

Government Medical College and Hospital Sector 32, Chandigarh

Post: Demonstrator (Post-PG) Pathology and Resident Pathologist

QUESTION BOOKLET

Time: 120 Minutes

Number of Question: 100

Maximum Marks: 100

Name of Candidate

Roll Number: In figure

In Words

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Signature of the Candidate: _____

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS:-

1. Write your Roll Number on the Question Booklet and also on the OMR Sheet in the space provided. You will be required to give your thumb impression on the OMR sheet in the space provided.
2. This question booklet contains 100 MCQ's. Once you are permitted to open the Question Booklet, please check for any missing question / misprint etc. and in case of any discrepancy, inform the Assistant Superintendent / Invigilator within 10 minutes of the start of the test.
3. Each question has four alternative answer (A, B, C, D) out of which only one is correct. For each question, **darken only one bubble (A or B or C or D)**, whichever you think is the correct answer, on the OMR Answer sheet **with Black or Blue Ball Pen only**. Do not use any other Pen / Gel pen / Pencil etc. **Do not Tick \sqrt or \times on the OMR Sheet**. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the Questions given in the Question Booklet.
4. Each MCQ is of One (01) mark. There is no negative marking.
5. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the OMR Answer sheet.
6. The OMR Answer sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given, it may make evaluation by the computer difficult. Any resultant loss to the candidates on the above account, i.e. not following instructions completely and properly, shall be the responsibility of the candidates only.
7. After the test, handover the Question Booklet and OMR sheet to the Invigilator on duty.
8. A Candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper or the any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre superintendent/Observer whose decision shall be final.
9. Telecommunication equipment such as pager, cellular phone, wireless, scanner, smart watch/ watch etc. is not permitted inside the examination hall. Use of calculators is not allowed.
10. Candidate should ensure accuracy of their personal details on the OMR Sheet i.e. Name and Roll No. as well as thumb impression. The personal details are to be filled in by the candidates with his/her own hand writing.

Q.1 Plasma cell myeloma can be distinguished from solitary plasmacytoma by:

- A. Radiographs
- B. CD 19 expression
- C. Plasmablastic features
- D. t (11,14) translocation

Q.2 Which of the following is positive for both CD34 and CD117 immunostain:

- A. Eosinophil
- B. Mast cell
- C. Myeloblast
- D. Basophil

Q.3 A 16-year-old boy was diagnosed to have CML. Which of the following statements regarding CML in children and young adults is correct?

- A. Less aggressive clinical presentation than older adults
- B. Presents with accelerated or blast phase more frequently
- C. Tends to have better cytogenetic response
- D. Tends to have higher complete molecular response

Q.4 The most reliable test to diagnose primary polycythemia is:

- A. Detection of JAK2 exon 12 mutation
- B. Increased EPO levels
- C. Marrow fibrosis grade 3
- D. Presence of BCR-ABL1 gene fusion product

Q.5 The minimum level and duration of eosinophilia required to make a diagnosis of hyper-eosinophilic syndrome is:

- A. $1.0 \times 10^9/L$ for at least 3 months
- B. $1.0 \times 10^9/L$ for at least 6 months
- C. $1.5 \times 10^9/L$ for at least 3 months
- D. $1.5 \times 10^9/L$ for at least 6 months

Q.6 One of the following clinical features is more commonly associated with POEMS syndrome than multiple myeloma:

- A. Bone Pain
- B. Neuropathy
- C. Renal Failure
- D. Organomegaly

Q. 7 Which immunohistochemical stain is most likely to be positive in Paget disease of the breast:

- A. CK20
- B. ER
- C. PR
- D. HER2

Q. 8 Which of the following is a poor prognostic factor in triple negative breast cancer:

- A. Complete pathologic response to Neoadjuvant chemotherapy
- B. Small tumour size
- C. Presence of tumour infiltrating lymphocytes
- D. Presence of central necrosis

