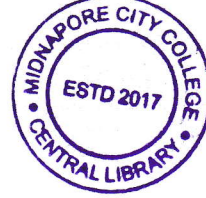


**PG (CBCS)**  
**M.Sc. Semester- III Examination, 2023**  
**MEDICAL LABORATORY TECHNOLOGY**  
**PAPER: MLT 303C**  
**(HAEMOGLOBINOPATHIES-I)**



Full Marks: 40

Time: 2 Hours

The figures in the right-hand margin indicate full marks.  
 Candidates are required to give their answers in their own words as far as practicable.

**GROUP-A**

1. Answer any **FOUR** of the following questions: 2×4=8
- a) What is aplastic anaemia?
  - b) What is Perls' reaction?
  - c) What precaution should you take during the preparation of peripheral blood smear?
  - d) What is sulfhemoglobin?
  - e) What is Normocytic Normochromic Anaemia?
  - f) What is Schilling test?

**GROUP-B**

2. Answer any **FOUR** of the following questions: 4×4=16
- a) What is Bart's hemoglobin? Mention its clinical significance. 2+2
  - b) Why P<sub>50</sub> value of HbF is lower than P<sub>50</sub> value of HbA? What is tactoid formation? 2+2
  - c) What is ring sideroblast? Write the etiological facts behind this type of anemia. 1+3
  - d) Write the significance of HbA<sub>1a</sub>, HbA<sub>1b</sub>, and HbA<sub>1c</sub>.
  - e) How iron cycle function in our body?
  - f) What is Sickle Cell Trait? Explain the pathophysiology behind it. 2+2

**GROUP-C**

3. Answer any **TWO** of the following questions: 8×2=16
- a) Mention the symptoms, risk factors, and treatments of different types of polycythemia. 2+3+3
  - b) Discuss the etiology, clinical features, laboratory investigation of Megaloblastic anemia. 3+2+3
  - c) Explain the role and mechanism of absorption, fate, and transport of iron in our body. 3+5
- P.T.O

- d) Describe the primary, secondary, tertiary and quaternary structure of hemoglobin in details along with diagram. How does the transition of hemoglobin chain occur during prenatal and postnatal life? 5+3

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