Reg. No.										

MANIPAL UNIVERSITY

MD (IMMUNOHEMATOLOGY AND BLOOD TRANSFUSION) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER I: BASIC APPLIED ASPECTS RELATED TO TRANSFUSION MEDICINE

Wednesday, April 01, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Describe the RBC membrane under following headings:

1A. Membrane structure

1B. Functions

1C. Membrane abnormalities

(5 marks × 3 = 15 marks)

2. Describe the coagulation pathway and write a note on cell based theory of coagulation.

(15 marks)

3. **Write short notes on:**

3A. Platelet storage lesions

3B. Structure of Immunoglobulin

3C. Zeta Potential

3D. Qualitative platelet defects

3E. Advantages of barcoding in transfusion medicine

3F. What are the desirable features of blood cell radiolabels?

3G. G-CSF

3H. Protein C and S

3I. Chimerism and its significance in transfusion medicine

3J. Structure of HIV

(7 marks × 10 = 70 marks)

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MANIPAL UNIVERSITY

MD (IMMUNOHEMATOLOGY AND BLOOD TRANSFUSION) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER II: IMMUNOHAEMATOLOGY, IMMUNOGENETICS AND APPLIED SEROLOGY

Thursday, April 02, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Discuss the role of HLA in transfusion medicine under following subheadings:

1A. Genetics, Biochemistry and Structure

1B. Biologic functions

1C. Its role in transfusion and transplantation

(5 marks × 3 = 15 marks)

2. Discuss the fundamentals of antigen antibody reaction.

(15 marks)

3. **Write short notes on:**

3A. Fetomaternal haemorrhage

3B. Neonatal Alloimmune thrombocytopenia

3C. Enzymes in transfusion medicine

3D. DAT negative AIHA

3E. Kell blood group system

3F. High titer low avidity antibody

3G. Hybridoma technology

3H. Secretor study

3I. ABH interaction

3J. Blood groups and paternity testing

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL UNIVERSITY

MD (IMMUNOHEMATOLOGY AND BLOOD TRANSFUSION) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER III: BLOOD DONOR ORGANIZATION, TECHNOLOGY OF COMPONENTS, CLINICAL HEMOTHERAPY

Saturday, April 04, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. How do you manage a case of disseminated intravascular coagulation?

(15 marks)

2. Describe the various components of quality assurance program in transfusion transmissible infection laboratory.

(15 marks)

3. **Write short notes on:**

3A. Various approaches for blood need assessment
3B. Blood donor notification
3C. Guidelines of fresh frozen plasma use
3D. Platelet Rich Fibrin
3E. Red cell exchange
3F. Transfusion support for critically ill patients
3G. Granulocyte Transfusion
3H. Platelet additive solution
3I. Quality control of blood irradiation program
3J. Multicomponent collection

(7 marks × 10 = 70 marks)

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MANIPAL UNIVERSITY

MD (IMMUNOHEMATOLOGY AND BLOOD TRANSFUSION) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER IV: RECENT ADVANCES AND TECHNOLOGY

Monday, April 06, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Discuss the principle of microarray and its application in transfusion medicine.

(15 marks)

2. Discuss the equipment and material management in blood banking under the following headings:

2A. Procurement of equipment

2B. Acceptance and validation of equipment

2C. Maintenance of equipment

(5 marks × 3 = 15 marks)

3. **Write short notes on:**

3A. Rheopheresis

3B. Topical hemostatic agents

3C. Collection and processing of cord blood

3D. Recombinant factor VIIa

3E. Donor lymphocyte infusion

3F. Applications of dendritic cell therapy

3G. Production of mouse monoclonal antibodies

3H. Vectors in gene therapy

3I. Immunoadsorption technique and its applications

3J. Noninvasive fetal blood grouping

(7 marks × 10 = 70 marks)