

BIOLOGY

BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)

BODY FLUIDS AND CIRCULATION

Mcq Part A

1. The blood cell that prevents allergy is

- A. neutrophil
- B. basophil
- C. eosinophil
- D. monocyte



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2. The plasma protein that gives maximum visocity of blood is

- A. albumin
- B. globulin
- C. prothrombin
- D. fibrinogen

Answer: B



- 3. Anticoagulant heparin is secreted by
 - A. neutrophil

C. lymphocyte

D. monocyte

Answer: B



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4. The mineral necessary for blood coagulation is

A. Na*

C. Mg**

D. Ca*

Answer: D



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5. The blood group that can safety receive blood from all group is

A. A

- B.B
- C. AB
- D.O



- **6.** The life span of RBC is
 - A. 80 Days
 - B. 100 Days

- C. 120 Days
- D. 140 days



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7. The stage of erythropoiesis in which haemoglobin appears in RBC

A. proerythroblast

B. early normoblast

- C. intermediate normoblast
- D. late normoblast



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8. The amount of haemoglobin in the blood of adult male is

A. 10 g%

B. 12 g%

- C. 15 g%
- D. 18 g%



- **9.** The maximum number of leucocyte (WBC) is
 - A. neutrophil
 - B. eosinophil
 - C. lymphocyte

D. monocyte

Answer: A



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10. Which one is not a stage of erythropoiesis

?

A. haemocytoblast

B. myeloblast

C. erythroblast

D. normoblast

Answer: B



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11. Define Allergy



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12. Lymphatic ducts empty their contents into

A. pulmonary artery

B. right ventricly directly

C. large veins entering atrium

D. arteries going to legss

Answer: C



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13. The swellings in any part of the body, caused by infiltration of serum into subcutaneous cellur tissue, is called

- A. oedema
- B. atheroma
- C. abscess
- D. dropsy

Answer: A



- **14.** The lymph constists of
 - A. plasma

- B. leucocytes
- C. plasma and erythocytes
- D. plasman and leucocytes

Answer: D



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15. Which of the following are not compents of blood?

A. plasma

- B. gases and other dissolved substances
- C. blood cells and platelets
- D. none of the above

Answer: D



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16. Which of the following ions is involved in blood clotting?

A. Na^+

B.
$$k^+$$

C.
$$Ca^{++}$$

D.
$$Fe^{+++}$$



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17. Which of the following associations is incorrect?

A. plasma-water, nutrients, wastes

B. WBC-infection fighting

C. RBC-blood clotting

D. platelets-blood clotting

Answer: C



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18. Name the disease in which the number of platelets reduces to 25,000-30,000 per cu mm of blood.



19. What is the name of iron-containing protein that gives red blood vessels their color?

A. haemoglobin

B. haemocyanin

C. lymphocytes

D. pyrite

Answer: A





20. Mature erythrocytes cannot utilize glucose completely because they lack

A. golgi complex

B. mitochondria

C. enzymes

D. nucleus

Answer:



21. Papillary muscles occur in

- A. auricles
- B. pulmonary valves
- C. ventricles
- D. atrioventricular valves

Answer: C



22. Globulins contained in human blood plasma are primarilly involved

A. oxygen transport in blood

B. defence mechanism of body

C. clotting of blood

D. osmotic balance of body fluids

Answer: B



23. If hearts sound recording and ECG are super imposed, the first heaet sound would occur

A. just before QRS Complex

B. at P-wave

C. just after QRS Complex

D. just after P-wave

Answer: C



24. Hardening of arteries due to deposition of cholesterol is

A. rhinitis

B. stenosis

C. thrombosis

D. atherosclerosis

Answer: D



25. Blood enters heart when muscles of	

A. atria relax

B. atria contract

C. ventricles relax

D. ventricles contract

Answer: A



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26. Most probable cause of heart attack is

- A. high level of HDL
- B. vasomotion
- C. systolic pressure of 120 mm Hg
- D. atherosclerosis

Answer: D



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27. Battery of artificial pacemaker is built of

A. lithium

- B. photosensitive material
- C. dry cadmium
- D. nickel

Answer: A



- 28. Artery is a vessels that carries blood
 - A. towards the liver
 - B. towards the heart

- C. away from heart
- D. away from tissue



- **29.** Haemoglobin value for a healthy adult male is
 - A. 12g/100g ml
 - B. 14-15 g/100 ml

- C. 11g/100 ml
- D. 10g/100 ml

Answer: B



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30. What is correct about ECG?

