



**All India Institute of Medical Sciences, Kalyani**  
**Second Professional MBBS Examination (Batch-2020-21)**

**Time: 3 Hrs.**

**Pathology (Paper-I)**

**Marks: 100**

- Answer all questions.
- Answer the questions in the same serial order strictly.
- Illustrate your answers with well labelled diagram wherever necessary.
- Answer each section in a separate answer book.

**SECTION – A (General Pathology)**  
**(50 MARKS)**

**Long answer question:**

**[3+4+1+2=10]**

1. A 45 year old, chronic tobacco chewer has ulcer over right side of tongue since 3 months, which on biopsy showed hyperchromatic epithelial cells with high n: c ratio, prominent nucleoli and nuclear pleomorphism, invading deeper tissue and showing keratinization. He had multiple swellings in neck which showed similar cells.
  - a. What is the most the likely diagnosis and routes of spread for this disease?
  - b. Enumerate differentiating features of benign and malignant neoplasm
  - c. Enumerate other sites showing this pathology.
  - d. Enumerate tumor markers with examples.

**Write Short notes on:**

**[8X5=40]**

2. A 10-year- old boy suffered a lacerated wound on his forearm while playing. Describe the process by which his wound will heal. Mention various factors affecting wound healing. (3+2)
3. A 60-year-old diabetic male developed sudden blackening of his right great toe, along with edema and foul smell. What is the cause of his condition? Discuss in brief about various other patterns of tissue necrosis. (2+3)
4. Define thrombosis. Describe fate of a thrombus. What are the differences between arterial and venous thrombus? (1+2+2)
5. Enumerate oncogenic viruses with example of cancers caused by them. Describe the mechanism of Human papilloma virus-induced carcinogenesis. (3+2)
6. Draw a well-labelled diagram of gross changes of amyloidosis of spleen. Enumerate special stains for amyloid. (2+3)
7. What is apoptosis? How it is different from necrosis? (2+3)
8. Enumerate blood derived endogenous pigments. Describe each pigment and diseases in which they occur. (2+3)
9. A 45-year-old male has a large cavity in upper lobe of right lung. He has fever with cough and hemoptysis since 1 month. His mother had similar symptoms. Sputum examination showed beaded acid fast bacilli.  
What is the probable diagnosis? Describe pathogenesis of this disease. (1+4)

**SECTION – B (Hematopathology, Childhood diseases)**  
**(50 MARKS)**

**Long answer question:**

**[3+3+4=10]**

1. 15-year-old adolescent girl who attained menarche 2 years back, complains of fatigue. On examination, she had koilonychia. No organomegaly was seen and there was no history of similar complaints in the past. Her CBC showed hemoglobin of 7gm% and MCV of 58 fl.

- a. Name this condition and enumerate etiological factors causing this disease
- b. Describe absorption mechanism of the deficient nutrient.
- c. Enumerate other clinical conditions associated with similar MCV value and describe tests to differentiate them from the present case.

**Write Short notes on:**

**[8X5=40]**

2. Enumerate childhood malignant round cell tumors. What is Knudson's hypothesis? (3+2)
3. What is leukemoid reaction? Differentiate between chronic myeloid leukemia and myeloid leukemoid reaction. (1+4)
4. Describe the mutation in sickle cell disease. Explain with diagram, risk of sickle cell disease in a child if both parents have sickle cell trait. Enumerate diagnostic tests for sickle cell disease. (1+2+2)
5. Draw a well labelled diagram of peripheral smear findings in a patient of megaloblastic anemia (5)
6. Define thrombocytopenia. Enumerate causes of thrombocytopenia. (1+4)
7. Enumerate tests for diagnosis of hemolytic anemia with example. (5)
8. A 57-old-female had back pain, lytic lesions in skull on X-Ray and M band on protein electrophoresis. What is the most probable cause? What are the findings on urine and bone marrow examination? (1+2+2)
9. What are the criteria for blood donor? Enumerate diseases for which screening is done in a blood bank. (3+2)