

73) Mucosal associated lymphoid tissue lymphomas (MALTomas) have been associated with infections with:

- a) *Campylobacter jejuni*
- b) Cytomegalovirus
- c) Epstein-Barr virus
- d) *Helicobacter pylori*
- e) Human immunodeficiency virus

74) The following are features common to mycosis fungoides and Sezary syndrome EXCEPT:

- a) Both are T cell lymphomas
- b) Involvement of the skin
- c) Can present huge tumour nodules at late stages
- d) Have a short accelerated clinical course
- e) Spread to lymphnodes and peripheral blood

75) ONE of the following therapeutic drugs will cause neutropenia:

- a) Cyclophosphamide
- b) Erythropoietin
- c) GM-CSF
- d) Thyroxine
- e) Prednisone

76) In IgA nephropathy (Berger's disease), the IgA deposits:

- a) Can be seen on routine H/E-stained sections
- b) Are attached to the mesangium
- c) Can be seen as casts on urinalysis
- d) Urine dipstick test is positive
- e) Result from type II auto-immune reactions to viral toxins

77) One of the following antibiotics may cause acute tubular necrosis:

- a) Erythromycin
- b) Cabacol
- c) Chloramphenicol
- d) Gentamicin
- e) Phenacetin

78) The pathognomonic feature of ineffective erythropoiesis is:

- a) Megaloblastosis
- b) Intravascular haemolysis
- c) Marrow aplasia
- d) Intramedullary apoptosis
- e) Extramedullaryhaemopoiesis

79) A bone marrow aspirate is reported to have 35% lymphoblasts. It would be correct to state that:

- a) Therapy with cytotoxic drugs should be started immediately
- b) Rituximab is the drug of choice

- c) The blasts contain Auer rods
- d) The patient has B cell Acute lymphoblastic leukaemia (ALL)
- e) Flow cytometry is the next logical laboratory test

80) The following are variants of the Reed Sternberg cell, EXCEPT:

- a) Popcorn cell
- b) Mononuclear
- c) Lymphocytic and histiocytic (L-H) cell
- d) Lacunar cell
- e) Anitschkow cell

81) The following viruses can cause thrombocytopenia, EXCEPT:

- a) CMV
- b) HAV
- c) HBV
- d) HIV
- e) HSV

82) ONE of the following statements is true:

- a) High concentrations of fibrin degradation products favour thrombosis
- b) Plasmin is converted to plasminogen to activate fibrinolysis
- c) Snake venoms can induce hyperfibrinolysis
- d) Streptokinase is the antidote for DIC
- e) COVID-19 presents with low serum D-dimer concentrations

83) The following are congenital hypercoagulable disorders, EXCEPT:

- a) Protein S deficiency
- b) Antithrombin III deficiency
- c) Factor VIII deficiency
- d) Factor V_{leiden} deficiency
- e) Protein C deficiency

84) ONE of the following is a myeloproliferative neoplasm:

- a) Refractory cytopaenia
- b) Chronic myelomonocytic leukaemia
- c) Non-Hodgkin's lymphoma
- d) Myelofibrosis
- e) Chronic lymphocytic leukaemia

85) ONE of the following is the subtype of acute myeloblastic leukaemia most likely to cause DIC:

- a) AML-M0
- b) AML-M1
- c) AML-M3
- d) AML-M6
- e) AML-M7

86) ONE of the following is true about adult polycystic kidney disease:

- a) Inherited as autosomal dominant
- b) The kidneys are fused at the lower poles
- c) The kidneys are located in the pelvis at birth
- d) It is less common than childhood polycystic kidney
- e) Most of the patients die in infancy

87) One of the following is a feature of Waldenstrom's macroglobulinaemia:

- a) Hyperviscosity syndrome
- b) Monoclonal production of IgD
- c) Arises from transformed T lymphocytes
- d) Is a component of lymphoplasmacytic leukaemia
- e) Absence of M protein

88) A T-cell lymphoma among the following is:

- a) Follicular lymphoma
- b) Mantle cell lymphoma

- c) Small lymphocytic lymphoma
- d) Burkitt lymphoma
- e) Anaplastic large cell lymphoma

89) The special stain that would demonstrate renal amyloidosis in tissue sections is:

- a) Congo red
- b) Haematoxyline and eosin
- c) Masson's trichrome
- d) Giemsa
- e) Warthin Starry

90) One of the following is true about Wilm's tumour:

- a) May present with concurrent aniridia and mental retardation
- b) It is an adenocarcinoma
- c) Patients can present with paraneoplastic syndromes
- d) It arises from tubular epithelial cells
- e) It arises from transitional epithelium of the renal pelvis

86) In which breast structure do tumours most frequently arise?

