

**2008****M.Sc.****2nd Semester Examination****BIO-MEDICAL LAB. SCIENCE & MANAGEMENT****PAPER—V (Unit - 10)***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.**Illustrate the answers wherever necessary.***(Basic & Clinical Haematology)***Answer all questions.***Module — I**

1. Answer any *five* questions of the following : 1×5
- (a) What is pancytopenia ?
  - (b) What are macrophage cells ?
  - (c) What is haemoglobin H ?
  - (d) How do you calculate MCV & MCH ?
  - (e) What is plasma cell ?
  - (f) What are the differences between serum and plasma ?
  - (g) What is Howell-Jolly bodies ?
  - (h) What are normoblasts ?

*(Turn Over)*

2. (a) Describe the features of polycythaemia vera.
- (b) Enumerate the brief structure of haemoglobin molecule.
- (c) Describe the different regulating factors of erythropoiesis. 2+3+3

**Or**

- (a) Foetus is always having with HbF instead of HbA — Justify the reason.
- (b) Write the principle of colorimetric method of Hb analysis.
- (c) Describe briefly different types of Lukaemia. 3+2+3
3. (a) Discuss the process of intrinsic pathway of blood co-agulation.
- (b) What is the cause of haemophilia?
- (c) What is anisocytes? 4+2+1

**Or**

- (a) Describe the characteristic features of macrocytic normochromic anaemia and normocytic normochromic anaemia.
- (b) Why the red cells become sickled in sickle cell anaemia?

$4\frac{1}{2}+2\frac{1}{2}$

## Module — II

Answer all questions.

4. Answer any *five* questions of the following : 1×5
- (a) What is the locus of G-6 PD gene ?
  - (b) Write the full form of PTT & APTT ?
  - (c) What is floating discriminator ?
  - (d) What is clot retraction ?
  - (e) Write the clinical significance of PIG-A gene.
  - (f) Name the disorder formerly known as CNSHA-type II and briefly mention the cause of the disease.
  - (g) What is target cell ?
  - (h) What is haptoglobin ?
5. (a) How do you detect fetal-maternal hemorrhage ?
- (b) Mention the principle of a specific test for this detection which follows flow cytometric analysis.
- (c) Describe solubility filtration test briefly for the screening of cell anaemia.  $1\frac{1}{2}+3+3\frac{1}{2}$

**Or**

- (a) What is the clinical significance of plasma haemoglobin ?
- (b) Describe a test mentioning principle for this type of analysis.
- (c) When you should perform HAM test ? 2+5+1

6. (a) How do you perform electrophoretic separation of haemoglobin species following the use of cellulose acetate paper?
- (b) Mention the principle of LE cell preparation and mention the features of LE cells. 5+2

**Or**

- (a) What is the clinical significance of plasma recalcification time?
- (b) Which stain you should for hemosiderin detection?
- (c) Enumerate the principle followed in HbA<sub>1C</sub> detection through HPLC.
- (d) Why HbA<sub>1C</sub> measurement is very important alongwith blood glucose analysis.
- (e) Mention the full form of NESTROF test.

1+1+2+2+1