



# BIOLOGY

## BOOKS - MODERN PUBLICATION

### BODY FLUIDS AND CIRCULATION

#### Exercise

1. Name the first animal group to have blood - vascular sytem.



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2. Name the components of blood vascular system.



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3. What is Tunica media of a blood vessel made of?



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4. Name the artery which carry impure(deoxygenated) blood from heart to lungs



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5. What is nature of heart of cockroach?



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**6. Write a short note on :**

haemocoel



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**7. List two peculiar features of open circulatory system.**



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**8.** Which two factors determine the RBC count?



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**9.** Give the significance of closed circulatory system.



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**10.** Name the main blood proteins of human blood.



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**11.** Which blood corpuscles of human blood are involved in blood clotting at the injury?



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**12.** What is significance of presence of biconcave and denucleated RBCs in the mammals?



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**13.** Name the instrument used to measure RBC count.



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**14.** Define polycythaemia.



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**15.** Give the haemoglobin count in human male and human female.



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**16.** What is the life span of human RBCs?



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**17.** Which body organ acts as a blood bank and why ?



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**18.** Define leucopenia.



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**19.** Name three types of granulocytes of human blood.



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**20.** Which leucocytes provide immunity?



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**21.** What is diapedesis?



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**22.** Name 2-layered sac surrounding the human heart.



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**23.** Give the position of tricuspid valve in the human heart.



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**24.** Name the nodal tissues regulating the heart beat.



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**25.** Which nodal tissue is called pacemaker of heart?



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**26.** Why is human heart called autorhythmic heart?



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**27.** Give the position of cardiac centres.



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**28.** Give the function of chordae tendinae.



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**29.** Name two arches of human heart.



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**30.** What is main function of lymph?



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**31.** Give the term for the period between the end of one heart beat to the end of next heart

beat.



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**32.** What is the time taken in one heart beat?



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**33.** Name three phases off a heart beat.



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**34.** Name two heart sounds.



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**35.** Which instrument is employed to hear the heart sounds?



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**36.** Define murmur.



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**37.** Which type of blood circulation is found in the mammalian heart?



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**38.** What is systolic pressure and diastolic pressure in a normal adult man?



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**39.** Briefly describe atherosclerosis and hypertension.



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**40.** Give the full form of ECG.



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**41.** What is electrocardiography?



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**42.** Define a pulse.



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**43.** On which blood vessel, a pulse can be felt?



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**44.** What is rate of heart beat in a normal adult person?:



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**45.** Which type of heart is found in the human beings?



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**46.** Name two main lymphatic vessels.



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**47.** What are lacteals?



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**48.** Give the functions of lymph nodes.



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**49.** Which of the following substances does not give iodoform test?

A. Fibrinogen

B. Prothrombin

C. Heparin

D. Thromboplastin

**Answer:**



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**50. Name the following:**

The process of formation of blood corpuscles

A. Haemopoesis

B. Haemolysis

C. Haemozoin

D. None of these

**Answer:**



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**51. Mark the odd one**

A. Monocyte

B. Lymphocyte

C. Neutrophil

D. Erythrocyte

**Answer:**



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**52. Carotid artery carries:**

A. Impure blood to kidneys

B. Oxygenated blood to brain



C. Impure blood from brain

D. Oxygenated blood to heart

**Answer:**



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**53. "Heart of heart" is:**

A. SA ode

B. AV node

C. Bundle of His

D. Purkinje fibres

**Answer:**



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**54.** Left atrium receives oxygenated blood through:

A. Coronary artery

B. Aorta

C. Pulmonary artery

D. Pulmonary vein

**Answer:**



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**55.** Find the incorrect statement from the following:

A. Veins are larger in diameter than arteries

B. Wall of arteries are elastic ,enabling them to stretch and shrink during changes in blood pressure

C. Veins contain maximum amount of blood

D. Because of their small size ,capillaries contain blood that moves more quickly than in other parts of circulation.

**Answer:**



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**56.** How many times a red blood corpuscle will have to pass through the heart in its journey from hepatic artery to the aorta?