Q. 9 Which 2 factors are used to estimate risk of progression in gastrointestinal stromal tumours:

- A. Mitotic rate and size
- B. Necrosis and Ki67 index
- C. Size & Ki67 index
- D. Mitotic rate and necrosis

Q.10 A 60 year old man presents with hematuria. His urine examination shows cells with high N/C ratio, nuclear hyperchromasia and pleomorphism. The correct diagnosis is:

- A. Benign urothelial cells
- B. High grade urothelial carcinoma
- C. Low grade urothelial carcinoma
- D. Polyoma virus infection

Q. 11 Which is the most important prognostic factor for esophageal squamous cell carcinoma:

- A. Tumour grade
- B. Tumour length
- C. Tumour stage
- D. Tumour location

Q.12 A 25-year female had slowly growing mass on upper eyelid and the biopsy revealed Chalazion. What is the key finding on histopathology?

- A. Exuberant granulation tissue
- B. Fibrosing inflammation
- C. Lipogranuloma
- D. Acute inflammation

Q. 13 Which one of the following is referred to as immediate transient response in acute inflammation:

- A. Endothelial injury
- B. Retraction of endothelial cells
- C. Transcytosis
- D. Margination of leukocytes

Q. 14 The most efficient bactericidal system is:

- A. Nitric oxide
- B. Granule enzymes
- C. H_2O_2 – MPO Halide system
- D. Neutrophil extracellular traps

Q. 15 Foreign body granulomas are formed due to:

- A. Persistent T-cell mediated immune response
- B. Absence of T-cell mediated immune response
- C. IL-2 and IFN- γ activation
- D. Activation of TNF

Q. 16 What does phosphorylation of Retinoblastoma gene lead to:

- A. Inhibits cell replication
- B. Promotes cellular quiescence
- C. Stops cell cycle progression
- D. Promotes cell division

Q. 17 An adult with sickle cell disease exhibits target cells and Howell- Jolly bodies in his peripheral smear. The most likely explanation for these findings is:

- A. Significant hemolysis
- B. Autosplenectomy
- C. Chronic hepatitis B infection
- D. Folate deficiency

Q. 18 A 4-year-old boy presents with recurrent bacterial and fungal infections primarily involving his skin and respiratory tract. Physical examination reveals the presence of oculocutaneous albinism. His peripheral blood smear shows large granules within neutrophils, lymphocytes, and monocytes. The total neutrophil count is found to be decreased. Which of the following is the most likely diagnosis?

- A. Ataxia-telangiectasia
- B. Chédiak-Higashi syndrome
- C. Chronic granulomatous disease
- D. Ehlers-Danlos syndrome

Q. 19 One of the following is false about Paroxysmal nocturnal hemoglobinuria (PNH):

- A. There occurs somatic mutation of X linked PIGA gene
- B. Causes chronic extravascular hemolysis
- C. Sucrose lysis test is done for diagnosis
- D. Hematopoietic stem cells are affected

Q. 20 A 3-month-old girl presents with fever and hepatosplenomegaly. Her Hb is 5.2 gm/dL, platelets 23,000/microliter, and white blood cell count 375,000/microliter with 90% lymphoblasts. CSF shows 5 RBCs and 500 WBCs with blasts on cytopsin. The most likely karyotype is:

- A. 46, XX
- B. 46, XX, t(4;11)
- C. 46, XX, t(1;19)
- D. 42, XX, -4, -7, -9, -16

Q. 21 As per International Myeloma Working Group (IMWG) Criteria for the Diagnosis of Multiple Myeloma, all are Myeloma defining events EXCEPT:

- A. One or more osteolytic lesion on skeletal radiography, CT, or PET/CT
- B. 60% or greater clonal plasma cells on bone marrow examination
- C. Serum involved / uninvolved free light chain ratio of 100 or greater
- D. More than one focal lesion on MRI that is at least 5mm or greater in size

