IMMUNOHEMATOLOGY AND BLOOD TRANSFUSION
PAPER-I

Time: 3 hours IMHT/J/20/15/I
Max. Marks:100

Important Instructions:

- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

1. Describe the various sub-types of lymphocytes and discuss the role of T lymphocytes in Transfusion Medicine. 5+5

2. Define platelet storage lesions, its clinical significance and discuss various preventive measures for platelets storage lesions. 2+4+4

3. Draw coagulation cascade and discuss cellular model of coagulation. 5+5

4. Describe the synthesis of antigens of ABO Blood group system and molecular basis of Bombay phenotype. 5+5

5. a) Major Histocompatibility Complex. 5+5
   b) Role of HLA in transfusion medicine.

6. a) Describe the role of Hepcidin in iron metabolism. 5+5
   b) Discuss its application in diagnosis of iron deficiency anemia.

7. a) Define apoptosis. 2+3+5
   b) Briefly describe method of detection of apoptosis.
   c) Discuss applied aspects of apoptosis in stored platelet components.

8. a) What is randomized control trial? 2+3+5
   b) Types of RCTs.
   c) Plan RCT on use of calcium supplementation for prevention of hypocalcaemia in apheresis donors.

9. a) Principle of polymerase chain reaction. 5+5
   b) Its application in transfusion medicine.

10. Types of hypersensitivity reactions and their implication in blood transfusion. 5+5

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