- A. Two times
- B. Only once
- C. Several times
- D. Four times

**Answer:**



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57. Maximum amount of oxygen is exchanged from the blood in the :

- A. Arteries of body
- B. Left auricle
- C. Capillaries around alveoli
- D. Capillaries around tissues cells

**Answer:**



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58. Which of the following has the thickest wall?

A. Right ventricle

B. Left ventricle

C. Right auricle

D. Left auricle

**Answer:**



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59. In adult man, normal blood pressure is:

A.  $100 / 80 \text{ mmHg}$

B.  $120 / 80 \text{ mmHg}$

C.  $100 / 120 \text{ mmHg}$

D.  $80 / 120 \text{ mmHg}$ .

**Answer:**



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**60.** SA node is located in:

- A. Upper lateral wall of left atrium
- B. Lower lateral wall of left atrium
- C. Lower lateral wall of right atrium
- D. Upper lateral wall of right atrium

**Answer:**



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61. Heparin is synthesized in:

A. Liver

B. Kidney

C. Saliva

D. Pancreas

**Answer:**



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**62.** Yellow bone marrow is found especially in the medullary cavity of:

- A. Short bones
- B. Spongy bones
- C. Long bones
- D. All of these

**Answer:**



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**63.** People living at the sea level have around 5 million RBC per cubic millimeter of their blood whereas those living at an altitude of 5400 meters have around 8 million. This is because at high altitude:

A. People get pollution free air to breathe and more oxygen is available

B. Atmospheric oxygen level is less and hence more RBCs are needed to absorb required amount of  $O_2$

C. There is more UV-radiation which enhance RBC production

D. People eat more nutritive food, therefore more RBCs are formed

**Answer:**



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**64.** Angiotensinogen is a protein produced and secreted by:

A. macula densa cells

B. Endothelial cells lining the blood vessels

C. Liver cells

D. Juxta glomerular (JG) cells

**Answer:**



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**65. Hirudin is:**

- A. A protein produced by *Hardium pulgare*, which is rich in lysine
- B. A toxic molecule isolated from *Gossypium hirsutum*, which reduces human fertility
- C. A protein produced from transgenic *Brassica napus*, which prevents blood clotting
- D. An antibiotic produced by a genetically engineered bacterium, *Escherichia coli*.

**Answer:**



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**66.** lymphoid tissue is found in

- A. Thymus
- B. Tonsils
- C. Lymph nodes
- D. All of these

**Answer:**





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**67.** pacemaker is:

A. AV-node

B. SA-node

C. Bundle of His

D. Ventricular muscles

**Answer:**



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**68.** How do muscles help in movement of bones ?

- A. Purkinje fibres
- B. Myonemes
- C. Telodendria
- D. Columnae Carnae

**Answer:**



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**69.** Spleen is referred to as:

A. Temporary endocrine gland

B. Graveyard of RBCs

C. Largest gland of body

D. Store house of WBCs

**Answer:**



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**70.** Heart muscles are sensitive to:

- A. Electrical stimuli
- B. Chemical stimuli
- C. Mechanical stimuli
- D. All of these

**Answer:**



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71. Pernicious anemia is:

A. Low RBC count

B. Death of WBCs

C. Destruction of RBC maturation

D. Destruction of young R BCs

**Answer:**



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72. Tissue plasminogen activator:

- A. helps in wound healing
- B. Dissolves clot in blood vessels of heart
- C. Allergy response
- D. None of these

**Answer:**



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**73.** Graveyard of RBCs is:

- A. Spleen
- B. Liver
- C. Kidney
- D. Thymus

**Answer:**



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74. SA node is located in:

- A. Lower lateal wall of right atrium
- B. Uper lateral wall of right atrium
- C. Upper lateal wall of left atrium
- D. Lower lateral wall of left atrium

**Answer:**



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75. Blood vascular system of earthworm is:

- A. Open type with Hb in RBCs
- B. Open type with Hb in plasma
- C. Closed type with Hb in RBCs
- D. Closed type with Hb in plasma

**Answer:**



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76. Which leucocytes release heparin and histamine in the blood?

A. Eosinophil

B. Basophil

C. Neutrophil

D. Lymphocytes

**Answer:**



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77. heart beat initiates from:

A. Auriculo ventricular node

B. Sino-auricular node

C. Bundle of His

D. Purkinje fibres

**Answer:**



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**78.** Which one of the following mammalian cells is not capable of metabolising glucose to carbon dioxide aerbically?