Q. 22 A flow cytometric Eosin-5-maleimide (EMA) binding test is positive in:

- A. Hereditary Spherocytosis
- B. Congenital dyserythropoietic anemia type II
- C. Multiple myeloma
- D. Thalassemia

Q. 23 A 12- year- old girl presents with profuse diarrhoea which was initially watery and then became bloody. She also had fever, abdominal pain, petechial rash and vomiting. Blood examination revealed a low haemoglobin, LDH and bilirubin, low platelets and acute renal failure. Coombs test is negative. What other features would likely be found on blood film:

- A. Target cells
- B. Fragmented Red Cells
- C. Bite Cells
- D. Elliptocytes

- Q. 24 Biopsy of a lymph node of a 53-year-old male shows metastasis of an unknown tumor. Which immunohistochemical panel is consistent with primary prostate carcinoma:
- A. AE1/AE3-, S100+, Melan A+, AMACR+
 - B. AMACR+, CDX2+, CK20+
 - C. AMACR+, p63-, HMWCK-, NKX3.1+
 - D. AMACR+, p63+, HMWCK+, NKX3.1-
- Q. 25 Which of the following results is interpreted as positive staining (score 3+) for HER2 in breast adenocarcinoma?
- A. Complete, intense basolateral membranous staining >10% of tumor cells
 - B. Complete, intense circumferential membranous staining >10% of tumor cells
 - C. Complete, intense luminal membranous staining >10% of tumor cells
 - D. Complete, intense nuclear and cytoplasmic staining >10% of tumor cells
- Q. 26 Lymphoepithelioma-like carcinoma of the lung has been linked to which pathogen, particularly in Asian populations?
- A. Epstein-Barr virus
 - B. Human immunodeficiency virus
 - C. Human papilloma virus
 - D. Human T lymphotropic virus
- Q. 27 Which of the following regarding arteritis lesions in allograft transplant biopsies is correct:
- A. Are always characterized by Fibrinoid necrosis
 - B. Are associated with a good prognosis
 - C. Are only associated with chronic rejection
 - D. Can be seen in both T cell mediated and antibody mediated rejections
- Q. 28 A 43-year old woman is seen in the clinic due to visual disturbances. An MRI of the cranium is performed and reveals the presence of a solid and cystic mass in the suprasellar region. The lesion is resected and histologic examination reveals abundant well differentiated squamous epithelium overlying fibrovascular cores, membranous staining of beta catenin and presence of BRAF V600E mutation. Which of the following is the most likely diagnosis:
- A. Adamantinomatous craniopharyngioma
 - B. Dermoid cyst
 - C. Papillary craniopharyngioma
 - D. Rathke cleft cyst
- Q. 29 Regarding typical carcinoid tumors of the lung, which of the following statements is true:
- A. Diagnostic criteria are based on mitotic rate and Ki67 proliferation index
 - B. Most patients are smokers
 - C. Mostly found in peripheral airways
 - D. May arise in the context of diffuse idiopathic pulmonary neuroendocrine cell hyperplasia and tumorlets
- Q. 30 A 30-year-old female presented to Gynaecology clinic with lower abdomen pain. She was using intra-uterine device for contraception. Which of the following organism might be responsible for causing pelvic inflammatory disease (PID) in this patient:
- A. Trichomonas
 - B. Actinomyces
 - C. Candida
 - D. Herpes simplex virus
- Q. 31 Which of the following is the only acceptable diagnosis in the 2021 WHO classification of tumors of the central nervous system:
- A. Anaplastic astrocytoma, IDH mutant
 - B. Anaplastic astrocytoma, IDH wild type
 - C. Glioblastoma, IDH mutant
 - D. Glioblastoma, IDH wild type

