[LL 116] OCTOBER 2017 **Sub. Code: 2013**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER IV – IMMUNOPATHOLOGY, HAEMATOLOGY, PRINCIPLES AND APPLICATION TO TECHNOLOGICAL ADVANCES IN LABORATORY SERVICES

Q.P. Code :202013

Time : Three Hours **Maximum : 100 Marks**

I. Essay: **(2 x 10 = 20)**

1. Functional Classification of Hemoglobin variants and describe about Hb E.
2. Laboratory Evaluation of Hemostasis.

II. Write Short Notes on: **(8 x 5 = 40)**

1. Quality control in hematology laboratory.
2. Write about platelet STR receptors and ligand interaction.
3. RBC abnormalities and diseases associated with it.
4. Enumerate hemolytic anemia's associated with RBC membrane defect and describe pathophysiology and laboratory findings of spherocytosis.
5. Laboratory detection and types of von Willebrand disease.
6. Notch signal pathway.
7. Write briefly about Congenital Coagulopathies.
8. Write about Pathogenesis, sub types and differential diagnosis of Diffuse Large B cell lymphoma.

III. Reasoning Out: **(4 x 5 = 20)**

1. A 76 year old male had difficulty in walking and his children suspected stroke and brought to physician. Physician diagnosed it as peripheral neuropathy. Routine hematological investigations showed, WBC's $3.2x10^9$, RBC's 2.22 million, HB 8.5 gms%, HCT 27%, MCV 121.6fL, MCH 38.3 pg, MCHC 31.5g/dl, RDW 18%, Platelets $115x10^9$, Reticulocytes 1.8%. Discuss about possible diagnosis, which CBC findings help the physician to get diagnosis, what are the other tests can be done?

2. A 28 year old woman presented with history of 2 days fever, chills, sweating and malaise. Patient had visited Ghana of Africa 3 weeks back with family and CBC showed, WBC $11x10^9$, HCT 25%, MCV 92fL, Platelets $176x10^9$, Peripheral blood smear showed, inclusions. Write possible diagnosis, discuss the type of anemia.

3. A 25 year woman born out of consanguineous marriage, presented with ulcer, discoloration, itching of lower leg. On examination she had splenomegaly with features of anemia. What's the diagnosis? What are the changes you expect in RBC's and other tests to confirm the diagnosis?

4. A 2-year-old child presented with platelet count of 15,000/L and had history of viral fever. What's the diagnosis? Write briefly about differential diagnosis and possible investigations required to substantiate your diagnosis.

IV. Very Short Answers: **(10 x 2 = 20)**

1. G Proteins in platelet and their functions.
2. WHO Classification for Acute myeloid leukemia with Genetic Abnormality.
3. Morphological features of sub types of Hodgkin's Lymphoma.
4. Procoagulant properties of Intima.
5. Proteins of Fibrinolytic pathway.
6. Dohle Bodies.
7. Essential Thrombocythemia.
8. Usage of Cryostat in pathology.
9. Semen Analysis.
10. Via Villi and PAP techniques in diagnosis of carcinoma cervix.

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