- A. Red blood cells
- B. White blood cells
- C. Unstriated muscle cells
- D. Liver cells

**Answer:**



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**79.** A drop of each of the following is placed separately on four slides. Which of them will not coagulate?

A. Whole blood from pulmonary vein

B. Blood plasma

C. Sample from the thoracic duct of  
lymphatic system

D. Blood serum

**Answer:**



**80.** An artificial pace-maker is implanted subcutaneously and connected to the heart in patients:

- A. Having 90% blockage of the three main coronary arteries
- B. haing a very high blood pressure
- C. With irregularity in the heart rhythm
- D. Suffering from arteriosclerosis

**Answer:**



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**81.** Which one of the following is a matching pair of a certain body feature and its value/count in a normal human adult

A. Urea 5-10 mg/100 ml. of blood

B. Blood sugar (fasting)-70-100 mg/ 100 mL

C. Total blood volume-5-6 litres

D. ESR in Wintrobe method -9-15 mm in males and 20-34 mm in females.

**Answer:**



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**82.** What is correct regarding leucocytes?

A. These can squeeze out through the capillary walls

B. These are enucleate



C. Sudden fall in their number indicated cancer

D. These are produced in thymus

**Answer:**



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**83.** Cockroach and other insects have blood which:

A. Resembles human blood in colour

B. Has RBCs

C. Circulates through arteries and veins

D. Circulates through an open system

**Answer:**



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**84.** Hepatic portal system collects blood from:

A. Liver

B. Lungs

C. Alimentary canal

D. Kidneys

**Answer:**



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**85. Carotid labyrinth contains:**

A. Olfactoreceptors

B. Baroreceptors

C. Chemoreceptors

## D. Phonoreceptors

**Answer:**



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**86.** The valve situated between the left atrium and left ventricle is called:

A. Bicuspid valve

B. Tricuspid vale

C. mitral valveq

D. Eustachian tube

**Answer:**



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**87.** Which one of the following is not phagocytic?

A. Monocyte

B. Lymphocyte

C. Mast cell

D. Neutrophil

**Answer:**



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**88.** Haemoglobin is found dissolved in blood plasma of:

A. Earthworm

B. Cockroach

C. Sepia

D. Planaria

**Answer:**



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**89.** Which amino acid is achiral ?

A. Histidine

B. Glutamine

C. Aspartic acid

D. Lysine

**Answer:**



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**90. Which blood cell secretes antibody?**

A. Lymphocyte

B. Monocyte

C. Eosinophil

D. Neutrophil

**Answer:**





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**91.** Damage of thymus in a child may lead to:

- A. Reduction of haemoglobin content of blood
- B. Reduction in stem cell production
- C. Loss of Antibody-mediated immunity
- D. Loss of cell-mediated immunity

**Answer:**





92. Which of the following substances if introduced in the blood plasma, would cause coagulation at the site of its introduction?

- A. Fibrinogen
- B. Prothrombin
- C. Thromboplastin
- D. heparin

**Answer:**



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**93.** Cardiac output is determined by:

- A. Heart rate
- B. Stroke volume
- C. Blood flow
- D. Both (a) and (b)

**Answer:**



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94. The important function of lymph is to:

- A. Transport oxygen to the brain
- B. Transport  $CO_2$  to the lungs
- C. Return RBCs to lymph nodes
- D. Return interstitial fluid to the blood

**Answer:**



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95. Pylangium in frog is located in:

A. Conus arteriosus

B. Sinus venosus

C. Atrium

D. Ventricle

**Answer:**



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**96.** Papillary muscles are located in:

- A. Heart ventricles of rabbit
- B. dermis of mammalian skin
- C. Orbits of vertebrate's eyes
- D. pylorus of vertebrate stomach

**Answer:**



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97. A heart murmur indicates a defective:

- A. Bundle of His
- B. heart valves
- C. Sinoatrial node
- D. Atrioventricular node

**Answer:**



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98. Which one of the following is correct?