- Q. 32 Which of the following genetic mutations is most commonly associated with Erdheim-Chester disease:
- APC
 - BRAF V600E
 - KIT D816V
 - PTEN
- Q. 33 Which of the following features is more commonly seen in classic lobular carcinoma compared with pleomorphic lobular carcinoma:
- Formation of invasive tubular structures
 - Markedly pleomorphic nuclear features
 - Estrogen receptor positivity
 - TP53 mutation
- Q. 34 Which of the following variants of papillary thyroid carcinoma is considered as an aggressive variant:
- Follicular variant
 - Papillary microcarcinoma
 - Tall cell variant
 - Warthin-like variant
- Q. 35 Which of the following statements is true regarding squamous cell carcinoma of the cervix:
- Most are associated with HPV 18
 - Nearly all cases are associated with high risk HPV and arise from a precursor lesion, HSIL
 - Poorly differentiated squamous cell carcinomas are associated with high risk HPV subtypes, while low risk HPV subtypes are more likely to cause well differentiated tumors
 - It is the second most common type of cervical cancer following endocervical adenocarcinoma
- Q. 36 A 24- year- old woman presents with vaginal bleeding during the 14th week of pregnancy. Her serum beta hCG levels are markedly elevated at 1,780,000 mIU/ml. Ultrasound reveals no visible fetus but a snowstorm pattern is noted. Curettage reveals 510 grams of bloody granular and friable tissue with numerous small vesicles, which contain clear, colorless fluid. No fetal parts are seen grossly. Microscopic examination shows chorionic villi with circumferential trophoblastic proliferation and cistern formation. Which of the following is true about this condition:
- Abnormal karyotype may arise from endoreplication of paternal chromosome
 - Immunostaining for p57 should be negative in decidual tissue and syncytiotrophoblasts
 - Typical genetic profile is diandric triploidy
 - This results from fertilization of a haploid ovum with two haploid sperm cells
- Q. 37 A 20- year- old man presents with chronic diarrhea, weight loss and vesicular skin lesions on his upper extremities. Duodenal biopsy showed villous blunting and increased intraepithelial lymphocytes. The skin lesions were concurrently biopsied which showed a bulla at the dermo- epidermal junction. What will be seen on direct immunofluorescence:
- Granular IgA with or without C3 deposits on the tips of the dermal papillae
 - Intracellular IgG and C3 deposition in the epidermis (chicken wire pattern)
 - Linear IgA deposition along the basement membrane
 - Linear IgG and C3 deposition along the basement membrane
- Q. 38 In delayed type of hypersensitivity reaction, differentiation of T cells to Th17 subset occurs due to:
- Production of IFN γ and IL-2 by the antigen presenting cells
 - Secretion of IL-12 by the effector cells
 - Secretion of Ig E by mast cells
 - Secretion of IL-1 and IL-6 by the Antigen presenting cells

