

M.Sc. 2nd Semester Examination, 2012

BIOMEDICAL LABORATORY SCIENCE

PAPER— BMLSM-202 (Unit - 11)

Full Marks : 40

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

Illustrate the answers wherever necessary

MODULE – 1

1. Answer any five of the following : 1 × 5

(a) What is hapten ?

(b) What is meant by alloantibodies ?

(c) What do you mean by isoantibodies ?

(Turn Over)

- (d) What are the components of Fisher-Race nomenclature?
- (e) What is super antigen?
- (f) What is meant by "universal blood donor group"? Justify.
- (g) What is RHD gene?
- (h) What is innate immunity?

2. (a) Describe the molecular structure of IgG with diagram.
- (b) What would be the possible combination of Rh positive and Rh-negative RBCs? (4 + 1) + 3

Or

- (a) Enumerate the molecular basis of the formation of B antigen with diagram.
- (b) What is your idea about Bombay 'O' group? (2 + 3) + 3

3. (a) Briefly describe the cold reacting antibodies and its significance.

- (b) What is D^u variant? Why is it important to determine for an Rh-negative individual? 3 + (2 + 2)

Or

- (a) Describe the method of reverse typing of blood group?
- (b) Describe the causes of discrepancies in ABO testing? 3 + 4

MODULE - 2

4. Answer any *five* of the following : 1 × 5

- (a) What is meant by isograft?
- (b) Mention the temperature range when biochemical changes occur.
- (c) Write the name of one anticoagulant used in blood bank.
- (d) Write the name of one additive solution used in blood bank.
- (e) What is meant by pheresis?

- (f) What is the full form of ISBT ?
 - (g) What is the standard transfusable unit for an adult ?
 - (h) What is the shelf life of stored blood ?
5. (a) How do you determine the anti-D titre in case of pregnant mother to prevent NHD for immunoneutralisation ?
- (b) How do you calculate the factor to reduce volume (A), amount of anticoagulant (B) and amount of anticoagulant to be removed of a patient with 150 lb body weight. 5 + 3

Or

- (a) Describe about different transfusion bags used in blood bank.
 - (b) Mention the procedure of frozen red blood cell preparation. 4 + 4
6. (a) Discuss about the complications of blood transfusion.

- (b) Mention about FDA guidelines of blood storage. 4 + 3

Or

- (a) What is direct coombs test ?
- (b) What do you mean by major cross matching of blood ?
- (c) What do you mean by double directional in vivo transfusion ? 2 + 3 + 2
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