

FINAL EXAM
DECEMBER 2016

NATIONAL BOARD OF EXAMINATIONS

IMMUNO-HEMATOLOGY & TRANSFUSION MEDICINE**PAPER – I**

IHTM/D/16/15/I

Time : 3 hours

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. a) Prothrombin time – Clinical utilities. 4+6
b) Explain International Normalized Ratio.
2. a) Coulter principle. 3+3+4
b) Optical platelet count.
c) Immature platelet fraction.
3. a) Graft versus host disease (GvHD). 3+7
b) Differentiate Transfusion from Transplant related GvHD including management and prevention.
4. a) Define stem cells. 2+3+5
b) Hierarchy of Stem cells and iPS (induced Pluripotent Stem cell).
c) Haematopoiesis from a pluripotent stem cell.
5. a) ADAMTS 13. 4+6
b) Thrombotic thrombocytopenic purpura.
6. a) Structure of Globin chain genes. 5+5
b) Haemoglobin synthesis.
7. Bleeding assessment tools. 10
8. a) Chromatography and Haemoglobin. 5+5
b) Hb Variant analysis.
9. a) Vitamin B12 metabolism. 5+5
b) Pernicious anemia.
- 10 a) ABO blood group system. 5+5
b) Molecular basis of A2 sub-group.