- A. T-start of systole
- B. T-end of diastole
- C. R-Repolarisation of ventricles

D. P-depolarisation of atria

Answer: D



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31. Hypertension is not caused by

A. atherosclerosis

B. atherosclerosis

C. anaemia

D. obesity



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32. In human beings duration of cardiac cycle is

- A. 0.8 second
- B. 0.5 second
- C. 8.0 second
- D. 0.08 second

Answer: A



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33. Blood group agglutinogen is

A. phospholipid

B. phosphoprotein

C. glycoprotein

D. haemoprotein

Answer: C



34. Define osmotic pressure



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35. Thromboplastin reqired for blood clotting at the place of injury is released by

A. eosinophils

B. neutrophils

C. lymphocytes

D. blood platelets

Answer: D



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36. Define amides



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37. There is no DNA in

- A. hair root
- B. mature RBC
- C. a mature spermatozoa
- D. an enucleated ovum

Answer: B



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38. If one litre of water is introduced in human blood, then

A. RBC collapses and urine production decreases

B. BMR decreases

C. RBC collapse and urine production increases

D. BMR increases

Answer: C



39. An RBC and a plant cell [with thick cell wall] are placed in distilled water. The solute concentration is same in both the cells. What changes would be observed in them?

A. both plant cell and RBC would decreases in size and collapse.

B. the RBC would increase in size and burst while the plant cell would remain about the same size

- C. both plant cell and RBC would not undergo any change
- D. the plant cell would increase in size and burst while the RBC would remain about the same size

Answer: B



40. The most popularly known blood grouping is the ABO grouping. It is named ABO and not ABC because "O" in it refers to having

A. overdominance of this type on the genes for A and B types

B. one antibody only-either anti B on the RBCs

C. no antigen A and B RBCs

D. other antigen besides A and B on RBCs

Answer: C



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41. How many molecule of oxygen are carried by one molecule of haemoglobin?

A. 4

B. 6

C. 8

D. 2

Answer: A



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42. Which of the following organs is called the grave yard of RBCs?

- A. liver
- B. spleen
- C. kidney
- D. thymus

Answer: B



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43. Fastest distribution of some injectible material/medicine and with no risk of any kind can be achieved by injectingit into the

A. arteries

B. muscles

C. lymph vessels

D. veins

Answer: D



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44. Sphygmomanometer is an instrument used to record

- A. diastolic pressure
- B. both systolic and diastolic pressure
- C. systolic pressure
- D. none of the above

Answer: D



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45. ABO blood grouping is controlled by gene I which has three alleles and show codominance. There are six genotypes. How many phenotypes are there?

- A. four
- B. five
- C. three

D. six

Answer: A



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46. The blood does not clot inside the body because of

A. heparin in blood

B. absense of fibrinogen in blood

C. oxygenation of blood

D. movement of blood

Answer: A



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47. What is leucocytosis?



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48. Which is the correct sequence of arrangement of types of WBC in decreasing

order in term of number per mm^3 of human blood?

- A. Neutrophil gt Eosinophils gt Basophils
- B. Eosinophil gt Neutrophils gt Basophils
- C. Eosinophils gt Basophils gt Neutrophils
- D. Basophil gt Eosinophils gt Neutrophils

Answer: A



49. A person with blood group AB has which of the following antigens in their RBCs?

- A.B
- B. A and B
- C. A
- D. None of the these

Answer: B



50. Given below are four statements [1-4] regarding human blood circulatery system. 1.angina is acute chest pain when the blood circulation to the brain is reduced. 2.calcium ions play a very important role in blood clotting. 3.persons with blood group AB can donate blood to any person with any blood group under ABO system. 4.arteries are thick walled and have narrow lumen as compared to veins. Which of these statements are correct?

