

## **1- Erythrocytes**

**A. Erythrocyte maturation**

**B. Erythrocyte functions**

**C. Erythrocyte indices**

**D. Erythrocyte arrangement**

**E. Erythrocyte morphology**

**F. Erythron**

**1. Anemia**

**2. Polycythemia**

## **2- Leukocytes**

**Kinetic and function of leukocytes**

**Interpretation of leukocyte counts**

**Leukocytosis**

**Leukopenia**

**Lymphocytosis**

**Lymphopenia**

**Monocytosis**

**Eosinophilia**

**Eosinopenia**

**Basophilia**

**Classification of the leukocytic response.**

**Interpretation of leukocyte alteration**

**Leukemia**

## **3- Platelets**

**Circulating platelets**

## **Platelet function**

### **Platelet abnormalities**

#### **Thrombocytosis**

#### **Thrombocytopenia**

#### **Clotting mechanism**

#### **Laboratory tests for coagulation:**

#### **Tests for measuring intrinsic system factors:**

## **4- Bone marrow examination**

### **Indication**

### **Limitations of bone marrow examination**

### **Sites used for bone marrow aspiration:**

### **Aspiration Technique**

### **Preparation of Bone Marrow Smears**

### **Preparation of Bone Marrow Sections**

### **Examination of Bone Marrow Film**

### **Cell Identification:**

### **Interpretation of Bone Marrow Examination**

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## **5- Clinical Biochemistry**

### **Plasma**

### **Haemolysis causes:**

### **The Plasma Proteins**

### **Calcium**

### ***Phosphorus***

**Magnesium**

**Urea**

**KETONES**

**Alanine aminotransferase (ALT)**

**Aspartate aminotransferase**

**Alkaline phosphatase**

**Gamma glutamyltranspeptidase**

## **6- KIDNEY FUNCTION TEST**

**Functions of Kidney**

**URINE EXAMINATION**

**BLOOD UREA NITROGEN (BUN)**

**SERUM CREATININE LEVEL**

**Protein**

**Glucose**

**KetoneBodies:**

**Bilirubin urea**

**Acid-alkaline reaction (pH):**

## **7- Liver function test**

**Normal liver function include:-**

**Important of liver function tests:-**

**Limitations of liver function tests**

**Classification of liver function tests**

**Tests based on hepatic secretion and excretion**

**Bile pigments**

**Serum bilirubin**

**Bile pigment in urin**

**Urinary urobilinogen**

**Fecal bile pigments**

**Clearance of foreign dyes from the serum**

**Sulfobromophthalein (BSP)**

**Interpretation of BSP clearance in domestic animals**

**Test for protein synthesis is:**

**Test for hepatocellular disease :**



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