(LD 116) **OCTOBER 2013** **Sub. Code: 2013**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

IMMUNOPATHOLOGY, HAEMATOLOGY, PRINCIPLES AND APPLICATIONS TO TECHNOLOGICAL ADVANCES IN LABORATORY SERVICES

Q.P. Code : 202013

Time: Three Hours **Maximum: 100 marks**

I. Essay: **(2X10=20)**

1. Discuss the pathogenesis and pathology of systemic lupus erythematosus.
2. Describe the subtypes of acute myeloid leukemia defined by the WHO classification. What are the features that have an impact on prognosis.

II. Short Questions: **(8X5=40)**

1. B lymphocytes.
2. Differentiation of haemopoietic cells.
3. Cytogenetic and molecular genetic changes in chronic myeloid leukemia.
4. Pathophysiology of disseminated intravascular coagulation.
5. Paroxysmal nocturnal haemoglobinuria.
6. Follicular lymphoma.
7. Liquid-based cervical cytology.
8. Kaposi sarcoma.

III. Reasoning Out: **(4X5=20)**

1. A 14-year-old boy with sickle cell anemia was admitted with pain and tenderness of the right hip and thigh. A radiograph reveals irregular bony destruction of the femoral head. Which of the following infectious agents is most likely responsible for his findings?

   a. Pneumococus
   b. Streptococcus
   c. Salmonella
   d. Borrelia

2. A young healthy man has seasonal episodes of nasal congestion, sneezing and watery eyes. There is no cough or fever but there is swelling of his nasal passages. Chemical mediators from which of the following cell types are responsible for these features?

   a. Macrophage
   b. NK cell
   c. Basophil
   d. Mast cell

(PTO)

3. Which of the following findings is most likely to be observed following splenectomy for blunt trauma?

    a. Tear-drop cells
    b. Punctate basophilia
    c. Red cell inclusions
    d. Elliptocytes

4. A male infant has failure to thrive and has recurrent episodes of bacterial pneumonia with both *Hemophilus influenzae* and *Streptococcus pneumoniae*. Which of the following diseases is he most likely to have?

    a. Di George syndrome
    b. X-linked agammaglobulinaemia
    c. IgA deficiency
    d. Complement inactivation syndrome

IV. Very Short Answers: (10X2=20)

1. Partial thromboplastin time.
2. Cold agglutinin haemolytic anemia.
3. Kleihauer test.
4. Principle of fluorescence in situ hybridisation
5. Skin changes in acute graft versus host disease.
6. Histopathology of delayed hypersensitivity reactions.
7. Peripheral blood findings in myelodysplastic syndrome.
8. JAK2 mutation.
9. Differences in presentation between Hodgkin and non-Hodgkin lymphomas.
10. Bence-Jones proteins.

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