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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PATHOLOGY) DEGREE EXAMINATION – DECEMBER 2023
PAPER I

Monday, December 04, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer all the questions:

1. Discuss apoptosis and its role in health and disease (15 marks)

2. Discuss the role of fine needle aspiration cytology in the evaluation of breast lump. (15 marks)

3. **Write short notes on:**

3A. Cellular aging

3B. Eicosanoids

3C. Mechanisms of generation & removal of free radicals

3D. Micro RNAs and their role in carcinogenesis

3E. Pathogenesis of complications of diabetes mellitus

3F. Liquid based cytology

3G. p53

3H. Role of FNA in evaluation of cystic lesions in the neck

3I. Immunologic tolerance

3J. Stem cell

(7 marks × 10 = 70 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PATHOLOGY) DEGREE EXAMINATION – DECEMBER 2023

PAPER II

Tuesday, December 05, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

1. Classify and discuss cystic lesions of the kidney. (15 marks)

2. Elaborate on the spectrum of non- secretory endometrial patterns encountered in surgical pathology (15 marks)

3. **Write short notes on:**

3A. Castleman disease

3B. Granulomatous dermatitis

3C. Spitz nevus

3D. HIV associated lymphadenopathy

3E. Non alcoholic fatty liver disease

3F. Nephrogenic adenoma

3G. Morphologic spectrum of gastritis in H.pylori infection

3H. BOOP

3I. Atherosclerosis: natural history & morphology

3J. Autoimmune pancreatitis

(7 marks × 10 = 70 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PATHOLOGY) DEGREE EXAMINATION – DECEMBER 2023

PAPER III

Wednesday, December 06, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

1. Discuss the principle of Flow Cytometry. Enumerate its role in non malignant hematologic disorders

(15 marks)

2. Enumerate the WHO classification of AML. Discuss the importance of molecular markers in diagnosis and prognosis of the various categories

(15 marks)

3. **Write short notes on:**

3A. Haematologic changes in pregnancy

3B. Pure red cell aplasia

3C. Storage of blood components

3D. Laboratory approach to recurrent venous thrombosis

3E. Principle, advantages and disadvantages of HPLC

3F. Methods and significance of platelet indices

3G. Monoclonal gamopathy of unknown significance

3H. Minimal residual disease in Acute leukemia

3I. Haemophagocytic syndrome

3J. Cord blood transplantation

(7 marks × 10 = 70 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PATHOLOGY) DEGREE EXAMINATION – DECEMBER 2023

PAPER IV

Thursday, December 07, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

Answer ALL questions.

1. Discuss the role of immunohistochemistry in the evaluation of carcinoma of unknown primary.

(15 marks)

2. Discuss columnar cell lesions of the breast.

(15 marks)

3. **Write short notes on:**

3A. Virtual microscopy

3B. CD 34 positive spindle cell tumors

3C. Algorithm for IHC workup of adrenal lesion

3D. Aggressive variants of meningioma

3E. AMACR

3F. New concepts in osteoarthritis

3G. Epithelial mesenchymal transitions

3H. Molecular diagnostics in lung cancer

3I. Grey zone lymphoma

3J. Automation in histopathology

(7 marks × 10 = 70 marks)

