

**PATHOLOGY**  
**PAPER-IV**

Time: 3 hours  
Max. Marks:100

PATH/D/19/32/IV

**IMPORTANT INSTRUCTIONS**

- This question paper consists of 10 questions divided into Part "A" and part "B", each part containing 5 questions.
- Answers to questions of part A and part B are to be strictly attempted in separate answer sheet(s) and the main + supplementary answer sheet(s) used for each part must be tagged separately.
- Answers to question(s) of Part A attempted in answer sheet(s) of part B or Vice versa shall not be evaluated.
- Answer sheets of Part A and Part B are not to be tagged together.
- Part A and Part B should be mentioned only on the covering page of the respective answer sheets.
- 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:**

**PART A**

1. Approach to the diagnosis of polycythemia. 10
2. Genetic biomarkers in myeloid malignancies. 10
3. a) Bone marrow failure syndromes. 5+5  
b) Role of immunophenotyping in the diagnosis of chronic lymphoproliferative disorders.
4. a) Detection of minimal residual disease in multiple myeloma. 5+5  
b) External Quality Assurance in hematology.
5. a) Non-hemolytic transfusion reactions. 5+5  
b) Prenatal diagnosis of hemoglobinopathies.

P.T.O