

To be filled by the candidate)

Booklet S. No. \_\_\_\_\_

Roll No. (In figures) \_\_\_\_\_

Roll No. (In words) \_\_\_\_\_

Name of the Candidate : \_\_\_\_\_

Father's Name : \_\_\_\_\_

Center of Examination : \_\_\_\_\_

**Total No. of Questions : 50**

**Paper Code-2615**

**Name of Examination- Senior Resident/Specialist Tutor Entrance 2026  
Specialty- Pathology**

**Time Allowed : 90 Minutes**

**Maximum Marks : 200**

**IMPORTANT NOTE:**

- (i) OMR Answer Sheet will be supplied by the Examination Centre Superintendent for answering the questions.
- (ii) Use **Blue/Black Ink/ Ball Pen only**, to darken the appropriate circle in the OMR Answer Sheet.
- (iii) Darken one circle deeply for each question in the OMR Answer Sheet, as faintly darkened circle might be rejected by the Optical Scanner.
- (iv) Darkening of more than one circle shall be rejected by the scanner. **Over-writing, cutting, erasing or use of White Fluid is not allowed.**
- (v) Before dealing with the question paper, fill-up the required information with Blue/Black Ball Pen correctly both in the Question Booklet and in the OMR Answer Sheet.
- (vi) Do not fold the OMR Answer Sheet nor put any mark here and there to avoid rejection by the Optical Scanner.
- (vii) Write Roll. No. carefully on the OMR Answer Sheet and darken the appropriate circle properly.
- (viii) **Each question carries Four Marks while 1 mark shall be deducted for each incorrect response.**
- (ix) **Use of Calculator is not allowed.**
- (x) **No over-writing, cutting, erasing or use of white fluid is allowed.**
- (xi) Rough work be done on the sheet(s) at the end.
- (xii) **MOBILE TELEPHONES (EVEN ON SWITCH-OFF MODE) AND SUCH OTHER ELECTRONIC DEVICES ARE NOT ALLOWED INSIDE THE EXAMINATION HALL.**
- (xiii) The question paper-booklet will be retained by the candidate after the entrance test is over.

1. **Swelling of mitochondria with amorphous densities indicates:**
  - A. Reversible injury
  - B. Apoptosis
  - C. Irreversible injury
  - D. Autophagy

**Answer : Both A & C are correct**
2. **Which adaptation is potentially reversible but predisposes to malignancy?**
  - A. Atrophy
  - B. Hypertrophy
  - C. **Metaplasia**
  - D. Dysplasia
3. **Myofibroblasts are responsible for:**
  - A. Angiogenesis
  - B. Collagen degradation
  - C. **Wound contraction**
  - D. Epithelial regeneration
4. **Pulmonary infarcts are classically:**
  - A. Pale and wedge-shaped
  - B. **Haemorrhagic**
  - C. Caseating
  - D. Liquefactive
5. **Microsatellite instability is due to defects in:**
  - A. Homologous recombination
  - B. Nucleotide excision repair
  - C. **Mismatch repair**
  - D. Base excision repair
6. **Which pathway is most commonly dysregulated in colon carcinoma?**
  - A. RAS–MAPK
  - B. **APC– $\beta$ -catenin**
  - C. p53–MDM2
  - D. PI3K–AKT
7. **Asbestos bodies are formed by coating fibers with:**
  - A. Calcium
  - B. **Iron-containing protein**
  - C. Lipid
  - D. Amyloid
8. **Ring sideroblasts result from:**
  - A. Excess iron absorption
  - B. **Defective protoporphyrin synthesis**
  - C. Increased hepcidin
  - D. Increased ferritin degradation
9. **In anemia of chronic disease, iron is unavailable to erythroid precursors primarily because of:**
  - A. Increased ferritin synthesis
  - B. **Decreased ferroportin expression**
  - C. Reduced transferrin production
  - D. Increased iron loss
10. **Bite cells are formed due to removal of:**
  - A. **Heinz bodies by spleen**
  - B. Membrane cholesterol
  - C. Oxidized hemoglobin
  - D. Iron deposits
11. **Auer rods are composed of:**
  - A. Fused lysosomes
  - B. Abnormal mitochondria
  - C. Crystallized myeloperoxidase
  - D. Aggregated ribosomes

