

M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

**PAPER II – IMMUNO-HAEMATOLOGY, IMMUNOGENETICS AND
APPLIED SEROLOGY**

Q.P. Code: 203012

Time: Three Hours

Maximum: 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Describe the range of tests and investigations required as part of the pre transfusion testing of blood samples sent for 'cross-matching'. Explain how the pre-transfusion tests differ between conventional cross-matched blood and units released by electronic cross match.
2. Discuss Mendel's laws of independent segregation and of dominance, correlate the latter with specific examples of the inheritance of blood group antigens.

II. Short notes:

(10 x 7 = 70)

1. a. Molecular structure of Rh antigen complex.
b. Molecular mechanisms of RhD negative phenotype.
2. Reagent red cell panel – preparation and uses.
3. Transfusion support in a patients with warm autoimmune haemolytic anaemia
4. Mi^a Antigen [Miltenberger (Mi)] and its clinical significance.
5. Polyagglutination: lab diagnosis and its clinical significance
6. a. HLA crossmatch. b. Methods to enhance sensitivity of identifying HLA antibodies.
7. List out the advantages and disadvantages between tube, gel and micro plate techniques in ABO blood grouping.
8. Types of hypersensitivity reactions and its applied importance in transfusion medicine.
9. Levey-Jennings (LJ) chart in transfusion transmitted disease testing.
10. "Grey zone" sample testing by Enzyme-Linked immunosorbent assay for transfusion transmissible infections screening.