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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