- Q. 39 The study of heritable chemical modifications of DNA that does not alter the DNA sequence is known as:
- Genome wide analysis
 - Array based competitive Genome hybridization
 - Epigenetics
 - Next generation sequencing
- Q. 40 Which out of the following is not a mechanism of immune evasion by the tumor cells:
- Masking of tumor antigens
 - Apoptosis of cytotoxic T-cells
 - T cell recognition of tumor antigen
 - Selective outgrowth of antigen negative variants
- Q. 41 The genes that regulate normal morphogenesis during development is:
- SMAD 1 and SMAD 2
 - Homeobox genes
 - PTEN homologue
 - Mismatch repair genes
- Q. 42 The tumor suppressor gene p53 induces cell cycle arrest by blocking the progression of cell cycle from:
- G1-S phase
 - G0- G1 phase
 - G1 - M phase
 - G2- M phase
- Q. 43 The strongest indicator of acute humoral rejection of renal allograft is:
- Deposition of complement breakdown product C4d
 - Activation of properdin
 - CD4+ and CD 8+ lymphocytes in the interstitium
 - Neutrophilic infiltrate in the capillaries
- Q. 44 The oncogenic potential of HPV due to increased expression of E6 and E7 oncoproteins does not involve:
- Inhibition of p53 and RB gene
 - Inhibition of TERT
 - Inhibition of CDKI p21
 - Increased telomerase expression
- Q. 45 The genetic bases of MEN 2A syndrome is:
- Point mutations in RET extracellular domain
 - Point mutations in RET cytoplasmic domain
 - Somatic rearrangements of RET gene
 - Point mutations in FLT3 gene
- Q. 46 The process that involves a systematic comparison of all sequence data from a sample with the reference sequence to detect a variant in bioinformatics is known as:
- Variant annotation
 - Variant interpretation
 - Mutational signature calling
 - Variant calling
- Q. 47 All of the following can cause both arterial and venous thrombosis, except:
- APLA syndrome
 - Hyper homocysteinemia
 - Protein C deficiency
 - Polycythemia vera
- Q. 48 Antiphospholipid antibody syndrome (APLA) is associated with all of the following, except:
- Pancytopenia
 - Recurrent abortions
 - Venous thrombosis
 - Pulmonary hypertension
- Q. 49 Typical dominant hereditary spherocytosis is most commonly caused by deficiency of:
- Ankyrin
 - Band 3
 - Spectrin
 - Protein 4.2
- Q. 50 Which of the following is earliest recognizable change in RBC morphology in case of iron deficiency:
- Hypochromia
 - Anisocytosis
 - Target cells
 - Poikilocytosis

Q. 51 In a patient, ICT is positive but DCT is negative, what is the most likely explanation for this:

- A. Autoimmune Ab present
- B. Alloimmune Ab present
- C. Autoimmune Ab associated with CLL
- D. Autoimmune Ab associated with infectious mononucleosis

Q. 52 A 15 years old girl presented with menorrhagia since menarche, and also has history of gum bleeding, purpura and prolonged bleeding from cut injury. His brother is also having similar complaints from cut injury. On evaluation his factor VIII level is 15% and vW: Ag level is 60 IV/ml. What is the diagnosis of this patient?

- A. VWD type - 2B
- B. VWD type - 2N
- C. Type 3 VWD
- D. Type 1 VWD

Q. 53 A patient had blasts with immunophenotype CD19+, cytoplasmic CD79a+, and cytoplasmic CD22+ and nuclear TdT. The most likely diagnosis is:

- A. Early precursor B ALL
- B. Common ALL
- C. Late pre-B ALL
- D. Mixed phenotype acute leukemia

Q. 54 Cytogenetic abnormalities seen in chronic lymphocytic leukemia (CLL) are all, except:

- A. Trisomy 12
- B. 14q+
- C. del 13q14
- D. 11p deletion

Q. 55 According to WHO 2022 update, Plasma cell leukemia has:

- A. $\geq 20\%$ of Plasma cell in the Peripheral blood smear
- B. $\geq 15\%$ of Plasma cell in the Peripheral blood smear
- C. $\geq 10\%$ of Plasma cell in the Peripheral blood smear
- D. $\geq 05\%$ of Plasma cell in the Peripheral blood smear

Q. 56 Which of the following statement best describes microRNA (miRNA):

- A. Encodes proteins
- B. Modulates translation of target messenger RNA
- C. Modulate gene expression
- D. Encode enzymes

Q. 57 CRISPER stands for which of the following:

- A. clustered removed interspaced short palindromic regulars
- B. clustered regularly intergenic short possible repeats
- C. clustered regularly interspaced short palindromic repeats
- D. Clusters to regulate some protein end regularly

Q. 58 Which of the following does not usually associated/cause FSGS:

- A. HIV associated nephropathy
- B. IgA nephropathy
- C. Idiopathic FSGS
- D. Renal cell carcinoma

