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**Section. : B**

**MidTerm Assignment, Spring 2020. Total marks: 30.**

Instructor. Dr Adnan Ahmad

**Section A**

1. the most commonly ordered blood tests
2. Urine RE
3. T3
4. T4
5. Hmglb
6. None of them
7. When a person has been diagnosed with a disease known to affect blood cells, a \_\_\_ will often be ordered on a regular basis to monitor their condition
8. Urine RE
9. T3
10. T4
11. Hmglb
12. None of them
13. The cells that are part of the body's defense system against infections and cancer and also play a role in allergies and inflammation
14. Neutrophils
15. Lymphocytes
16. Eosinophils
17. Monocytes
18. All of the above
19. Normal RBC range in:Male:
20. 4.7 to 6.1 million cells p (cells/mcL)
21. 4.2 to 5.4 million cells/mcL
22. 6.7 to 6.1 million cells p (cells/mcL)
23. 9.7 to 6.1 million cells p (cells/mcL)
24. Low platelet concentration is
25. Thrombocytopenia
26. Thrombocytosis
27. Thrombocytopathy
28. Leukopenia
29. Also known as myeloid tissue
30. Red BM
31. Yellow White BM
32. Greenish fatty tissue
33. All red blood cells and platelets in humans adults are formed in\_\_\_\_\_\_\_\_\_\_\_\_
34. Yellow BM
35. White BM
36. Greenish fatty tissue
37. Myeloid tissue
38. Increase in red blood cells
39. Anemia
40. Polycythemia
41. leukemia
42. Clotting defects
43. Thrombopoietin is a glycoprotein hormone produced mainly by\_\_\_
44. Liver
45. Kidney
46. Both a and b
47. Brain
48. life span of RBCs is\_\_\_\_\_
49. 2 months
50. 3 months
51. 6 months
52. None of them

 **Section : B**

 **Q1: Ans: CHARACTERISTICS OF BLOOD**

1 COLOUR: bright red ~oxygenated (systemic)

Dark red/ purple ~ deoxygenated (venous)

2 PH

7.35\_7.45

3. Osmolality

285\_295mosm

4. Viscosity

3\_4x more viscous than water

5 Almostall blood cells are found red bone marrow

6 specfic gravity is 1050\_1060

6 Tamprature

38°c slightly higher then normal body tamprature

7 Avrage valume of blood is 5\_6 L for males and 4\_5 L for femals

 Q2: Ans: HEMATOPOIESIS: is the process by which immature precursor cells develop into mature blood cells.

The currently axcepted theory on how this process works is called the monophyletic theory which simply means that a single type of stem cell gives rise to all the mature blood cells in the body this stem is called the pluripotential (pluripotent) stem cell

After birth and during early childhood,

Hematopoiesis occures in the red marrow of the bone with age, Hematopoiesis becomes restricted to the skull, sternum vertebrae, and pelvis

Q:3 Ans: BONE MERROW

Bone merrow is a semi solid tissue which may be found with in the spongy or cancellous portions of bones,

\* in the birds in mammals bone marrow is the primary side of new blood cell production or hematopoiesis

\*it is composed of hematopoietic cells, marrow adipose tissue, and spportive stromal cells, in adult humans, bone marrow is primarily located in the ribs, vetebraie, sternum, and bones of the pelvis

\*bone marrow comprises approximately 5% of total body mass in healthy adult humans, such a man vighing 73kg (161ibs) will have around 3.5kg(8ibs)of bones marrow

Types of bone merrow

1 red bone marrow(alsow known as myeloid tissu)

2 yellow bone marrow (fatty tissue)

both type of bone marrow or highly vascular and enriched with numerus blood vessels and capillaries

Q:4 Ans: SITE OF HAEMOPOIESIS

\*FETUS. 0\_2 months (yolk sac)

\*2-7 months (liver, speen)

\*5-9 months(bone marrow)

INFANTS

\*Bone marrow (practically all bones)

ADULTS

\*vertebrae, ribs, sternum, skull, sacrum and pelvis, proximal ends of femur

\*during normal childhood and adult life the marrow is only sourses of new blood cells

\*in certian deseases the liver and speen can resume their fetal haemopoietic role (estramedullary haemopoiesis)

\*the develping cells are situate out side the bone marrow sinuses

\*mature cells are relased into the sinus spaces, the marrow microcirculation

\*and so into the genreral circulation.

 THE END