**Answer : Both A & C are correct**

**12. Major molecular response (MMR)**

**corresponds to:**

A. BCR-ABL  $\leq 10\%$

B. BCR-ABL  $\leq 1\%$

**C. BCR-ABL  $\leq 0.1\%$**

D. Undetectable transcript

**13. BCR-ABL p210 fusion protein causes leukemia by:**

A. Blocking differentiation

**B. Constitutive tyrosine kinase activity**

C. Epigenetic repression

D. DNA damage

**14. Which lymphoma entity is driven mainly by defective apoptosis rather than proliferation?**

A. Burkitt lymphoma

B. DLBCL

**C. Follicular lymphoma**

D. T-lymphoblastic lymphoma

**15. A 4 month old baby presented with vomiting and a stiff neck. A diagnosis of meningitis was made. The most likely causative agent was:**

(A) Neisseria meningitidis

(B) Streptococcal pneumonia

**(C) Haemophilus influenza**

(D) Staphylococcus aureus

**16. On histological examination, a prostate biopsy shows invasive malignant glandular cells organised predominantly**

as sheets of packed cells, with a lesser component of cribriform architecture.

Which of the following is the most accurate Gleason grade:

(A) 2 + 2

**(B) 5 + 4**

(C) 3 + 3

(D) 4 + 3

**17. Which of the following is not true of gastrointestinal stromal tumours (GISTs)?**

(A) **They do not occur in the oesophagus.**

(B) There is usually an abnormality in the c-kit gene.

(C) They arise from interstitial cells of Cajal.

(D) Size is a prognostic factor

**18. Permanent dilatation of bronchi and bronchioles caused by the destruction of muscle and elastic tissue." This is the definition of**

(A) Chronic bronchitis

(B) Emphysema

(C) Pneumonia

**(D) Bronchiectasis**

**19. In Whipple's disease the jejunal lamina propria contains numerous:**

(A) Eosinophils

**(B) Macrophages**

(C) Mast cells

(D) Plasma cells.

20. Which of the following proteins is deposited in the brain in Lewy body dementia?
- (A) Tau protein
  - (B) Amyloid
  - (C) Alpha-synuclein
  - (D) A-beta protein
21. Which fixative would you use to fix a renal biopsy for electron microscopy?
- (A) Bouin's solution
  - (B) Formalin
  - (C) Glutaraldehyde
  - (D) Silver stain
22. The following statements are true in relation to the clinical behaviour of Wilms tumour (nephroblastoma), except:
- (A) It rarely occurs in adults.
  - (B) The majority occur in otherwise normal children.
  - (C) The prognosis is excellent, with a five year survival rate of approximately 90%.
  - (D) Only 5% of cases are bilateral.
23. The following immunohistochemical stain is a sensitive and specific marker for precursor acute lymphoblastic leukaemia/lymphoma:
- (A) Terminal deoxynucleotidyl transferase (TdT)
  - (B) CD45
  - (C) CD79a
  - (D) CD15
24. In advanced osteoarthritis, a femoral head removed for prosthetic replacement is likely to show the following changes, except:
- (A) Eburnation
  - (B) Osteophyte formation at the margins of the femoral head
  - (C) Formation of subchondral bone cysts
  - (D) A dense lymphocytic and plasma cell infiltrate within the synovium
25. Blood tests may detect the presence of placental alkaline phosphatase (PLAP) in which malignant neoplasm?
- (A) Seminoma
  - (B) Choriocarcinoma
  - (C) Yolk sac tumour
  - (D) Embryonal carcinoma
26. Which disease is a classic Type III hypersensitivity reaction?
- (A) Graves disease
  - (B) Rheumatoid arthritis
  - (C) SLE
  - (D) Type 1 diabetes
27. Microsatellite instability is characteristic of:
- (A) Familial adenomatous polyposis
  - (B) Lynch syndrome
  - (C) Peutz–Jeghers syndrome

(D) Li-Fraumeni syndrome

28. A 65-year-old man collapses suddenly and dies. Post-mortem shows a large saddle embolus at the pulmonary artery bifurcation. The most likely source is:

- (A) Left atrial appendage
- (B) Portal vein
- (C) Deep veins of the leg
- (D) Renal vein

29. Which pathological change is MOST characteristic of malignant hypertension?

- (A) Fatty streaks
- (B) Onion-skin hyperplasia of arterioles
- (C) Medial calcification
- (D) Foam cell accumulation