Q. 59 Which of the following has a role in gene editing:

- A. Gene Xpert
- B. CRISPR
- C. PCR
- D. Culture

Q. 60 Types of collagens playing important role in wound healing:

- A. I and III
- B. II and IV
- C. III and IV
- D. V and IX

Q. 61 Which of the following polyps has maximum risk of malignant transformation:

- A. Pseudopolyps
- B. Hyperplastic polyp
- C. Juvenile polyp
- D. Tubulovillous adenoma

Q. 62 Which of the following is not a predictive marker for lung carcinoma:

- A. EGFR
- B. P53
- C. PD-LI
- D. ALK

Q. 63 Which of the following soft tissue tumors is strongly immune reactive for CD34:

- A. Synovial sarcoma
- B. Fibrosarcoma
- C. Solitary fibrous tumor
- D. Desmoplastic melanoma

Q. 64 Which of the following is not a feature of WHO grade 2 CNS neoplasms:

- A. Atypia
- B. Hypercellularity
- C. Minimal mitotic activity
- D. Endocapillary proliferation

Q. 65 Cytological diagnostic features of herpes simplex virus infection on PAP smear examination are except:

- A. Cowdry A type inclusion
- B. Cowdry B type inclusion
- C. Multinucleation
- D. Nuclear moulding

Q. 66 The presence of hyaline globules can be seen in all of the following salivary gland tumors except:

- A. Pleomorphic adenoma
- B. Adenoid cystic carcinoma
- C. Polymorphous low grade adenocarcinoma
- D. Warthin Tumour

Q. 67 In Gynae pathology, what does co-testing refer to:

- A. HPV+PAP
- B. HPV + Biopsy
- C. PAP + Biopsy
- D. HPV + HIV

Q. 68 The electron microscopic feature of irreversible injury in myocardial infarction is:

- A. Relaxation of myofibrils
- B. Glycogen loss
- C. Mitochondrial swelling
- D. Sarcolemmal disruption

Q. 69 The following complications can be seen in infective endocarditis except:

- A. Glomerulonephritis
- B. Retinal hemorrhages
- C. Microthromboemboli
- D. Micro-nodular cirrhosis

Q. 70 One of the following is true about scrotal calcinosis:

- A. May occur in a pre-existing epidermoid cyst, or by calcification of dermal tissue without a cyst precursor
- B. Is always associated with a detectable pre-existing cyst
- C. Patients usually have evidence of systemic calcification
- D. Typically presents in older men

Q.71 Which of the following best describes the histologic appearance of *Histoplasma capsulatum*:

- A. Broad based budding
- B. Spherules that contain endospores
- C. Multiple budding
- D. Narrow budding

Q.72 Which of the following statements is true about papillary thyroid carcinoma:

- A. Least common cancer of thyroid
- B. Serum calcitonin is high
- C. Metastasizes through blood
- D. Some patients harbor BRAF- V600E mutation

Q.73 What do primary mucosal melanoma and cutaneous melanoma have in common:

- A. Both use the same staging criteria.
- B. Sun exposure is a risk factor for both.
- C. They have a similar prognosis.
- D. They have the same immunohistochemical profile

Q.74 EUS-FNA of pancreatic mass showing papillary fragments with myxoid stromal cores and monomorphic round cells indicate:

- A. Solid pseudo-papillary neoplasm
- B. Pancreatic endocrine neoplasm
- C. Adenocarcinoma
- D. Lymphoma

Q.75 An I/V drug abuser develops an aggressive form of nephrotic syndrome that does not respond to steroids. The most likely histopathological diagnosis is:

- A. IgA nephropathy
- B. Membranoproliferative glomerulonephritis
- C. Membranous glomerulonephritis
- D. Focal segmental glomerulosclerosis

Q.76 Ultrastructural feature of numerous long slender surface microvilli is characteristic of:

- A. Solitary fibrous tumor
- B. Mesothelioma
- C. Pulmonary adenocarcinoma
- D. Small cell carcinoma lung

Q.77 Which of the following is stored at 20–24°C:

