

M.Sc. 2nd Semester Examination, 2025
BIOMEDICAL LABORATORY SCIENCE
AND MANAGEMENT

PAPER — BML-202

Full Marks : 50

Time : 2 hours

Answer all questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP — A

Answer any four questions : 2×4

1. Why is 'Golden blood group' is precious ?

(Turn Over)

2. Write the mode of action of EDTA as anti-congulation.
3. Write the full forms of TTI and FNHTR.
4. Name the different globin chains in embryo during early gestational phase and also note the time of formation and disappearance of these chains.
5. Define target cell and central pallor of RBC with its clinical significance.
6. What are the clinical significances of measuring PT and APTT ?

GROUP – B

Answer any four questions :

4 × 4

7. Discuss the primary of structure of haemoglobin. Why foetus can survive in low pO_2 ?

2 + 2

8. Discuss the clinical significance of osmotic fragility test with special reference to surface to volume ratio of erythrocytes.
9. Illustrate your views about different colour coding bags and its uses in blood centre according to BMW management.
10. Write the causes of HDN.
11. Discuss briefly on Howell jolly body, Heinz body, tear drop cells and elliptocytes.
12. Write short notes on TAG vs HD and TACO.

GROUP – C

Answer any two questions : 8 × 2

13. Discuss about molecular and pathophysiological basis of sickle cell anaemia. Enumerate your idea about different types of newer technology for the detection of sickle cell anaemia. 4 + 4

14. Write short note on Haemophilia disease. What is Bart's haemoglobin ? Why does pyruvate kinase anaemia develop ? 4 + 2 + 2
15. Discuss about phenomenon of coincidence in FACS. How do you interpret the results of cell counting on the basis of FSC vs SSC ? What are the clinical and haematological features of acute myelogenous leukemia ? 3 + 2 + 3
16. Write the IAT technique for major cross matching. How do you prepare cryoprecipitate ? Illustrate your idea on 'Fucosyl-transferase gene' in the development of rare blood group. What is polychromatophilic erythroblast ? 4 + 2 + 2

[Internal Assessment — 10 Marks]