A. 2 and 3

B. 3 and 4

C. 2 and 4

D. 1 and 4

Answer: C



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51. Rh factor can produce disease

A. sickle cell anaemia

B. erythroblastosis foetalis

C. AIDS

D. turner's syndrome

Answer: B



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52. Low Ca** in the body fluid may be the cause of

A. gout

B. tetany

C. anaemia

D. angina pectoris

Answer: D



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53. A vein that collects blood from one network of capillaries and transports it directly to a second capillary network in another region of the body, without returning to the heart is called

A. portal vein

- B. carotid vein
- C. coronary vein
- D. pulmonary vein

Answer: A



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54. The haemoglobin content per 100 ml of blood of a normol healthy human adult is

A. 12-16 g

- B. 5-11 g
- C. 17-20 g
- D. 25-30 g

Answer: A



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55. Red cell count is carried out by

- A. sphygmomanometer
- B. haemocytometer

C. electrocardiogram

D. haemoglobinometer

Answer: B



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56. What are anticoagulants?



57. The volume of blood each ventricle pumps out during a cardiac cycle is about

- A. 1200 ml
- B. 70 ml
- C. 5000 ml
- D. 40 ml

Answer: B



58. Which of the following cells are round and biconcave in shape?

A. red blood cells

B. mesophyll cells

C. white blood cells

D. columnar cells

Answer: A



59. A certain road accident patient with unknown blood group needs immediate blood transfusion. His one doctor friend at once offers his blood. What was the blood group of the donor?

- A. blood group O
- B. blood group A
- C. blood group B
- D. blood group AB

Answer: A

60. Compared to those of humans, the erythrocytes in frog are

A. very much smaller and fewer

B. nucleated and without haemoglobin

C. without nucleus but with haemoglobin

D. nucleated and with haemoglobin

Answer: D

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61. If both are carriers for thalassemia, which is an autosomal recessive disorder, what are the chances of pregnancy resulting is an affected child

A. 0.5

B. no chance

C. 0.25

D. 1

Answer: C



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62. The incorrect statement with regard to haemophila is :

A. it is a recessive diseases

B. it is a dominant disease

C. a single protein involved in the clotting

of blood is affected

D. it is a sex-linked disease

Answer: B



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63. Which valve is present at the opening of coronary sinus?

A. Mitral valve

B. Eustachian valve

C. Thebesian valve

D. tricuspid valve

Answer: C



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64. Which blood cells can engulf bacteria by phagocytosis?

- A. Eosinophils and basophil
- B. Neutrophil and monocyte
- C. Neutrophil and lymphocyte

D. Eosinophil and lymphocyte

Answer: C



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65. The nodal tissue located in the lower left corner of the right atrium is

- A. SA node
- B. AV node
- C. AV bundle

D. Purkinje fibres

Answer: B



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66. Which one of the following is correct?

A. Blood = Plasma + RBC + WBC + Platelets

B. Plasma = Blood - Lymphocytes

C. Serum = Blood + Fibrinogen

D. Lymph = Plasma + RBC + WBC

Answer: A



- **67.** Blood pressure in the mamalian aorta is maximum during
 - A. Diastole of the right atrium
 - B. Systole of the left atrium
 - C. Diastole of the right ventricle
 - D. Systole of the left ventricle

Answer: D



- **68.** Marriage between persons having AB blood groups would produce
 - A. Offsprings with AB blood group only
 - B. Offsprings with A,B and AB blood groups
 - C. Offsprings with A and B blood groups only

D. Offsprings with A,B,AB and O blood groups

Answer: B



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69. Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body

A. Thrombocytes

- B. Erythrocytes
- C. Leucocytes
- D. Neutrophils

Answer: A



- 70. Serum differs from the blood in
 - A. Lacking antibodies
 - B. Lacking globulins

- C. Lacking albumins
- D. Lacking clotting factors

Answer: D



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71. What are sinuses?



