

2019 Scheme

Q.P. Code: 213001

Reg. no.:

Second Professional MBBS Degree Supplementary Examinations

December 2025

Pathology - Paper I

Time: 3 Hours

Total Marks: 100

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers
- Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary

1. Multiple Choice Questions

(20x1=20)

The MCQ questions (Q.No. 1 to Q.No. xx) shall be answered only in the OMR sheet provided at page No. 51 of the answer book (the inner portion of the back cover page (PART III)). Responses for MCQs marked in any other part/page of the answer book will not be valued. For marking the correct responses use X mark only

Question Numbers i – v are Single Response Type

- Which of the following cellular alterations would most likely be seen in the myocardium of a 53 year old hypertensive
a) Apoptosis b) Hemosiderosis c) Hyperplasia d) Hypertrophy
- Which of the following cells remove the bacteria in an infected wound
a) lymphocyte b) Fibroblast c) Macrophage d) Mast cell
- The skin overlying the left breast is thickened, reddish orange and pitted. Which of the following mechanisms best explain the gross appearance of the skin
a) Chronic inflammation c) Ischemic necrosis
b) Chronic passive congestion d) Lymphatic obstruction
- Affected individuals in the families of atherosclerotic cardiovascular disease are most likely to have a mutation in a gene encoding a cell surface receptor for which of the following
a) Cortisol b) Insulin c) LDL cholesterol d) TGF- α
- A 61-year-old woman chronic smoker diagnosed as well differentiated leiomyosarcoma of uterus, now presents with metastasis. Which of the following mechanisms best explains the condition
a) Continued cigarette smoking by the patient c) Inheritance of a defective RB gene
b) Development of a second primary neoplasm d) Metastasis from an aggressive tumor subclone

Question numbers vi - x are multiple response type questions. Read the statements & mark the answers appropriately.

- Cardinal signs of inflammation are:
1) Redness 2) Swelling 3) Loss of sensation 4) Loss of function
a) 1, 2, 3 b) 2, 3, 4 c) 1, 3, 4 d) 1, 2, 4
- What are the components of granulation tissue
1) Proliferating fibroblasts 2) Ganglion cells 3) New small blood vessels
4) Loose connective tissue
a) 1, 2, 3 b) 2, 3, 4 c) 1, 3, 4 d) 1, 2, 4
- What are the components of Virchow's triad
1) Endothelial injury 2) Stasis of blood 3) Hypolipidemia 4) Hypercoagulability
a) 1, 2, 3 b) 2, 3, 4 c) 1, 3, 4 d) 1, 2, 4
- Features of dysplasia include
1) Always irreversible 2) Loss of polarity 3) High nuclear to cytoplasmic ratio
4) Increased mitotic activity
a) 1, 2, 3 b) 2, 3, 4 c) 1, 3, 4 d) 1, 2, 4
- Examples of Type 1 hypersensitivity reaction are:
1) Angioedema 2) Bronchial asthma 3) Glomerulonephritis 4) Insect bite
a) 1, 2, 3 b) 2, 3, 4 c) 1, 3, 4 d) 1, 2, 4

Question numbers xi – xv consists of two Statements - Assertion (A) and Reason (R). Answer these questions by selecting the appropriate options given below.

- Both A & R are correct and R is the reason for A c) A is correct R is incorrect
 - Both A & R are correct but R is not the reason for A d) A is incorrect R is correct
- xi. **Assertion:** Neutrophils are the first cells to arrive at the site of acute inflammation.
Reason: Neutrophils are rapidly recruited to the site of injury due to their high sensitivity to chemotactic signals like IL-1 and TNF.

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- xii. **Assertion:** Benign tumors generally do not metastasize to distant organs.
Reason: Benign tumors are well-differentiated and closely resemble the tissue of origin.
- xiii. **Assertion:** Autoimmune diseases occur when the immune system fails to distinguish between self and non-self-antigens.
Reason: Autoimmune diseases are caused by genetic mutations affecting lymphocyte development.
- xiv. **Assertion:** Hypertrophy is an increase in the size of cells, resulting in an increase in the size of the organ.
Reason: Hypertrophy occurs due to an increase in the number of cells within a tissue or organ.
- xv. **Assertion:** Pulmonary edema is a common consequence of left-sided heart failure.
Reason: Pulmonary edema is caused by the increased hydrostatic pressure in the systemic circulation.

Question Numbers xvi– xx are based on case scenarios. Read the statements and mark the answers accordingly.

A 6-year-old female child came with complaints of bleeding from nose and gums. On examination bluish red spots are present on her skin. There is no organomegaly. CBC revealed marked thrombocytopenia (PLC= 10,000/mm³). Prothrombin and partial thromboplastin times are within normal range. Bleeding time is prolonged.

- xvi. What type of hypersensitivity reaction is this condition
a) Type I b) Type II c) Type III d) Type IV
- xvii. What are the skin lesions associated with above condition called
a) Purpura b) Erythema c) Bulla d) Pustule
- xviii. Which is the primary cause for thrombocytopenia in this case
a) Decreased platelet production in the bone marrow
b) Increased platelet consumption in the spleen
c) Platelet destruction by autoantibodies
d) Increased platelet aggregation in the blood
- xix. What is the peripheral smear finding suggestive of the above case
a) Anemia c) Presence of giant platelets
b) Increase in platelet count d) Elevated WBC count
- xx. Definitive treatment for this condition in cases where it is life threatening
a) IVIG b) Corticosteroid c) Immunosuppressant d) Splenectomy

Long Essays

(2x10=20)

- 2. A 45 year old man presented with history of recurrent fever, loss of weight and easy fatigability on examination he was pale with massive splenomegaly. Blood result examination revealed Hb – 8gm%, TC – 2,00,000/cumm, platelet count – 5,00,000/mm³.
a) What is your provisional diagnosis.
b) Mention the lab investigations for confirmation of your diagnosis
c) Describe the peripheral smear findings
d) Describe the molecular pathogenesis of the disease (1+3+3+3)

- 3. Define Neoplasia. Explain the differences between benign and malignant tumors. Enumerate the routes of metastasis. (1+5+4)

Short Essays

(6x6=36)

- 4. Explain the aetiopathogenesis and pathology of septic shock.
- 5. Chemical mediators of inflammation.
- 6. CSF findings in Meningitis.
- 7. Stains for Amyloid.
- 8. Sickle cell anaemia – pathogenesis and laboratory diagnosis.
- 9. ITP – Pathogenesis and lab diagnosis.

Short Answers

(6x4=24)

- 10. Differences between Necrosis and Apoptosis.
- 11. Breaking bad news.
- 12. Fate of thrombus.
- 13. Exfoliative cytology.
- 14. Aetiopathogenesis of Systemic Lupus Erythematosus.
- 15. Opportunistic infections in AIDS.
