

**IMMUNOHEMATOLOGY & TRANSFUSION MEDICINE**

PAPER - II

IMHT/D/13/15/II

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) Molecular structure of Rh gene. 5+5  
b) Molecular mechanisms responsible for Rh D negative phenotype.
2. Describe techniques for detection of HLA antibodies and discuss clinical significance of these antibodies in Transfusion Medicine. 5+5
3. Give an account of the criteria for selection and purchase of the following in blood bank:- 5+5  
a) Anti-D Antisera  
b) AHG reagent for cross matching
4. Discuss various factors to be considered for optimal transfusion management of a patient dependent on long term transfusion support. 10
5. a) Discuss the abnormalities encountered in expression of ABH antigens giving rise to ABO blood group discrepancies. 5+5  
b) Draft a protocol for resolution of ABO discrepancies at your hospital.
6. Discuss various clinical and laboratory factors to be considered in detection and identification of red cell antibodies in a transfused patient. 10
7. a) Enumerate indications for Rhlg administration. 2+3+5  
b) What is the mechanism of action of Rhlg?  
c) Draft a decision flow chart for post partum administration of Rhlg at your hospital.
8. a) Discuss ABO compatibility in relation to platelet transfusion and its clinical implications. 5+5  
b) What measures can be taken to prevent immune hemolytic reaction after ABO incompatible platelet transfusion?
9. a) What are cold reactive autoantibodies? 2+3+5  
b) What lab tests are affected by these auto-antibodies and how to resolve such problems?  
c) Compare and contrast normal (harmless) cold autoantibodies and pathological (harmful) cold autoantibodies.
10. a) HTLA antibodies 5+5  
b) Monoclonal antibodies

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