- **72.** Thalassemia and sickle cell anaemia are caused due to a problem in globin molecule synthesis. Select the correct statement
 - A. Both are due to quantitative defect in globin molecule
 - B. Thalassemia is due to a less synthesis of globin molecule
 - C. Sickle cell anaemia is due to a quantitative problem of globin molecules

D. Both are due to quantitative defect in globin chain synthesis

Answer: B



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Mcq Part A Choose More Than One Option

1. The nitrogenous compound of blood constituent are

B. Uric acid
C. Urea
D. Citric acid
Answer: B::C
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2. The plasma protein of blood are
A. Globuline

A. Lipid

- B. Cretine
- C. Fibrinogen
- D. Albumin

Answer: A::C::D



- 3. The derived product of haemoglobin are
 - A. Haem
 - B. Haemin

- C. Oxyhaemoglobin are
- D. Carboxyhaemoglobin

Answer: A::B



- 4. RBC-realated abnormalities are
 - A. Anaemia
 - B. Leucocythaemia
 - C. Leucopenia

D. Haemocytosis

Answer: A::D



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5. Which blood corpuscles involed in phagocytosis?

A. Neutrophil

B. Monocyte

C. Eosinophil

D. Basophil

Answer: A::B



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6. The organic anticogulants are

A. EDTA

B. Heparin

C. K-oxalate

D. Dicumarol

Answer: B::D



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Fill In The Blanks Part A

1. The ratio of red blood corpuscles to plasma is expressed as the____.



2is the fluid part of blood after clotting.				
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3. In maintaining acid-base balance plasma protein acts as				
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4. The normal avrege RBC count in adult male is taken asand in femaleper cubic				

millimeter. Watch Video Solution **5.** Red cells that are larger than normal are and deviation from normal shape is____. **Watch Video Solution 6.** is the last stage of erythropoiesis. **Watch Video Solution**

7. In adults female the naverge amount of haemoglobin is _____and in male the averge amount of haemoglobin is _____.

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8. Iron is strored in two forms as __and __.



9. Increase in number of RBC is called					
Watch Video Solution					
10 Compostion of white blood cells or					
10. Formation of white blood cells or					
leucocytes is called					
Watch Video Solution					
11. Serum					
possessesandagglutinins.					



12. Agglutinogens are inherited as ______,



where as agglutinins as_____.

13. ____supplies nutrition and oxygen to those parts where lood cannot reach, and it also helps to returns proteins to the blood from the ____.



14. Lymph modes produce_____.



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15. An accumulatiomn of unusally large quantines of interstitial fluids is called_____.



True Or False Statement Question Part A

1. Eosinophils prevent allergic reactions.



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2. Haemoglobin is a non-iron containing pigment.



3. The largest blood cells is platelets.



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4. Define leucocytes



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5. NH_(4) oxalate is an anticoagulant.



6. Lymphatic obstruction causes swelling of leg due to oedema.



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7. Fibrinogen is an insoluble proteins which is converted to soluble fibrinthreads.



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8. pH of normal blood is 7.6.



9. On maturity stem cells become larger.



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10. Due to abnormally increased number of WBC leukaemia occurs.



11. What are globulins?



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Very Short Answer Type Questions Part A

1. Name the bone marrow cells that are capable of producing all types of blood cells.



2. After releasin gs from bone marrow and entering into blood monocytes circulate about how many hours?



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3. What is form, due to binding of haemoglobin to oxygen?



4. What is agglutinins?



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5. If whole blood is allowed to clot and the clot is removed, the remaining fluid is called



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6. define hemostasis or haemostsis.



7. What is the precusor of fibrin?



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8. Name two anticoagulants.



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9. Name the process in which the formation of clots inside blood vessels.