- A. PRBC
- B. Platelets
- C. FFP
- D. Cryoprecipitate

Q.78 All the following may cause warm autoimmune haemolytic anaemia except:

- A. Penicillin
- B. SLE
- C. Methyl dopa
- D. Mycoplasma infections

Q.79 What is NOT true about liquid based cytology as compared to conventional cytology:

- A. Shorter screening time
- B. Ancillary test for HPV can be performed
- C. Significant increase in HSIL detection
- D. Less of unsatisfactory specimens

Q. 80 In a 20-year female, FNAC from cervical lymph node show lymphoid cells admixed with large histiocytes showing lymphophagocytosis. The probable diagnosis is:

- A. Hodgkin's Lymphoma
- B. Kikuchi's disease
- C. Rosai Dorfman disease
- D. Granulomatous lymphadenitis

Q.81 The ladder pattern of DNA electrophoresis in apoptosis is caused by the action of which enzyme:

- A. Caspases
- B. DNase
- C. Transglutaminase
- D. Endonuclease

Q. 82 The pathogenesis of septic shock includes all except:

- A. Activation of monocyte- macrophage
- B. Activation of coagulation system
- C. Activation of renin – angiotensin-aldosterone axis
- D. Activation of complement pathway

Q. 83 Histopathology of a polypoid mass in the uterus showed tumor cells with mild nuclear atypia infiltrating the myometrium. IHC was positive for CD10 and negative for h-caldesmon. The most likely diagnosis is:

- A. Endometrial endometrioid carcinoma
- B. Leiomyosarcoma
- C. Malignant mixed Mullerian tumor
- D. Endometrial stromal sarcoma

Q. 84 A 30- year- old male presented with swelling on the upper arm. Fine needle aspirate revealed fragments of bladder wall of cysticercus. Which of the following statement is true?

- A. Multiple small scolices are seen
- B. Size of the hooklets is 15-40 micron
- C. Bladder wall is thin and membranous
- D. No inflammatory response is seen

Q. 85 A patient with a deficiency in NADPH oxidase is most likely to have:

- A. Wegener's granulomatosis
- B. Chronic granulomatous disease (CGD)
- C. Sarcoidosis
- D. Silicosis

Q. 86 Which term is used to describe the strategy where pathogens change their surface antigens to evade immune detection?

- A. Immune suppression.
- B. Antigenic shift.
- C. Antigenic drift
- D. Immune modulation

Q. 87 The final diameter of the smear in Surepath LBC is:

- A. 10mm
- B. 13mm
- C. 18mm
- D. 20mm

Q. 88 Which of the following is the best fixative for connective tissue stains:

- A. Ethanol
- B. Methanol
- C. Formic acid
- D. Picric acid

Q. 89 Which stain is used to demonstrate the cross striation of skeletal muscle:

- A. Phosphotungstic acid haematoxylin
- B. Elastin Van Gieson
- C. Martius scarlet blue
- D. Periodic acid Schiff

Q. 90 What is the characteristic status of the non-neoplastic liver in patients with fibrolamellar carcinoma:

- A. Chronic viral hepatitis C without advanced fibrosis
- B. Cirrhosis due to chronic viral Hepatitis B
- C. Normal
- D. Steatohepatitis

Q. 91 Which of the following is true regarding the morphologic findings in Wilson disease:

- A. Chronic hepatitis is almost never seen in these patients
- B. Electron microscopy findings are pathognomonic for Wilson disease
- C. Histologic and serologic findings can mimic autoimmune hepatitis
- D. Positive copper stain confirms the diagnosis of Wilson disease

Q. 92 Which of the following findings is most suggestive of acute respiratory distress syndrome (ARDS) / diffuse alveolar damage (DAD):

- A. Bacterial pneumonia
- B. Diffuse collagenous fibrosis
- C. Hyaline membranes
- D. Proliferation of atypical pneumocytes