A. Blood=Plasma+RBCs+WBCs+Platelets

B. Plasma=Blood-Lymphocytes

C. Neuron=Cyton+Dendron+Axon+Synapse

D. Lymph=Plasma+WBCs+RBCs

**Answer:**



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**99.** The largest sized RBCs have been seen in:

A. Elephant

B. Whale

C. Amphibian

D. Man

**Answer:**



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**100.** In the ECG, the depolarization of atria is indicated by:

A. P-wave

B. Q-wave

C. R-wave

D. S-wave

**Answer:**



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**101.** Maximum surface area of circulatory system is seen :

A. Heart

B. Capillaries

C. Arterioles

D. Veins

**Answer:**



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**102.** Absence of circulatory system in Hydra is compensated by:

- A. Pseudocoelomic fluid
- B. Gastrovascular cavity
- C. Presence of tentacles
- D. None of these

**Answer:**



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**103.** irregular nuclei are present in:

A. neutrophils

B. Basophils

C. Eosinophil

D. Monocytes

**Answer:**



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**104.** "Bundle of His" is formed of :

A. Nervous tissue supplied to ventricles

B. Nervous tissue supplied to heart

C. Muscular tissue supplied to ventricles

D. Muscular tissue supplied to heart

**Answer:**



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**105.** Nucleated RBC is found in

A. Man

B. Rat

C. Rabbit

D. Frog

**Answer:**



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**106.** Heparin is secreted by:

A. Mast cells

B. Goblet cells

C. Oxyntic cells

D. All of these

**Answer:**



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**107.** Artery is a blood vessel which carries blood:

A. Away from the heart

B. Towards the heart



C. Has deoxygenated blood without exception

D. None of these

**Answer:**



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**108.** Why is there no mixing of deoxygenated and oxygenated bloods in the human heart normally?

A. Scoliodon

B. Rabbit

C. Frog

D. None of these

**Answer:**



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**109.** Blood enters into the heart because muscles of:

A. Atria relax

B. Ventricles contract

C. Ventricles relax

D. Atria contract

**Answer:**



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**110.** As we go from the equator to the poles, the value of acceleration due to gravity.

- A. Stimulation of sino-auricular node
- B. Pushing open of the venous valves
- C. Pressure difference between post caval  
and atrium and suction pull
- D. Suction pull

**Answer:**



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**111. Haemoglobin of a human foetus:**

- A. Has only 2 proteins subunits instead of 4
- B. has a higher affinity for oxygen than that of an adult
- C. has a lower affinity for oxygen than that of an adult
- D. its affinity for oxygen is the same as that of an adult.

**Answer:**



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**112.** The cardiac pacemaker in a patient fails to function normally. The doctors find that an artificial pacemaker is to be grafted in him. It is likely that it will be grafted at the site of:

- A. Atrioventricular bundle
- B. Purkinje system
- C. Sinu-atrial node
- D. Atrio-ventricular node

**Answer:**



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**113.** Heparin is synthesized in:

A. Liver

B. Kidney

C. Salivary glands

D. Pancreas

**Answer:**



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**114.** Blood clotting vitamin is:

A. vitamin-A

B. Vitamin-B

C. Vitamin-C

D. Vitamin-K

**Answer:**



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**115.** haemoglobin is a :



A. Reproductive pigment

B. Respiratory pigment

C. Carbohydrate

D. Fat

**Answer:**



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**116.** "Bundle of His" is formed of :

A. Nervous tissue supplied to ventricles

B. Nervous tissue supplied to heart

C. Muscular tissue supplied to ventricles

D. Muscular tissue supplied to heart

**Answer:**



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**117.** Haemophilia is due to absence of:

A. Factor-VI

B. Factor-VII

C. Factor-VIII

D. Factor-X

**Answer:**



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**118.** Histamine and heparin are secreted by:

A. Monocytes

B. basophils

C. Eosinophil

D. Lymphocytes

**Answer:**



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**119.** The opening of right atrium into right ventricle of human heart is guarded by:

A. Mitral valve

B. Pulmonary semilunar valves

C. Aortic semilunar valves

D. tricuspid valve

**Answer:**



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**120.** Which of the following is not the cellular element of blood?

A. T-cells

B. B-cells

C. Plasma

## D. Monocytes

**Answer:**



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**121.** In human beings, the duration of cardiac cycle is:

A. 0.8 second

B. 0.05 second

C. 0.08 second

D. 8.0 second

**Answer:**



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**122.** Which of the following statement related to Starling's law of heart?

