Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (PATHOLOGY) DEGREE EXAMINATION – APRIL 2019

SUBJECT: PAPER I: GENERAL PATHOLOGY, PATHOPHYSIOLOGY, IMMUNOPATHOLOGY AND CYTOPATHOLOGY

Tuesday, April 02, 2019

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Discuss the role of different molecular diagnostic tests in genetic disorders.

(15 marks)

2. Discuss the role of Cyclins and CDKs in cell cycle regulation.

(15 marks)

3. **Write short notes on:**

3A. Pathogenesis of autoimmune disorders.
3B. Pathophysiology of septic shock.
3C. Role of oncogenic DNA viruses in Neoplasia.
3D. Mitochondrial pathway of apoptosis.
3E. Role of telomerase in cellular aging.
3F. Antiphospholipid antibody syndrome.
3G. Angiogenesis in wound healing.
3H. T cell mediated graft rejection.
3I. Stem cells in tissue homeostasis.
3J. Bethesda system for reporting Thyroid cytopathology.

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (PATHOLOGY) DEGREE EXAMINATION – APRIL 2019

SUBJECT: PAPER II: SYSTEMIC PATHOLOGY

Wednesday, April 03, 2019

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Classify Diabetes mellitus. Discuss the pathogenesis of its complications and their morphology.

(3+6+6 = 15 marks)

2. Discuss the pathology, immunohistochemistry and differential diagnosis of gastrointestinal stromal tumors.

(5+5+5 = 15 marks)

3. **Write short notes on:**

3A. Krukenberg tumor.
3B. Pathogenesis of osteoporosis.
3C. Types and morphology of congenital adenomatoid malformation of lung.
3D. Immunofluorecence in the diagnosis of bullous lesions of the skin.
3E. Pathology of aortic dissection.
3F. Pulmonary pathology in asbestosis.
3G. List the prognostic and predictive factors of breast cancer.
3H. Fibro lamellar hepatocellular carcinoma.
3I. Minimal change disease.
3J. Seminoma variants and immunomarkers.

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (PATHOLOGY) DEGREE EXAMINATION – APRIL 2019

SUBJECT: PAPER III: HAEMATOLOGY, TRANSFUSION MEDICINE (BLOOD BANKING) AND LABORATORY MEDICINE

Thursday, April 04, 2019

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Classify chronic myeloproliferative disorders. Discuss the pathogenesis of primary myelofibrosis. Add a note on lab diagnosis of primary myelofibrosis.

(15 marks)

2. Discuss the diagnostic approach to acquired coagulation disorders. Add a note on etiopathogenesis of disseminated intravascular coagulation.

(15 marks)

3. **Write short notes on:**

3A. Clinical types of G6PD deficiency.
3B. Lab diagnosis of hairy cell leukemia.
3C. Transfusion practices in neonatology.
3D. Automation in ESR.
3E. Diagnostic criteria for hemophagocytic syndrome.
3F. Coombs test.
3G. Cytogenetic abnormalities associated with AML.
3H. Role of hepcidin in iron metabolism.
3I. Principles of strip test in urine examination.
3J. Recombinant hemoglobin.

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (PATHOLOGY) DEGREE EXAMINATION – APRIL 2019

SUBJECT: PAPER IV: RECENT ADVANCES AND APPLIED ASPECTS

Friday, April 05, 2019

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. What are the recent advances in Non-alcoholic steatohepatitis (NASH)? Discuss the histopathology, grading and severity of NASH.

(15 marks)

2. Discuss immunohistochemistry algorithms in the diagnosis of malignant soft tissue tumors.

(15 marks)

3. **Short Answer questions:**

3A. Bethesda reporting system in cervical cytology.
3B. Hepcidin
3C. Role of Cyclins in regulating the cell cycle.
3D. High performance liquid chromatography in haemoglobin variants.
3E. Hematological applications of Fluorescence in-situ hydridisation.
3F. Prognostic molecular markers in breast cancer.
3G. Pathogenesis of Chronic pancreatitis.
3H. Basic concepts of Haemovigilance.
3I. Automated tissue processor.
3J. Graft versus leukemia response.

(7 marks × 10 = 70 marks)