- a) Nipple.
- b) Lactiferous sinus.
- c) Segmental duct.
- d) Adipose tissue.
- e) Terminal duct lobular unit.

87) One of the following breast diseases is not associated with formation of cysts:

- a) Fat necrosis.
- b) Duct ectasia.
- c) Fibrocystic change.
- d) Phyllodes tumor.
- e) Apocrine metaplasia.

88) The most important prognostic factor in breast malignancy is:

- a) Age of patient.
- b) Size of tumor.
- c) Lymph node status.
- d) Histologic type.
- e) ER status.

89) One of the following is not a frequent site of metastasis from breast malignancy:

- a) Bone.
- b) CSF.
- c) Lymph node.
- d) Lung.
- e) Skin.

90) Which of the following tests would you recommend as a gold standard for diagnosis of breast cancer?

- a) Mammography.
- b) Immunohistochemistry for ER/PR status.
- c) Genetic markers.
- d) FNA for cytology.
- e) Biopsy for histopathology.

91) A chemical stain used to demonstrate fat in tissue is:

- a) Haematoxylin and eosin.
- b) Giemsa.
- c) Sudan black
- d) Reticulin stain.
- e) Masson's trichrome.

92) The correct sequence of tissue processing is:

- a) Clearing, dehydration, embedding, staining.
- b) Fixation, embedding, cutting, clearing.

- c) Fixation, clearing, embedding, cutting.
- d) Dehydration, clearing, embedding, cutting.
- e) Clearing, embedding, dehydration, staining.

93) Degradation of biological material due to bacterial activity is called:

- a) Apoptosis.
- b) Autolysis.
- c) Liquefaction.
- d) Infarction.
- e) Hydropic change

94) The main purpose of a cryotome is:

- a) Slicing routine histologic samples.
- b) Slicing frozen samples.
- c) Slicing bone.
- d) Slicing alcohol fixed cell blocks
- e) Slicing embedded in wax.

95) A definition for fixation is:

- a) Freezing of histology samples.
- b) Waxing of tissue specimens
- c) Submerging of samples to preserve.
- d) Drying of histology samples.
- e) Decalcification of samples.

96) The common colour of nuclei in H and E stained section is:

- a) Bright red.
- b) Blue to purple.
- c) Pale pink
- d) Deep purple.
- e) Green.

97) A person is declared dead if he is not found for:

- a) 2 years.
- b) 5 years.
- c) 7 years.
- d) 10 years.
- e) 15 years.

98) A patient suffers severe head injury and has no relatives to sign a consent for surgery. The doctor should:

- a) Operate with no formal consent.
- b) Wait for relatives.
- c) Request police consent.
- d) Request hospital administrator's consent.
- e) Request courts consent.

99) Disciplinary control of registered medical practitioners falls under the jurisdiction of:

- a) Ministry of health.
- b) Cabinet Secretary of health.
- c) Director General of Medical services.
- d) Medical Practitioners and Dentists Council.
- e) Medical practitioners' union.

100) Medico legal autopsy requires consent from:

- a) The relatives.
- b) The magistrate.
- c) The government.
- d) The doctor.
- e) The police.

- 101) A post mortem change on tissue due to action of animals on a deceased body is:
- a) Adipocere formation
 - b) Autolysis
 - c) Decomposition
 - d) Predation
 - e) Hypostasis
- 102) One characteristic that would define a contact entrance gunshot wound on the skin is:
- a) Powder tattooing
 - b) Singeing of hair
 - c) Muzzle imprint
 - d) Burn on the skin
 - e) Bruising
- 103) The most characteristic feature of an exit gunshot wound is:
- a) It is smaller than the entrance wound
 - b) Always linear to the entrance wound
 - c) Has everted edges
 - d) Smooth margins
 - e) Has soot and tattooing
- 104) A body was found with deep wounds caused by a wood cutter's axe. The type of wound could best be described as:
- a) Incisional wound
 - b) Stab wound
 - c) Sliced wound
 - d) Chop wound
 - e) Bruise
- 105) The best method to identify a person is:
- a) Finger printing.
 - b) Dental formula.
 - c) DNA typing.
 - d) Blood grouping.
 - e) Body tattoos.