A. Greater is the stroke volume, greater is the heart rate

B. Greater is the initial length of cardiac muscle fibre, more is the force of contraction of heart

C. Greater is the minute volume, greater is the heart rate

D. Lesser is the length of cardiac muscle fibre, greater is the force of contraction of heart

**Answer:**



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**123.** The absence of which clotting factor leads to haemophilia -A?

A. Factor VII

B. Factor- VIII

C. Factor-IX

D. Factor-X

**Answer:**



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**124.** What prevents clotting of blood inside the blood vessels?

A. heparin

B. Serotonin

C. Fibrinogen

D. Fibrin

**Answer:**



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**125.** In a standard ECG, which one of the following alphabets is the correct representation of the respective activity of the human heart

A. R--Repolarization of ventricles

B. S-Start of systole

C. T-End of systole

D. P-Depolarization of atria

**Answer:**



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**126.** Globulins contained in human blood plasma are primarily involved in:

- A. Defence mechanism of body
- B. Osmotic balance of body fluids
- C. Oxygen transport in the blood
- D. Clotting of blood

**Answer:**



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**127.** The letter T in T-lymphocytes refers to:

A. Thyroid

B. Thalamus

C. Tonsil

D. Thymus

**Answer:**



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**128.** Which of the following matches correctly?

A. Factor-II:Thromboplastin

B. Factor-III:Prothrombin

C. Factor-VIII:Anithemophilic globulin

D. Factor XII: Haemophilic

**Answer:**



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129. Which of the following matches correctly?

A. Inferior vena cava-Receives

deoxygenated blood from head and  
body

B. Superior vena cava-Receives

deoxygenated blood from lower body  
organs

C. Pulmonary artery-Carries deoxygenated

blood to the lungs

D. hepatic artery-Carries deoxygenated

blood to the gut

**Answer:**



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**130.** The thread like tendons of papillary muscles inserted upon the flaps of tricuspid and bicuspid valves are:

A. Chordae tendinae



B. yellow elastin fibres

C. Reticulate fibres

D. Collagen fibres

**Answer:**



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**131.** Mitral valve is present between:

A. Right atrium and right ventricle

B. Left atrium and left ventricle

C. Right and left ventricles

D. Left ventricle and aorta

**Answer:**



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**132.** The process of formation of RBCs is called:

A. Pathogenesis

B. Leucopoiesis

C. Erythropoiesis

D. None of these

**Answer:**



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**133.** Antibodies are produced by :

A. leucoctes

B. lymphocytes

C. Erythrocyes

D. Blood plaeles

**Answer:**



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**134.** Which of the following has closed circulatory system?

- A. Arthoropods
- B. Molluscs
- C. Platyhelmeinthes
- D. Annelids

**Answer:**



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**135.** Blood group agglutinin is:

- A. Glycoprotein
- B. Phosphoprotein
- C. haemoprotein
- D. Phospholipid

**Answer:**



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**136.** Erythropoiesis starts in:

A. kidneys

B. Liver

C. Spleen

D. Red bone marrow

**Answer:**



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**137.** Papillary muscles are located in:

A. Auricles

B. Ventricles contract

C. Pinna

D. Eyes

**Answer:**



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**138.** Pulmonary vein carries:

A. Deoxygenated blood

B. Oxygenated blood

C. Mixed blood

D. None of these

**Answer:**



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**139.** Blood clotting corpuscle is:

A. Thrombocyte

B. Monocyte

C. Lymphocyte

D. Erythrocyte

**Answer:**



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**140.** When red blood corpuscles containing both A and B antigens are mixed with your blood serum, they agglutinate. Hence the blood group is:

A. AB

B. O

C. A

D. B

**Answer:**



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141. If the systolic pressure is 120 mm Hg and diastolic pressure is 80 mm Hg the pulse pressure is:

A.  $120 \times 80 = 9600 \text{ mmHg}$

B.  $120 + 80 = 200 \text{ mmHg}$

C.  $120 - 80 = 40 \text{ mm Hg}$

D.  $120 / 80 = 1.5 \text{ mmHg}$

**Answer:**





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142. Which of the following is a non-granulocyte?