30. Disseminated intravascular coagulation is characterized by:

- (A) Isolated bleeding
- (B) Isolated thrombosis
- (C) Reduced D-dimer levels
- (D) Simultaneous thrombosis and bleeding

31. Rapidly progressive glomerulonephritis is characterized by:

(A) Subepithelial immune complex deposition

(B) Crescent formation

(C) Mesangial hypercellularity only

(D) Amyloid deposition

32. Which feature favours Crohn disease over ulcerative colitis?

(A) Continuous involvement

(B) Crypt abscesses

(C) Granulomas

(D) Rectal involvement

33. Cribriform ducts with central necrosis in the breast indicate:

(A) Lobular carcinoma in situ

(B) DCIS

(C) Fibroadenoma

(D) Invasive ductal carcinoma

34. The MOST important prognostic factor in endometrial carcinoma is:

A. Tumour size

B. Histologic subtype

C. Depth of myometrial invasion

D. Patient age

35. Which fixative is preferred for immunofluorescence on renal biopsy?

- A. Formalin
- B. Bouin solution
- C. Michel transport medium**
- D. Glutaraldehyde

**36. Direct immunofluorescence in bullous pemphigoid shows:**

- A. Intercellular IgG deposition
- B. Granular IgA deposition at dermal papillae
- C. Linear IgG along basement membrane**
- D. Absence of immune deposits

**37. Which skin tumour is associated with PTCH gene mutation?**

- A. Squamous cell carcinoma
- B. Basal cell carcinoma**
- C. Malignant melanoma
- D. Merkel cell carcinoma

**38. Which pattern of emphysema is most strongly associated with smoking?**

- A. Panacinar
- B. Centriacinar**
- C. Paraseptal
- D. Irregular

**39. Which immunohistochemical marker supports a diagnosis of mesothelioma?**

- A. TTF-1
- B. Napsin A
- C. Calretinin**
- D. p40

**40. In flow cytometry, blast cells typically show:**

- A. High CD45, high side scatter
- B. Low CD45, low side scatter**
- C. High CD45, low side scatter
- D. Low CD45, high side scatter

**41. RT-PCR is preferred over PCR for detection of BCR-ABL because it:**

- A. Detects genomic DNA
- B. Detects fusion transcripts**
- C. Has lower sensitivity
- D. Does not require reverse transcription

**42. Which laboratory profile is MOST characteristic of thrombotic thrombocytopenic purpura (TTP)?**

- A. Prolonged PT and APTT
- B. Low fibrinogen
- C. Normal coagulation profile**
- D. Positive direct Coombs test

**43. Bite cells on peripheral smear are most commonly associated with:**

- A. Pyruvate kinase deficiency
- B. G6PD deficiency**
- C. Hereditary spherocytosis
- D. Sickle cell disease

**44. Irradiation of blood products is done to prevent:**

- A. CMV transmission
- B. TRALI
- C. Transfusion-associated GVHD**
- D. Bacterial contamination

**45. AL amyloidosis is derived from:**

- A. Serum amyloid A
- B. Transthyretin
- C. Immunoglobulin light chains**
- D. Beta-2 microglobulin

**46. Tumor lysis syndrome is characterized by all EXCEPT:**

- A. Hyperkalemia
- B. Hypocalcemia
- C. Hyperuricemia
- D. Hypermnatremia**

**47. In a patient with unexplained cytopenias, the MOST important initial investigation is:**

- A. CT scan
- B. Bone marrow examination**
- C. Flow cytometry
- D. PET scan

**48. Which of the following is the MOST characteristic histological feature of chronic allograft rejection?**

- A. Dense neutrophilic infiltrate
- B. Fibrinoid necrosis of vessels
- C. Progressive intimal fibrosis and luminal narrowing**
- D. Prominent eosinophilic infiltration

**49. Which of the following best explains the pathogenesis of portal hypertension in cirrhosis?**

- A. Increased portal venous inflow alone
- B. Sinusoidal endothelial proliferation
- C. Increased intrahepatic vascular resistance due to fibrosis and nodular regeneration**
- D. Hepatic vein thrombosis

**50. Which inherited condition is MOST commonly associated with venous thrombosis?**

- A. Protein C deficiency
- B. Protein S deficiency
- C. Antithrombin deficiency
- D. Factor V Leiden mutation**

## **Rough Page**

---