

**IMMUNO-HEMATOLOGY & TRANSFUSION MEDICINE**  
**PAPER-IV**

IHTM/D/17/15 /IV

TIME : 3 HOURS

MAX. MARKS : 100

- 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 question to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write Short notes on:

- Chimeric Antigen Receptor (CAR) T cell 5+5
  - Discuss CAR-T cell therapy
- Principle of Extra corporeal photopheresis 5+5
  - Discuss its clinical applications
- Define micro-chimerism
  - Describe methods of detection of micro chimerism 2+4+4
  - Discuss significance in organ transplantation
- Describe various assays to test hemolytic potential of red cell alloantibodies. 10
- What is "Residual Risk" in relation to microbiological screening of the blood supply? 3+7
  - Describe various measures which may be taken to reduce the residual risk of transfusion transmitted infections in India.
- Discuss applications of molecular typing of blood group antigens. 10
- Discuss rationale and indications of red cell exchange in Sickle cell disease 5+5
  - Discuss transfusion support in a patient with Sickle cell disease
- Stem cell plasticity 5+5
  - Induced pluripotent stem cells.
- Minor ABO incompatible Bone Marrow/ peripheral blood stem cell transplant 3+3+4
  - Enumerate complications
  - Management of complications and transfusion support
- "Near Miss Events" 3+7
  - Discuss causes and prevention of Near Miss Events

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