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ID NO 16008

DEPT BS (MLT)

PAPER HEMATOLOGY

SECTION A

1) Hemoglobin

2) Urine RE

3) All of the above

4) (4.7 to 6.1 million per cells)

5) Thrombocytopenia

6) Red bone marrow

7) Myeloid Tissue

8) Poly cythemia

9) Both A and B

10) None of them

**Question no 1**

CHARACTERISTIC OF BLOOD

1. Color bright red 🡪 oxygenated (systemic)

2. PH ; 7.35 -7.45

3. Osmolality ; 285 – 295 mOsm

4. Viscosity -> 3.4 more viscous then water

5. Almost all blood cells are found red bone marrow

6. 55% plasma , 45% formed elements

7. plasma = liquid matrix

8.adult contain 5.6 L

**Question no 2**

**ANSWER**

HEMATOPOIESIS

Hematopoiesis is the production of all the cellular

Components of blood and blood plasma . it occurs with in hematopoietic system

which includes organs and tissue such as the bone and tissues such as the bone marrow

, liver and spleen

FAST FACT OF HEMATOPOIESIS

. HEMATOPOIESIS begins during the first week of embryonic development

. All blood cells and plasma develop from a steam cells that can develop into

any other cell

the blood is made up of more than 10 different cell types . each of these cell

types fall into one of three broad categories.

1) Red blood cells ( erythrocytes)

2) white blood cells (leukocytes)

3) platelets (thrombocytes)

**Question no 3**

**ANSWER**

BONE MARROW

**Introduction**

Nutrient rich spongy tissue located mainly in hollow portions of

Long flat bones like the sternum and the bone of hips .

. At birth all bone marrow is red.

. With the passage time more and more of marrow converts to yellow bone marrow.

Types of bone marrow

1) Red bone marrow

2) Yellow bone marrow

RED BONE MARROW

. All red blood cells and platelets in humans adult are formed in red bone marrow

. Produces around 60-70% of lymphocytes ( the rest begin life in the red bone

marrow and become fully formed in lymphatic tissue including thymus spleen

and lymph nodes .

. Red bone marrow also plays role in obliterien of old red blood cells .

YELLOW BONE MARROW

. Yellow bone marrow main purpose is to act as a store for fats helping to provide

sustenance and maintain correct environment for bone to function .

. However under particular conditions such as sever blood loss or fever the yellow marrow

may convert to red marrow .

Stormal cell of Bone Marrow

1. Fibroblast

2. Macrophages

3. Adipo cytes

4. osteo blasts

5. Osteo claste

**Question no 4**

**ANSWER**

HEMATOPOESIS IN FETUS AND INFANTS

During embrogeinusis hematopeisis occurs in spatially and temporally

Distinct sities including the extra embryonic yolk sac the fetal liver and the preterm

Marrow . the development of primitive erythroblast in the yolk sac is critical for

Embryonic survival primitive erythroblast differentiate with in the vascular network

Rather than extra vascular space and circulate as neclutaed cells . although it is widely

Assumed that primitive red cell remain nucleated throughout their life spain , it is likely

That mainly ultimately enclueate upon terminal differentiation . after 7 weeks gestation

Hematopoietic progenitors are no longer detected in the yolk sac . the liver serves as the

Primary source of red cell from 9th to the 24th weeks of gestation like primitive erthropoesis

In the yolk sac defentive erythrocytes in the fetal liver is necessary for continued survival of the embryo . .

HEMATOPOESIS IN ADULT

IN Hematopoietis of red blood cells and platelets occur primarily in the bone

Marrow. In infants and children it may also continue it may also continue in the

Spleen and liver . tissue in the liver spleen lymph nodes and some other organ

Produce another types ofwhite blood cell called monocytes .

THE END