A. Monocyte

B. Eosinophils

C. Basophils

D. Neutrophils

**Answer:**



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**143.** Mature erythrocytes cannot utilize glucose because they lack

A. Golgi complex

B. Enzymes

C. Mitochondria

D. Nucleus

**Answer:**



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**144.** The most important mineral for blood coagulation is:

A. Calcium

B. magnesium

C. Sodium

D. Iron

**Answer:**



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**145.** Where is pacemaker of the heart located?

A. AV-node

B. SV-noe

C. SA-node

D. M-node

**Answer:**



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**146.** Which of the following is not a major organ of lymphatic system?

A. Lymph nodes

B. Thymus

C. Kidney

D. Spleen

**Answer:**



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**147.** The blood does not clot inside the body because of:

- A. Oxygenation of blood
- B. Movement of blood
- C. heparin in blood
- D. Absence of fibrinogen in blood

**Answer:**



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**148.** Red cell count is carried out by:

- A. Haemocytometer
- B. haemoglobinometer
- C. Sphygmomanometer
- D. Electrocardiogram

**Answer:**



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**149.** Which of the following has the thickest wall?

- A. Right auricle
- B. Right ventricle
- C. Left auricle
- D. Left ventricle

**Answer:**



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**150.** Difference between systolic and diastolic pressure in human is:

A. 120 mm Hg

B. 80 mm Hg

C. 40 mm Hg

D. 50mm Hg

**Answer:**



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**151.** In the clotting mechanism pathway, thrombin activated factors:

A. XI, VIII, V

B. XI, IX, X

C. VII, X, V

D. IX, VII, X

**Answer:**



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152. "Bundle of His" is a part of which one of the following organs in humans?

A. Brain

B. Heart

C. Kidney

D. Pancreas

**Answer:**



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**153.** Which one of the following plasma proteins is involved in coagulation of blood?

- A. An albumin
- B. Serum amylase
- C. A globbulin
- D. Fibrinogen

**Answer:**



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**154.** Arteries are best defined as the vessels which:

A. Supply oxygenated blood to different organs

B. Carry blood away from the heart to different organs

C. Break up into capillaries which reunite to form a vein

D. Carry blood from one visceral organ to another visceral organ



**Answer:**



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**155.** Which one of the following statements is correct regarding blood pressure?

A. 130/90- mm Hg is considered high and required treatment

B. 100/55 mm Hg is considered an ideal blood pressure

C. 105/50 mm Hg makes one active

D. 190/110 mm Hg may harm vital organs

like brain and kidney

**Answer:**



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**156.** Histamine and heparin are secreted by:

A. Lymphocyte

B. Monocytes

C. neutrophils

D. Eosinophils

**Answer:**



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**157.** The volume of blood each ventricle pumps out during cardiac cycle is about:

A. 70 ml

B. 5000 ml

C. 7 l

D. 1200 ml

**Answer:**



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**158.** Erythropoietin is secreted from:

A. Pituitary gland

B. Pancreas

C. Adrenal gland

D. Kidney

**Answer:**



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**159.** Fill in the blanks:

Body cavity with blood found in arthropods  
and molluscs is.....



**Watch Video Solution**

**160.** Fill in the blanks:

The S.A. node is also called,..... of the heart.



**Watch Video Solution**

**161.** Fill in the blanks:

Disturbances in the heart sounds are called..... .



**Watch Video Solution**

**162.** Fill in the blanks:

..... are ridges present inside the auricles.



**Watch Video Solution**

**163.** Fill in the blanks:

The mitral valves has .....cusps while the aortic valve possesses ..... cusps.



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**164.** Fill in the blanks:

The .....valves close shortly after the start of ventricular systole while the ..... valves close shortly after the diastole starts.



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**165.** Fill in the blanks:

Left auricle receives.....blood while right auricle receives ..... blood.



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**166.** Fill in the blanks:

First heart sound is ..... while second heart sound is..... .



**Watch Video Solution**

**167.** Fill in the blanks:

A persistent rise in blood pressure is called.....while decrease in blood pressure is called.,.....



**Watch Video Solution**

**168.** Fill in the blanks:

The cardiac impulses originate from the ..... and are passed on to the bundle of His by..... .