10. Which tissuse is responsible for the transport of nutrients, respriatoy gases, metabolites and waste products?



11. Does inhalation promote or hinder the flow of lymphatic fluid?



12. Name the enzyme that catalyzes formation of carbonic acid in erythrocytes.



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13. What is the volume of blood in human body?



14. Name the best known contribution of William Harvey.



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15. Name the enzyme which catalyses the conversion of soluble fibrinogen into insoluble fibrin.



16. Which vessels of the cardiovascular system produce lymph?



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17. Give the ratio of cells and plasma.



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18. By which process neutrophil and monocytes engulf forein particles?



19. Name the condition, in which diminution of platelets in blood.



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20. What is paternity test?



21. Name the agglutinius present in the serum of O blood groups?



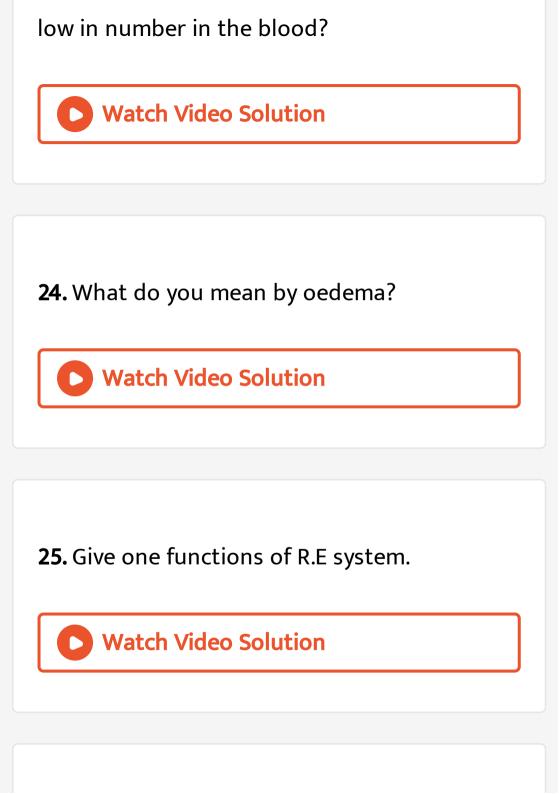
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22. Where will you find alpha granules?



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23. Name the conditions when the average number of RBC, WBC and platelets are found



26. Name few derivatives (compound) of haemoglobin.



27. Define haemophilia.



28. Who discovered the ABO system of blood.



29. Name the plasma proteins found in blood.



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30. Write the normal values of CT and BT.



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31. What is the normal pH of human blood?



32. What is fibrinolysis?



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33. Name the plasma proteins that gives maximum viscosity of blood is?



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34. What mechanism produce loss of body heat?



35. What did you mean by Rh+ and Rh-?



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36. What is Thrombocytosis?



37. Many villages near industrial area suffer from blue baby syndrome. What is the cause of this problem?



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Short Answer Type Questions Part A

1. How is lymph filtered?



2. Who first discovered -- (a) ABO system of blood group, (b) Rh factor?



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3. Which groups of the ABO system of blood grouping are universal donor and universal recipient and why?



4. What is Rh factor?



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5. How do you enumerate the number of RBC in blood?



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6. (a) What is blood? (b) What is the total amount of blood present in a healthy person?

(c) Why blood looks red? (d) Name the instrument used to count RBC and WBC in blood.



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7. (a) What is cell plasma ratio in blood?



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8. (a) If a healthy man donates 200 cc of his blood, approximately what percentage of the total total blood of his body is given? (b) What is the number of RBC present in that 200 cc of blood?



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9. Why blood is called connective tissue?



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10. (a) What is plasma? Name the plasma proteins?



11. What are formed elements are blood?



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12. (a) What advantages a mature RBC has by its biconcave shape? (b) What is

Erythroprotein?



