

2022

M.Sc.

2nd Semester Examination

**BIOMEDICAL LABORATORY SCIENCE
AND MANAGEMENT**

PAPER—BML-202

HAEMATOLOGY AND TRANSFUSION SCIENCE

Full Marks : 50

Time : 2 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

Group—A

Answer any four questions. 4×2

1. What is p50 value ?
2. What do you mean by normocytic normochronic anaemia ?

(Turn Over)

3. What is kernicterus?
4. What is hereditary spherocytosis?
5. How does EDTA work as anticoagulant?
6. Define MCHC and MCV.

Group—B

Answer any *four* questions. 4×4

7. What is target cell? Write its clinical significance. 2+2
8. Define electrical impedance. Discuss briefly coincidence phenomenon. 2+2
9. Write the working principle of FACS. What is laser interrogation in FACS? 2+2
10. What is H-antigen? Discuss briefly about Rh nomenclature. 1+3

11. Write short notes on the following abnormalities of red cells (any *two*) :

(a) IAT ;

(b) Rouleaux formation ;

(c) DAT ;

(d) Heinz's bodies.

2+2

12. Discuss the causes of HDN.

4

Group—C

Answer any *two* questions.

2×8

13. Discuss how does Bombay 'O' group differ from other blood groups from the angle of antigenic orientation with special reference to the abnormalities of fucosyl transferase gene. Name different types of anticoagulants used as preservatives in blood bank. Briefly discuss the basic steps of blood component preparation.

3+2+3

14. Discuss the pathogenesis of sickle cell anaemia and β -thalassaemia major along with its molecular aspects of disease. How do you detect the above diseases by paper electrophoresis? 5+3
15. Classify leukemia and discuss briefly about any one type of leukemia. How does different globin chains are changed during embryo formation to birth? Differentiate between T and R form of haemoglobin. (1+3)+2+2
16. What is PNH? Describe any one test to identify PNH abnormality? Write a short note on hemophilia. 2+3+3
16. Describe the factors for onset of hypogonadism and hypergonadism. 4+4

[Internal assessment - 10]
