



1. Blood cells form about of the blood volume.:

- A. 45 %
- B. 55 %
- C. 90 %
- D. 60 %

2. All of the following are abnormal RBCs shapes except.....

- A. Spherocytosis
- B. Sickle shape
- C. Swelling
- D. Biconcave disc shape

3. Crenation occurs when RBCs are put into.....

- A. Hypotonic solution
- B. Isotonic solution
- C. Hypertonic solution
- D. None of the above

4. RBCs diameter in macrocytic anemia is.....

- A. 7.5 μm
- B. $>9 \mu\text{m}$
- C. $<6 \mu\text{m}$
- D. 8 μm

5. Anisocytosis means.....

- A. Variable RBCs shapes
- B. Variable RBCs colors
- C. Variable RBCs diameters
- D. Variable RBCs numbers

1. A	2. D	3. C	4. B	5. C
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**6. Fresh, single RBC appears.....:**

- A. Red
- B. Greenish yellow
- C. White
- D. Colorless

7. RBCs with normal HB

- A. Appears acidophilic with pale center
- B. Appears pale
- C. Have deeply stained periphery with stained center
- D. Are called hyperchromic

8. Number of RBCs in males is.....

- A. 4-4.5 million / mm³.
- B. 4.5-5 million / mm³.
- C. 5-5.5 million / mm³.
- D. 5.5-6 million / mm³.

9. Increase in RBCs number is called.....

- A. Anemia
- B. Polycythemia
- C. Leukemia
- D. Thrombasthenia

10. Regarding structure of RBCs all of the following is correct except.....

- A. They are non-nucleated cells
- B. They have no organoids
- C. They are filled with HB.
- D. They are surrounded by plastic freely permeable cell membrane,

6. B

7. A

8. C

9. B

10.D



11.plays an important role in transportation of CO₂ from tissues to the lung?

- A. Glycosidase enzyme
- B. Carbonic anhydrase enzyme.
- C. Sulphatase enzyme
- D. Succinic dehydrogenase enzyme

12. Regarding WBCs all of the following is correct except

- A. They are true nucleated cells
- B. They have cell organoids and cell inclusions
- C. They don't contain hemoglobin
- D. Single WBC appears white

13. Leukopenia means.....

- A. WBCs > 11000/ mm³.
- B. WBCs > 150,000 / mm³.
- C. WBCs < 4000 / mm³.
- D. WBCs < 6000 / mm³.

14. Which of the following are non-granular leucocytes

- A. Neutrophils.
- B. Eosinophils.
- C. Basophils
- D. Monocytes

15. The most common leucocytes are.....

- A. Neutrophils
- B. Lymphocytes
- C. Monocytes
- D. Basophils

11.B	12.D	13.C	14.D	15.A
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**16. One of the following is (false) about neutrophil leucocytes?**

- A. Contain fine neutrophilic granules
- B. Secrete proteolytic enzymes.
- C. They attract monocytes to the infected area
- D. Possess horse shoe shaped nucleus

17. Regarding neutrophilic granules which of the following is correct

- A. They are few in number & large in size.
- B. They contain hydrolytic enzymes
- C. They contain bacteriostatic and bactericidal substances
- D. All of the above

18. Regarding nucleus of neutrophils which of the following is correct.....

- A. 2 in number
- B. Lightly stained
- C. Irregular in shape
- D. Segmented

19. All of the following granules are present in neutrophils by EM except.....

- A. Specific granules
- B. Beta granules
- C. Azurophilic granules
- D. Glycogen granules

20. Regarding eosinophilic granules which of the following is correct.....

- A. Basophilic refractile granules by LM
- B. Coarse ellipsoid granules by EM
- C. Have electron lucent crystalloid core in the center and electron dense periphery.
- D. They contain heparin and histamine

16.D

17.C

18.D

19.B

20.B

**21. One of the following is a function of esinophils?**

- A. Antibilharzial and antiparasitic action
- B. They produce heparin and histamine during allergy.
- C. During infections, they stimulate the bone marrow to produce more leucocytes
- D. Penetrate the capillaries and venules to reach the C.T. and transform into macrophages

22. Regarding basophils which of the following is correct

- A. They represents 2- 5% of total leucocytes..
- B. They release eosinophil chemotactic factor.
- C. Basophilic granules can be stained by osmic acid
- D. Their nucleus is bilobed

23.secrete histaminase and sulphatase enzymes during allergy.....

- A. Neutrophils
- B. Basophils
- C. Eosinophils
- D. Monocytes

24. Diameter of medium-sized lymphocytes is.....

- A. 4-7 μm
- B. 6-9 μm
- C. 7-10 μm
- D. 10-15 μm

25. Lymphocytes found in the blood are mainly,

- A. Small sized
- B. Medium sized
- C. Large sized
- D. A & B

21. A

22. B

23. C

24. C

25. D

**26. Regarding small lymphocytes which of the following is correct?**

- A. They represent 5-10% of total leukocytes
- B. Their cytoplasm is abundant
- C. Their nucleus is central, round and dark
- D. Their size is 10-15 μm

27. Most common type of lymphocytes is

- A. T. lymphocytes
- B. B. lymphocytes
- C. Natural killer cells
- D. None of the above

28. Regarding monocytes which of the following is correct.....

- A. They represent 15-20% of total leukocytes
- B. Shows positive peroxidase reaction
- C. Contains specific granules
- D. Responsible for cell mediated immunity

29. Regarding platelets all of the following is correct except.....

- A. They are fragments of cytoplasm covered with membrane but have no nucleus
- B. Their size is 2-4 μm
- C. Their outer part appears transparent and called hyalomere
- D. Their cell membrane is covered with a thin cell coat.

30. Alpha granules of platelets contains

- A. Fibrinogen
- B. Serotonin,
- C. ATP
- D. Calcium

26.C

27.A

28.B

29.D

30.A