

**All questions should be answered: (look behind)**

١-Interpret the following ( ٣ marks )

**SIGNALMENT:** Equine, (castrated male), ١٠ years old

**PRESENTING PROBLEMS:** Diarrhea of ٢٤-hour duration, anorexia, weakness, pyrexia, dehydration estimated to be ٧%, hyperpnea

**LABORATORY DATA:**

**Hematology**

Hct ٥١,٥ H%

Lymph ٠,١٢٦ (٣%) L  $\times$  ١٠<sup>٣</sup>/ $\mu$ l

Hb ١٧,١ H g/dl

Mono ٠,٨٨٢ (٢١%)  $\times$  ١٠<sup>٣</sup>/ $\mu$ l

RBC morphology: normal

Eos ٠,٠  $\times$  ١٠<sup>٣</sup>/ $\mu$ l

Platelet adequate

Baso ٠,٠  $\times$  ١٠<sup>٣</sup>/ $\mu$ l

WBC ٤,٢ L  $\times$  ١٠<sup>٣</sup>/ $\mu$ l

Seg ٠,٨٨٢ (٢١%) L  $\times$  ١٠<sup>٣</sup>/ $\mu$ l

Band ٢,٣١ (٥٥%) H  $\times$  ١٠<sup>٣</sup>/ $\mu$ l

WBC morphology: cytoplasmic basophilia and vacuolation

Fibrinogen ١١٠٠ H mg/dl.

٢-Full account on: ( ١٠ marks,two for each )

a-Diagnosis of acute type of leukemia.

b-Hemoglobin catabolism .

c-Pathogenesis of AID .

d-Interpretation of leukocyte alterations.

e-Laboratory findings of Lymphoma.

٣-Short account on: ( ٤ marks, one each )

a-DIC .

b-Causes of neutropenia .

c- Characteristics of anemia due to chronic blood loss .

d-Effect of stress on leukogram .

٤-Compare between the following . ( ٦ marks,١,٥ each )

a-Different types of polycythemia .

b-Chronic types of leukemia .

c-Effect of copper and lead poisoning on mature RBCs .

d-Leukomoid reaction and Granulocytic leukemia .

٥- Choose the correct answers .

( ٢ marks, ١, ٥ each )

١-All the following findings are seen in Megaloblastic anemia except.

- a) Occurs defect in nuclear replication and division.
- b) All marrow elements are affected.
- c) RBCs size become larger than normal, Hb production is probably normal .
- d) Reticulocyte are increased.

٢-Aplastic Anemia is not characterized by

- a) Pancytopenia - all lines- ↓ RBC, WBC and platelets .
- b) Normocytic-normochromic anemia .
- d) Macrocytic-normochromic anemia .
- c) Is failure of haemopoietic stem cells to proliferate and differentiate .

٣-All following are correct about Diphosphoglycerate pathway except

- a) This pathway allows formation of ٢,٣DPG.
- b) ٢,٣-DPG is important in decreasing the hgb affinity for O٢ during O٢ unloading).
- c) Dog, horse and pig have high concentration of ٢,٣-DPG.
- d) Anemic animals have decreased ٢,٣-DPG.

٤-Signs of increased erythrocytes production by BM may include all except:

- a) Absence of Reticulocytosis .
- b) Polychromasia .
- c) Basophilic stippling .
- d) Anisocytosis .
- e) Nucleated red cells.
- f) Howell-jolly bodies.

**GOOD LUCK**