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MANIPAL UNIVERSITY

MD (PATHOLOGY) DEGREE EXAMINATION – APRIL 2017

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

Monday, April 03, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ Long Essay:

1. Discuss the mechanisms of self tolerance and autoimmunity?
(8+7 = 15 marks)
2. Describe the techniques used and their applications in the molecular diagnosis of genetic disorders.
(15 marks)

3. Write Short notes on:

- 3A. Processing of mucoid fluids in cytology
- 3B. The Bethesda system for reporting thyroid cytology
- 3C. Warburg effect
- 3D. Role of oxidative stress in cell injury
- 3E. Inhibitors of acute inflammation
- 3F. Role of Matrix metalloproteinases in diseases
- 3G. Antithrombotic properties of normal endothelium
- 3H. Mechanisms of Apoptosis
- 3I. Role of RAS oncogene in human tumors
- 3J. Role of macrophages in wound healing

(7 marks × 10 = 70 marks)



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MANIPAL UNIVERSITY

MD (PATHOLOGY) DEGREE EXAMINATION – APRIL 2017

SUBJECT: PAPER II: SYSTEMIC PATHOLOGY

Tuesday, April 04, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Classify Gliomas. What are the molecular pathways involved in the genesis of these tumors? Describe the morphology of WHO grade IV lesions.
(5+5+5 = 15 marks)

2. Classify, describe the histopathological and immunofluorescence patterns of vesiculobullous lesions of the skin.
(5+5+5 = 15 marks)

3. **Write short notes on:**

- 3A. Morphology of Polymorphous low grade carcinoma
- 3B. Castleman disease
- 3C. Histopathology of cardiomyopathies
- 3D. Pathology of Endolymphatic stromal myosis
- 3E. Mucinous and tubular spindle cell carcinoma of the Kidney
- 3F. Pathogenesis of Autoimmune thyroiditis
- 3G. Prognostic indicators and pathogenesis of Malignant Melanoma
- 3H. Features of Hereditary non-polyposis colon cancer syndrome
- 3I. Types and morphology of Cystic neoplasms of pancreas
- 3J. Histopathology of rheumatoid arthritis

(7 marks × 10 = 70 marks)



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MANIPAL UNIVERSITY

MD (PATHOLOGY) DEGREE EXAMINATION – APRIL 2017

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

Wednesday, April 05, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ Long Essay:

1. Discuss the laboratory approach to thrombotic disorders. (15 marks)

2. Classify transfusion reactions and discuss its investigation. (15 marks)

3. Write short notes on:

3A. Microalbuminuria

3B. Acquired hemophilia

3C. Tyrosine kinase mutations in leukemias

3D. Monoclonal gammopathy of uncertain significance

3E. LJ chart

3F. Applications of flow cytometry

3G. Pathobiology of sickle cell disease

3H. Antibody screening and identification in blood banking

3I. Platelet transfusion

3J. Microscopy of synovial fluid

(7 marks × 10 = 70 marks)



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MANIPAL UNIVERSITY

MD (PATHOLOGY) DEGREE EXAMINATION – APRIL 2017

SUBJECT: PAPER IV: RECENT ADVANCES AND APPLIED ASPECTS

Thursday, April 06, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Mention the current WHO classification of central nervous system tumors. Discuss the pathology of newly described entities.

(15 marks)

2. Discuss the molecular diagnosis of genetic disorders.

(15 marks)

3. **Write short notes on:**

3A. Automation in cytology

3B. Diagnosis and molecular pathology of Hirschsprung disease

3C. Recent advances in laboratory diagnosis of malaria

3D. Morphology of premalignant conditions in the breast

3E. Barrett esophagus

3F. Non-alcoholic steatohepatitis

3G. Tissue microarray

3H. Adult stem cells

3I. Serrated adenoma

3J. Recent advances in natural history of cervical carcinogenesis

(7 marks × 10 = 70 marks)

