

Reg. No.

MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PATHOLOGY) DEGREE EXAMINATION – OCTOBER 2020
SUBJECT: PAPER I: GENERAL PATHOLOGY, PATHOPHYSIOLOGY,
IMMUNOPATHOLOGY AND CYTOPATHOLOGY

Monday, October 05, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Describe the cell cycle with check points. Illustrate the role of cyclins, cyclin dependent kinases (CDK) and CDK inhibitors in the regulation of the cell cycle.
(5+10 = 15 marks)

2. Discuss the role of immunochemistry and molecular biology in cytological diagnosis of malignant small round cell tumors.
(7+8 = 15 marks)

3. **Write short notes on:**

3A. Saccommanno's technique

3B. Epstein Barr virus in oncogenesis

3C. General principles of the mechanism of autoimmunity with examples

3D. Proteins involved in signal transduction

3E. Pathogenesis of granulomatous inflammation

3F. Mechanism of apoptosis

3G. Gaucher disease

3H. Hyper- IgM syndrome

3I. Pathogenesis of amyloidosis

3J. Defects in leucocyte function

(7 marks × 10 = 70 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PATHOLOGY) DEGREE EXAMINATION – OCTOBER 2020
SUBJECT: PAPER II: SYSTEMIC PATHOLOGY

Tuesday, October 06, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Describe the pathogenesis of type 2 diabetes mellitus and its complications (15 marks)

2. Discuss the diagnosis of cutaneous vasculitis (15 marks)

3. **Write short notes on:**

3A. Myoepithelial tumors of the salivary gland

3B. Rapidly progressive glomerulonephritis

3C. Serrated colorectal polyps

3D. Mantle zone lymphoma

3E. Granular cell tumor

3F. Neuroblastic tumors

3G. Cystic hypersecretory carcinoma of breast

3H. Meckel diverticulum

3I. Atypical fibroxanthoma

3J. Castleman disease

(7 marks × 10 = 70 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PATHOLOGY) DEGREE EXAMINATION – OCTOBER 2020
SUBJECT: PAPER III: HAEMATOLOGY, TRANSFUSION MEDICINE (BLOOD BANKING) AND LABORATORY MEDICINE

Wednesday, October 07, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Classify bone marrow failure syndromes. Discuss the etiology, pathogenesis and lab diagnosis of aplastic anemia.

(15 marks)

2. Discuss quality control in a clinical laboratory.

(15 marks)

3. **Write short notes on:**

3A. Pathogenesis and lab diagnosis of hemolytic disease of newborn

3B. Preparation and indications of cryoprecipitate

3C. Molecular biology of acute promyelocytic leukemia

3D. Iron chelators

3E. Paroxysmal cold hemoglobinuria

3F. Carrier detection of Hemophilia A

3G. Langerhan cell histiocytosis

3H. Neonatal alloimmune thrombocytopenia

3I. Transfusion related acute lung injury

3J. Jak 2 mutation

(7 marks × 10 = 70 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PATHOLOGY) DEGREE EXAMINATION – OCTOBER 2020
SUBJECT: PAPER IV: RECENT ADVANCES AND APPLIED ASPECTS

Thursday, October 08, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Discuss the updates in classification of lung tumors.

(15 marks)

2. Discuss the applications of neural networking in diagnostic pathology.

(15 marks)

3. **Write short notes on:**

3A. Recently described adult renal tumours

3B. Matrix metalloproteinases in neoplastic progression

3C. Cancer Stem Cells: Potential Clinical Applications

3D. Cutaneous pseudolymphoma

3E. Etiology and morphology of Nonalcoholic steatohepatitis

3F. Pathology of serum IgG4- related diseases

3G. Principles of flow cytometry

3H. Problems in prostate biopsy interpretation of small acinar lesions

3I. Role of immunohistochemistry in metastatic carcinoma of unknown primary

3J. Antigen retrieval system in IHC

(7 marks × 10 = 70 marks)

