



1. Red bone marrow in adults is present in all of the following except.....:

- A. Skull
- B. Sternum,
- C. Clavicle
- D. Shaft of long bones

2. Main type of bone marrow in fetus is.....

- A. Red bone marrow
- B. Yellow bone marrow
- C. Inactive bone marrow
- D. None of the above

3. Largest cells in bone marrow are.....

- A. Reticular cells
- B. Fat cells
- C. Free cells
- D. Osteoblasts

4. Stroma of bone marrow contains all of the following except.....

- A. C.T cells
- B. Pericytes
- C. Bone cells
- D. Chondroblasts

5. Yellow bone marrow doesn't contain.....

- A. Bone cells
- B. Fat cells
- C. Free cells
- D. Pericytes

1. D

2. A

3. B

4. D

5. C

**6. Developing leucocytes in bone marrow are called.....:**

- A. Myeloid tissue
- B. Erythroid tissue
- C. Lymphoid tissue
- D. None of the above

7. Regarding free cells in bone marrow which of the following is correct

- A. They are blood cells in mature state only
- B. Developing erythrocytes is called myeloid tissue
- C. Myeloid / Erythroid ratio is 5-1.
- D. Bone marrow forms more RBCs than leucocytes

8. All of the following are functions of red bone marrow except.....

- A. Formation of blood cells.
- B. Destruction of old RBCs by the macrophages.
- C. Storage of iron in the macrophages.
- D. Synthesis of clotting factors

9. Yellow bone marrow is changed into active red marrow in case of.....

- A. Hemorrhage
- B. Infection
- C. Heart failure
- D. Bone marrow failure

10. Hematopoiesis is the development of.....

- A. Liver cells
- B. Blood cells
- C. Kidney cells
- D. Brain cells

6. A

7. C

8. D

9. A

10. B

**11. Megakaryocytes are the origin of?**

- A. RBCs
- B. Monocytes
- C. Thrombocytes
- D. T lymphocytes

12. Specific granules begin to appear in cytoplasm of leucocytes in which step.....

- A. Myelocytes
- B. Promyelocytes
- C. Metamyelocytes
- D. Mature granulocytes

13. Polychromatic erythroblast is mainly characterized by

- A. Acidophilic cytoplasm
- B. Both acidophilic and basophilic cytoplasm
- C. Nucleus is lost
- D. Largest cell in erythropoiesis

14. Nucleus is extruded in erythropoiesis in

- A. Reticulocytes
- B. UMCs
- C. Polychromatic erythroblast
- D. Normoblasts.

15. In adults, yellow bone marrow may be found in

- A. The sternum
- B. The vertebra
- C. The tibia
- D. Clavicle

11.C

12.A

13.B

14.D

15.C

**16. Proerythroblasts?**

- A. Branched, stellate shaped cells
- B. Contain rounded, pale nucleus that has 2 nucleoli.
- C. Their cytoplasm is acidophilic
- D. May appear in blood.

17. Regarding reticulocytes all of the following is correct except

- A. They are slightly larger than RBCs
- B. They contain remnants of polyribosomes in the form of reticulum in the center of the cell
- C. They contain small dark nucleus
- D. They may appear in blood

18. All of the following cells contain basophilic cytoplasm except.....

- A. UMCs
- B. Proerythroblasts
- C. Basophilic erythroblasts
- D. Normoblasts

19.are thymus dependent cells

- A. Monocytes
- B. B-lymphocytes
- C. T-lymphocytes
- D. Neutrophils

20. Azurophilic granules begin to appear in cytoplasm of leucocytes in which step

- A. Myeloblasts
- B. Promyelocytes
- C. Myelocytes
- D. Metamyelocytes

21.cells migrate to the thymus gland during development of T-lymphocytes?

- A. UMCs
- B. CFU
- C. T-lymphoblasts
- D. Monoblasts

16. B

17. C

18. D

19. C

20. B

21. B