

The West Bengal University of Health Sciences
MBBS 2nd Professional Examination (New Regulation) March - April 2023

Subject : Pathology

Paper : I

Full Marks : 100

Time : 3 hours

Attempt all questions. The figures in the margin indicate full marks.

- 1.a) A 4 year old boy was presented to paediatric OPD with growth retardation, prominence of cheek bones, pallor and splenomegaly. Peripheral blood smear shows marked anisocytosis, poikilocytosis, microcytosis, hypochromia along with target cells and fragmented red cells. The Hb level is 6 gm/dL. 1+4+4+6

- i) What is your provisional diagnosis?
- ii) How do you classify this condition in this young age?
- iii) How will you proceed to confirm your diagnosis?
- iv) How will you explain the development of various clinical and laboratory features in this patient?

- b) A 30 year old male met with roads traffic accident and had massive hemorrhage. The patient was pale, pulse was rapid and thread skin was cold and clammy. 2+3+10

- i) What is the provisional diagnosis?
- ii) Classify the condition.
- iii) What are the different stages of the condition and their respective pathophysiology.

2. Answer the following:

3×10

- a) Discuss wound healing by first and second intention.
- b) Describe the pathogenesis and staining characteristics of amyloid.
- c) Describe the pathogenesis of metastasis.

3. Write short notes on:

2x5

- a) Role of AETCOM in an intravenous blood drawing session of an adolescent girl.
- b) Reactive Oxygen Species.

4. Explain the following statements:

5x4

- a) Transfusion of blood component is more rational than whole blood transfusion.
- b) Leukaemia and leukemoid reactions are different.
- c) Tumor markers aid in diagnosis of malignancy.
- d) Inborn errors of metabolism usually follow autosomal recessive mode of inheritance.
- e) Reticulocyte count is helpful in differentiating types of anemia.

5. Choose the correct option for each of the following:

10×1

- (i) Auer rods are derived from:

- a) RNA.
- b) DNA.
- c) Primary granules.
- d) Secondary granules.

- (ii) All are types of tissue macrophages except:

- a) Littoral cell.
- b) Hofbauer cell.
- c) Osteoclast.
- d) Osteoblast.

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- (iii) Leukocyte alkaline phosphatase (LAP) score is elevated in;
- AML.
 - CML.
 - Myeloid metaplasia.
 - Myeloid leukaemoid reaction.
- (iv) Parvovirus B19 infection is often associated with:
- Polycythemia vera.
 - Anemia of chronic inflammation.
 - Aplastic anemia due to bone marrow failure (hypocellularity).
 - Pure red cell aplasia.
- (v) Which of the following diseases is due to mutation of mitochondrial gene?
- Leber hereditary optic neuropathy.
 - Prader Willi syndrome.
 - Angelman syndrome.
 - Familial mental retardation.
- (vi) A 40-year-old woman has had chronic congestive heart failure for the past 3 years. In the past 2 months, she developed a productive cough of rust colored sputum. A sputum cytology specimen now shows numerous hemosiderin laden macrophages. Which of the following subcellular structures in these macrophages is most important for the accumulation of this pigment?
- Chromosome.
 - Endoplasmic reticulum.
 - Golgi apparatus.
 - Lysosome.
- (vii) Normal M:E ratio is:
- 1:1.
 - 3:1.
 - 5:1.
 - 10:1.
- (viii) Which of the following CD markers is NOT primarily B-cell associated?
- | | |
|----------|----------|
| a) CD8. | c) CD19. |
| b) CD20. | d) CD23. |
- (ix) Leprosy bacilli are:
- | | |
|-----------------------|---|
| a) Not acid fast. | b) As acid fast as tubercle bacilli. |
| b) c) Less acid fast. | d) More acid fast compared to tubercle bacilli. |
- (x) Classical markers for Hodgkin's disease are:
- CD15 and CD20.
 - CD15 and CD22.
 - CD15 and CD30.
 - CD20 and CD30.