

REV-01
BMLT/23/28

2024/06

**BACHELOR OF MEDICAL LABORATORY TECHNOLOGY
SIXTH SEMESTER
PATHOLOGY VI
BMLT – 605**

**SET
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 min.

(Objective)

Marks: 20

Choose the correct answer from the following:

1×20=20

1. Decrease in the oxygen-carrying capacity of the blood causes
 - a. Anemia
 - b. Leukopenia
 - c. Thrombocytopenia
 - d. All of these
2. Crew cut appearance on skull X-ray is found in
 - a. Thalassemia major
 - b. Pernicious anemia
 - c. Multiple myeloma
 - d. Burkitt lymphoma
3. Megaloblastic anemia can be caused by a deficiency of which vitamin?
 - a. Vitamin C
 - b. Vitamin B1
 - c. Vitamin B12
 - d. Vitamin A
4. Vitamin B12-IF complex is absorbed in
 - a. First part of duodenum
 - b. Second part of duodenum
 - c. Jejunum
 - d. Ileum
5. In sideroblastic anemia, which abnormality is observed in the bone marrow?
 - a. Decreased iron uptake by the erythroblasts
 - b. Accumulation of iron in mitochondria of erythroblasts
 - c. Increased erythrocyte lifespan
 - d. Reduced hemoglobin synthesis
6. Anemia of chronic renal failure is mainly due to decreased
 - a. Survival of RBC
 - b. Absorption of folate
 - c. Utilization of iron and vitamin B12
 - d. Production of erythropoietin
7. Which of the following laboratory findings is not a feature of iron deficiency anemia?
 - a. Increased total iron binding capacity
 - b. Decreased bone marrow iron
 - c. Decreased red cell protoporphyrin
 - d. Microcytic hypochromic anemia
8. Which of the following conditions is not commonly associated with anemia of chronic disorders?
 - a. Rheumatoid arthritis
 - b. Chronic kidney disease
 - c. Chronic infections
 - d. Iron overload disorders
9. Which of the following is the normal range of MCH at birth
 - a. 100-120 fL
 - b. 31-37 pg
 - c. 30-36 g/dL
 - d. 13-18%

10. Aplastic anemia is NOT caused by
 - a. Benzene
 - b. Whole body irradiation
 - c. Chloramphenicol
 - d. Bacterial endocarditis
11. Which of the following is a potential cause of acquired sideroblastic anemia?
 - a. Hereditary genetic mutations
 - b. Lead poisoning
 - c. Vitamin B12 deficiency
 - d. Sickle cell trait
12. Pure red cell aplasia may be associated with all of the following, except
 - a. Thymoma
 - b. Autoimmune disorders
 - c. Acute myeloid leukemia
 - d. Parvovirus infection
13. The central pallor is increased in which condition
 - a. Microcytic hypochromic anaemia
 - b. Normocytic normochromic anaemia
 - c. Macrocytic normochromic anaemia
 - d. All of these
14. Reed-Sternberg cells are found in
 - a. Hodgkin lymphoma
 - b. Burkitt lymphoma
 - c. Follicular lymphoma
 - d. Diffuse lymphoma
15. What is the primary mechanism leading to megaloblastic anemia?
 - a. Impaired iron absorption
 - b. Disrupted DNA synthesis
 - c. Increased red blood cell destruction
 - d. Enhanced erythropoietin production
16. Majority of lymphoid neoplasms arise from
 - a. B cell
 - b. T cell
 - c. NK cell
 - d. Monocyte
17. The following is the most accurate estimate of iron stores in the body
 - a. Serum iron
 - b. Serum ferritin
 - c. Total iron binding capacity
 - d. Prussian blue reaction
18. A purple flat lesion in the skin resulting from a bleeding disorder, which is larger than 3 mm is called as
 - a. Petechiae
 - b. Purpura
 - c. Ecchymoses
 - d. Hematoma
19. Which of the following is increased in iron deficiency anemia
 - a. Serum iron
 - b. Serum ferritin
 - c. Total iron binding capacity
 - d. Ceruloplasmin
20. Pancytopenia is a condition where a person is suffering from
 - a. Anemia
 - b. Leukopenia
 - c. Thrombocytopenia
 - d. All of these

(Descriptive)

Time : 2 hrs. 30 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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|----|---|----------------|
| 1. | a. Define Anemia | 2+3+5 |
| | b. Classify Anemia | =10 |
| | c. Give briefly the laboratory diagnosis of iron deficiency anaemia | |
| 2. | Define thalassemia syndrome and explain it's classification in detail. Discuss briefly about the pathophysiology of β -thalassemia. | 1+4+5
=10 |
| 3. | Describe the metabolism of iron in the human body including iron distribution, absorption, transport and excretion. | 2+4+2+
2=10 |
| 4. | Define aplastic anemia. Explain the etiology, pathogenesis and laboratory diagnosis of aplastic anemia. | 1+3+3+
3=10 |
| 5. | Define megaloblastic anemia. Explain the causes of megaloblastic anemia. Write a short note on metabolism of folic acid. | 1+4+5
=10 |
| 6. | Define sideroblastic anemia and explain its classification. Write a short note on anemia of chronic disorder. | 1+5+4
=10 |
| 7. | Explain the absorption, transport, storage and function of vitamin B12 in the human body. Discuss about the laboratory diagnosis of megaloblastic anemia. | 6+4=10 |
| 8. | Discuss briefly about the pathogenesis and clinical features of iron deficiency anemia. Explain the laboratory diagnosis of iron deficiency anemia. | 5+5=10 |

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