

PATHOLOGY

PAPER – I

Time : 3 hours

PATHO/D/12/32/I

Max. Marks : 100

Attempt all questions in order.
Each question carries 10 marks.

1. a) Enumerate cartilage forming tumors of bone. 3+7
b) Give gross, microscopic features and X-ray findings of any two.
2. a) Define Burkitt's lymphoma. Give its etiopathogenesis and types. 5+5
b) Discuss in detail its morphology and role of immunohistochemistry in its diagnosis.
3. a) Discuss in brief etiopathogenesis of inflammatory bowel disease. 2+5+3
b) Describe gross and microscopic features of Crohn's disease.
c) Describe its extra-intestinal manifestations.
4. a) Classify cystic disease of kidney. 3+7
b) Discuss in detail pathogenesis and morphology of Autosomal Dominant (Adult) Polycystic Kidney Disease.
5. Describe morphology, pathogenesis and clinical features of Wegener's granulomatosis. 3+4+3
6. Discuss in brief about etiopathogenesis, morphology, grading and staging of chronic hepatitis. 3+3+2+2
7. Discuss the indications and diagnostic interpretation of testicular biopsy in infertility. 3+7
8. Enumerate the entities included in Gestational trophoblastic disease. Discuss in brief their diagnostic criteria including morphology, serological markers and immunohistochemistry. 3+7
9. a) Describe clinical features and morphology of phaeochromocytoma. 5+5
b) Discuss in brief about familial syndromes associated with phaeochromocytoma.
10. a) Discuss in brief molecular genetics of astrocytoma. 5+5
b) Tumors causing paraneoplastic syndrome.

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PAPER – II

Time : 3 hours
Max. Marks : 100

PATHO/D/12/32/II

Attempt all questions in order.
Each question carries 10 marks.

1. Discuss laboratory diagnosis, newer treatment modalities and monitoring in sickle cell disease. 5+3+2
2. Describe regulation of erythropoiesis and the role of various transcription factors in erythroid differentiation. 4+6
3. a) Define hypereosinophilic syndrome. Discuss its clinical features and etiology. 5+5
b) Molecular basis of thalassemia.
4. a) Autologous blood transfusion. 5+5
b) Preparation and use of apheresis platelets.
5. a) Describe clinical features, pathogenesis and laboratory diagnosis of hemolytic uremic syndrome. 5+5
b) Biological basis and laboratory diagnosis of paroxysmal nocturnal hemoglobinuria .
6. a) Graft versus host disease. 5+5
b) Type II hypersensitivity reaction.
7. Discuss internal and external quality control in hematology. 10
8. a) Discuss in brief the role of T-cell receptor gene in classification of Hematolymphoid disorders. 5+5
b) Laboratory diagnosis of chronic lymphocytic leukemia.
9. Describe pathogenesis, clinical features and diagnostic criteria of hemophagocytic syndrome. 10
10. a) What are the Indications for hematopoietic stem cell transplantation? What are short term and long term complications of hematopoietic stem cell transplantation? 5+5
b) Newer diagnostic techniques for malaria.

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PAPER – III

Time : 3 hours
Max. Marks : 100

PATHO/D/12/32/III

Attempt all questions in order.
Each question carries 10 marks.

1. a) Describe the current Bethesda System for reporting PAP smears. 5+5
b) Automation in cytopathology.
2. Discuss role of cytology in the differential diagnosis of malignant salivary gland tumors. 10
3. Discuss role of FNAC in the evaluation of soft tissue tumors. 10
4. Discuss various techniques for seminal fluid examination and interpretation of abnormal results. 10
5. a) Discuss the workup of a first trimester obese woman who has been referred to you for the diagnosis of gestational diabetes. 5+5
b) What is tissue micro-array technology? What are its applications in diagnostic pathology and research?
6. Define metabolic acidosis. Discuss anion gap and its significance. 3+7
7. a) Discuss the analysis of synovial fluid in connective tissue disorders. 5+5
b) Discuss the clinical significance of lipoprotein (a).
8. Discuss the techniques and diagnostic application of squash cytology in intracranial lesions. 10
9. a) Discuss nipple discharge cytology in breast lesions. 5+5
b) Differential diagnosis of reactive mesothelial cells versus mesothelioma and metastatic adenocarcinoma in ascitic fluid.
10. a) CSF cytology in meningitis 5+5
b) Laboratory diagnosis of acute pancreatitis.

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PAPER – IV

Time : 3 hours
Max. Marks : 100

PATHO/D/12/32/IV

Attempt all questions in order.
Each question carries 10 marks.

Write short notes on:

1. Role of extracellular matrix in regulating the proliferation, movement and differentiation of cells. 10
2. a) Down's Syndrome 5+5
b) Immune function abnormalities in AIDS.
3. a) Glycogen storage disorders. 5+5
b) Free radicals in cell injury.
4. a) DNA repair defects and cancer. 5+5
b) Role of activated macrophages in chronic inflammation.
5. a) Antinuclear antibodies – immunofluorescence patterns and interpretation. 5+5
b) Classification and pathogenesis of amyloidosis.
6. a) Define genomic imprinting and discuss its diagnostic applications. 5+5
b) Discuss in brief pathophysiology of septic shock and the role of lipopolysaccharides and cytokine cascade.
7. a) Leukocyte function defects. 5+5
b) Targeted therapy in cancer.
8. a) Vitamin D deficiency states. 5+5
b) Proteomics.
9. Role of electron microscopy in diagnostic pathology. 10
10. a) Applications of FISH and spectral karyotyping. 5+5
b) Growth factors and cytokines involved in regeneration and wound healing.