13. Give the full form of the following: (a) ESR(b) TC (c) DC (d) PCV (e) MCV (f) CT (h) BT.



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14. (a) What is Erythropoiesis? (b) In which stage of erythropoiesis haemoglobin appears first? (c) What is life span of RBC?



15. (a) What are the source of RBC in embryo and adult man? (b) State the functions of RBC.



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16. (a) What is haemoglobin? (b) What is the amount of haemoglobin in man? (c) State the function of Haaemoglobin?



17. (a) What is myoglobin? (b) How does it differ from Haemoglobin?



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18. (a) Mention the total count of WBC. (b)Differential count of WBC of a normal person.(c) What is stab cell?



19. (a) What the names of different types of WBC present in blood. (b) State how do they do they help in body defence.



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20. (a) What one is more mature— (I)

Neutrophil with two lobes or Neutrophil with

four lobes? (ii) Small lymphocyte or large

lymphocyte? (b) Name the smallest blood cell.

(c) Name the largest blood cell.



21. Define angina pectoris



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22. Why blood does not coagulate within the body in normal health?



23. (a) What are Anticoagulants? (b) Give examples.



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24. (a) How do oxalate and heparin prevent blood coagulation?



25. (a) What are Meghakaryocytes? (b) How are the platelets or thrombocytes formed? (c) What is purpura?



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26. What is diapedesis?



27. What is Lymph? (b) Mention the functions of lymph.



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28. (a) What is anaemia? (b) Write the cause of anaemia. (c) Mention the role of fibrinogen and calcium in blood coagulation.



29. (a) What is a living test tube? (b) What will happen when RBC is placed in distilled water?



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30. (a) What is the normal pH of human blood?

(b) Name the blood buffers.



31. (a) What is alkalosis of blood? (b) What are the cause of alkalosis?



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32. (a) Which blood cell in man becomes smaller or maturity? (b) What is the function of basophil cell?



33. (a) What are reticulocytes? (b) What are they so-called?



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34. What are Polymorphs or Polymorphonuclear Leucocyte? (b) Why are they so-called?



35. (a) What is Polythaemia? (b) What is Leucotosis? (c) What is Leucokaemia?



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36. Name (a) Four vitamins and (b) Four minerals required for Erythropoiesis.



37. Name the type of anaemia produced in disorder of stomach or after gastrectomy.



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38. (a) Which gas is preferred more than O_2 for absorption by Haemoglobin? (b) Name two additive compounds of Haemoglobin?



39. What is a clot? **Watch Video Solution** 40. What is heart failure? **Watch Video Solution** 41. Why blood pressure rises in old age? **Watch Video Solution**

Differentiation Part A

1. Erythrocytes and leucocytes.



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2. Haemoglobin and Haemocyanin.



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3. Rh positive and Rh negative.



4. Plasma and Serum.



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Short Answer Type Questions Part A

1. What is extracelluar fluid?



2. What are the defferent types of corpucles ?
State their functions?



3. State three important functions of blood.



4. What are the functions of RBC.



5. What are different types of WBC ? State their function.



6. Give a short note about blood transfusion.



7. What is leucopoiesis?



Long Answer Type Question Part A

1. What is blood?



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2. What is plasma?



3. what are Erythrocytes of Red blood corpuscles (RBC)? State the functions of haemoglobin.



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4. what is Erythropoiesis?



5. What is Haemoglobin? Where it is found? Why haemoglobin looks red?



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6. What are Leucocytes? Name the types of leucocytes and state their function.



7. what is blood coagulation? Name the blood coagulating factors.



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Long Answer Type Question

1. What is stroke volume?



2. what is blood group? Who frist described or discovered blood groups? Name the blood groups.state the significance of blood grouping.



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3. What is lymph? Mentoin how lymph is formed in the body? State the fuuctoins of lymph.



Ncert Question Part A

1. Name the components of the formed elements in the blood and mention one major functoin of each of them



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2. What is the importance of plasma proteins?



3. Why do we consider blood as a connective tissue?



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4. What is the difference between lymph and blood?