**Watch Video Solution**

**169.** Fill in the blanks:

The contraction of heart is called.....while the relaxation of heart is called..... .



**Watch Video Solution**

**170.** Fill in the blanks:

Cardiac center is located in..... .



**Watch Video Solution**

**171.** Fill in the blanks:

When a blood clot is formed inside a blood vessel ,this condition is called..... .



**Watch Video Solution**

**172.** Fill in the blanks:

.....nerve fibres increase the rate of heart beat



**Watch Video Solution**

**173.** Fill in the blanks:

The valve present between the right auricle and right ventricle is .....



**Watch Video Solution**

**174.** Fill in the blanks:

..... is involved in blood clotting at the injury.



**Watch Video Solution**

**175.** Fill in the blanks:

..... is the instrument to measure  
haemoglobin count of the blood.



**Watch Video Solution**

**176.** Write 'True' or 'False':

Left ventricle is the thickest chamber of the heart.



**Watch Video Solution**

**177.** Write 'True' or 'False':

Mitral valve is present between right auricle and right ventricle.



**Watch Video Solution**

**178.** Write 'True' or 'False':

The A.V. node normally initiates the cardiac impulses.



**Watch Video Solution**

**179.** Write 'True' or 'False':

Heart sounds are heard by sphygmomanometer.



**Watch Video Solution**

**180.** Write 'True' or 'False':

Single circulation is found in fish and amphibians.



**Watch Video Solution**

**181.** True or False

Purkinje fibres are nerve fibres supplying the ventricular muscle.



**Watch Video Solution**



**182.** True or False

The first heart sound results from a closure of semilunar valves.



**Watch Video Solution**

**183.** True or False

The vagus nerve reduces the heart rate.



**Watch Video Solution**

**184.** Write 'True' or 'False':

Semilunar valves open during the ventricular diastole.



**Watch Video Solution**

**185.** Write 'True' or 'False':

Erythrocytes can come out of blood capillaries by diapedesis.



**Watch Video Solution**

**186.** Match the odd one in each series:

pukinje fibres,A.V. node,A.V. valve,S.A. node.



**Watch Video Solution**

**187.** Match the odd one in each series:

Mitral valve ,tricuspid valve,semilunar  
valve,venous valve.



**Watch Video Solution**

**188.** Match the odd one in each series:

Lub, sphygmomanometer, duup, stethoscope.



**Watch Video Solution**

**189.** Match the odd one in each series:

Tunica                      media, tunica                      externa, tunica  
interna, endothelium.



**Watch Video Solution**

**190.** Match the odd one in each series:

Systolic pressure, diastolic pressure, stethoscope, sphygmomanometer.



**Watch Video Solution**

**191.** Match the odd one in each series:

Prothrombin, heparin, fibrinogen, thromboplastin.



**Watch Video Solution**

**192.** Match the odd one in each series:

RBC,lymphocyte,monocyte,neutrophils.



**Watch Video Solution**

**193.** Note the relationship between the first two words and suggest a suitable word for the fourth place:

Right atrioventricular aperture:Tricuspid valve::Left A.V. aperture..... .



**Watch Video Solution**

**194.** Note the relationship between the first two words and suggest a suitable word for the fourth place:

Carotid arteries :Brain ::Coronary arteries..... .



**Watch Video Solution**

**195.** Note the relationship between the first two words and suggest a suitable word for the fourth place:

Increase in heart beat : Sympathetic::Decrease  
in heart beat..... .



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**196.** Note the relationship between the first  
two words and suggest a suitable word for the  
fourth place:

Blood pressure:Sphygmomanometer::Heart  
sounds..... .



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**197.** Note the relationship between the first two words and suggest a suitable word for the fourth place:

Lub:Atrioventricular valves::Dub.....



**Watch Video Solution**

**198.** Note the relationship between the first two words and suggest a suitable word for the fourth place:

Pulmonary artery:Deoxygenated

blood::Pulmonary vein..... .



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**199.** Note the relationship between the first two words and suggest a suitable word for the fourth place:

Human heart:4-chambered::Frog heart.....



[Watch Video Solution](#)

**200.** Note the relationship between the first two words and suggest a suitable word for the

fourth place:

Soldier :Neutrophils::scavengers:..... .



