



**PATHOLOGY**  
**PAPER – IV**

PATH/D/14/32/IV

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) Classify immune hemolytic anemias giving the mechanism of hemolysis. 5+5  
b) Give the red cell parameters in cold agglutinin disease and how will you diagnose this condition.
2. a) What is anaemia of chronic diseases? 2+4+4  
b) Discuss the current concept in pathogenesis.  
c) Management of anaemia of chronic diseases.
3. a) 5q deletion syndrome. 5+5  
b) WHO classification of acute myeloid leukemia.
4. a) Morphology and diagnosis of T- ALL. 5+5  
b) Minimal residual disease (MRD) in ALL.
5. a) Mechanism of iron absorption. 5+5  
b) Congenital dyserythropoietic anaemias.
6. a) Define International Normalized Ratio (INR). Describe its derivatives and significance. 5+5  
b) Application of Gel Card techniques in Transfusion Medicine.
7. a) Hairy cell leukemia – clinical picture & diagnosis. 5+5  
b) Role of platelet aggregometry in diagnosis of platelet function disorders.
8. a) Bone marrow microenvironment in health and disease. 5+5  
b) Molecular abnormalities in myeloproliferative neoplasms.
9. a) Pathogenesis of hereditary spherocytosis. 5+5  
b) Physiology and regulation of hematopoietic cell production.
10. a) Thalassemia intermedia. 5+5  
b) Clinical picture and morphology of acute promyelocytic leukemia.

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