Q. 93 The immunoprofile of most endometrial clear cell carcinomas includes:

- A. Immunonegativity for AMACR and Napsin A
- B. Immunopositivity for progesterone receptor
- C. Immunopositivity for AMACR and Napsin A
- D. Mutant pattern staining for p53

Q. 94 Which of the following features is required for a diagnosis of endometrial hyperplasia?

- A. Crowded glands with minimal residual intervening stroma
- B. Diffuse nuclear staining for p53
- C. Documentation of a *PTEN* mutation or loss of *PTEN* by IHC
- D. Glands with cribriforming architecture and cytologic alterations distinct from surrounding glands

Q. 95 Which of the following is correct about spermatocytic tumor:

- A. It can be either pure or mixed with postpubertal teratoma
- B. It does not derive from germ cell neoplasia in situ
- C. It often presents as an extragonadal neoplasia
- D. The most frequent location is the mediastinum

Q. 96 Which of the following special stains is most helpful in diagnosing alveolar soft part sarcoma:

- A. Colloidal iron
- B. GMS
- C. PAS with diastase
- D. PAS without diastase

Q. 97 Which of the following is true about malignant peripheral nerve sheath tumors:

- A. Characteristic histology is of alternating hypocellular and hypercellular areas
- B. Glandular elements are never seen in this entity, which can help distinguish it from synovial sarcoma
- C. Lesion always has diffuse and strong S100 positivity due to its nerve sheath origin
- D. Most of these tumors are radiation associated as opposed to arising de novo or in a preexisting neurofibroma

Q. 98 A 28-year-old man undergoes induction chemotherapy for acute myelogenous leukemia. A week later he becomes severely pancytopenic, with WBC count of 1320/ μ L, Hb 7.9 g/dL, and platelet count 72,000/ μ L. MR imaging and angiography reveals a right middle cerebral arterial thrombosis with right parietal hemorrhagic infarction. Which of the following infectious agents is most likely to cause these findings:

- A. Herpes simplex virus
- B. Human immunodeficiency virus
- C. Cytomegalovirus
- D. *Aspergillus flavus*

Q. 99 A 52-year-old previously healthy man has experienced episodes of discomfort with urination for 3 months. His urine analysis reveals 1+ blood. Microscopic urine examination shows numerous RBCs, a few WBCs, and no casts. A plain film radiograph of the pelvis shows a rounded, 1 cm radiopaque lesion in the region of the bladder. Which of the following laboratory test findings is most likely to be present in this man?

- A. Albuminuria
- B. Hypercalciuria
- C. Transaminasemia
- D. Hemoglobinuria

Q. 100 Which of the following is the single best test for diagnosis of iron deficiency anaemia:

- A. Decreased serum ferritin
- B. Decreased serum iron
- C. Decreased serum transferrin receptor
- D. Decreased total iron binding capacity

SUBJECT PATHOLOGY

1	A	21	A	41	B
2	C	22	A	42	A
3	B	23	B	43	A
4	A	24	C	44	B
5	D	25	B	45	A
6	B	26	A	46	D
7	D	27	D	47	C
8	D	28	C	48	A
9	A	29	D	49	A
10	B	30	B	50	B
11	C	31	D	51	B
12	C	32	B	52	B
13	B	33	C	53	A
14	C	34	C	54	D
15	B	35	B	55	D
16	D	36	A	56	B
17	B	37	A	57	C
18	B	38	D	58	D
19	B	39	C	59	B
20	B	40	C	60	A
61	D	81	D		
62	B	82	C		
63	C	83	D		
64	D	84	C		
65	B	85	B		
66	D	86	C		
67	A	87	B		
68	D	88	D		
69	D	89	A		
70	A	90	C		
71	D	91	C		
72	D	92	C		
73	D	93	C		
74	A	94	A		
75	D	95	B		
76	B	96	C		
77	B	97	A		
78	D	98	D		
79	D	99	B		
80	C	100	A		