[Watch Video Solution](#)

**201.** Note the relationship between the first two words and suggest a suitable word for the fourth place:

Frog :Thrombocytes::Man:..... .



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**202.** Note the relationship between the first two words and suggest a suitable word for the fourth place:

Bilobed                      nucleus:Basophil::Multilobed

nucleus:..... .



**Watch Video Solution**

**203.** Give the reasons for the following statements :

Why are there valves in the veins and not in the arteries ?



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**204.** Give the reasons for the following statements :

Why is the artery more elastic and more contractile?



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**205.** Give the reasons for the following statements :

Human circulatory system is more advantageous than cockroach circulatory system. Why?



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**206.** Give the reasons for the following statements :

Blood is called river of life.





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**207.** Give the reasons for the following statements :

RBC count is more in the persons living at high altitudes.



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**208.** Give the reasons for the following statements :

After their life span ,RBCs are haemolysed.Even

then RBC count in a normal person remain same.



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**209.** Give the reasons for the following statements :

Neutrophils are called the soldiers while monocytes are called scavengers. Why?



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**210.** Give the reasons for the following statements :

Sino-auricular node is commonly called pace maker of heart.



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**211.** Give the reasons for the following statements :

Receiver of the stethoscope is always placed on the left side of the chest.





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**212.** Why is human heart called autorhythmic heart?



[Watch Video Solution](#)

**213.** These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses.

Assertion: Volume of blood ejected from the ventricles in one heart beat is called cardiac output.

Reason: Cardiac output increases with the increase in body size of organism.

A. A

B. B

C. C

D. D

**Answer:**



**214.** These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses.

If both Assertion and Reason are true and Reason is correct explanation of Assertion.

If both assertion and Reason are true but reason is not correct explanation of Assertion.

If Assertion is true but Reason is false.

If both Assertion and Reason are false.

Assertion: The S.A. node acts as pacemaker.

Reason: The S.A. node is located in the wall of right atrium near the interatrial septum.

A. A

B. B

C. C

D. D

**Answer:**



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**215.** These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses.

If both Assertion and Reason are true and Reason is correct explanation of Assertion.

If both assertion and Reason are true but reason is not correct explanation of Assertion.

If Assertion is true but Reason is false.

If both Assertion and Reason are false.

Assertion: Blood pressure is arterial blood pressure.

Reason: It is measured by sphygmomanometer.

A. A

B. B

C. C

D. D

**Answer:**



**Watch Video Solution**

**216.** These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses.

If both Assertion and Reason are true and Reason is correct explanation of Assertion.

If both Assertion and Reason are true but Reason is not correct explanation of Assertion.

If Assertion is true but Reason is false.

If both Assertion and Reason are false.

Assertion: WBCs accumulate at the site of



wounds by diapedesis.

Reason: it is the squeezing of leucocytes from the endothelium.

A. A

B. B

C. C

D. D

**Answer:**



**Watch Video Solution**

**217.** These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses.

If both Assertion and Reason are true and Reason is correct explanation of Assertion.

If both assertion and Reason are true but reason is not correct explanation of Assertion.

If Assertion is true but Reason is false.

If both Assertion and Reason are false.

Assertion: Smaller the organism, higher is the

rate of metabolism per gram weight.

Reason:the heart rate of a six month old baby is much higher than that of an old person.

A. A

B. B

C. C

D. D

**Answer:**



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**218.** These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses.

If both Assertion and Reason are true and Reason is correct explanation of Assertion.

If both assertion and Reason are true but reason is not correct explanation of Assertion.

If Assertion is true but Reason is false.

If both Assertion and Reason are false.

Assertion: heart pace-maker is a life saving

device when the normal heart rate of 72-80 drop to 30-40 due to disease or some other cause.

Reason: The pace-maker electrically stimulates the contractile heart walls.

A. A

B. B

C. C

D. D

**Answer:**



**219.** These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses.

If both Assertion and Reason are true and Reason is correct explanation of Assertion.

If both assertion and Reason are true but reason is not correct explanation of Assertion.

If Assertion is true but Reason is false.

If both Assertion and Reason are false.

Assertion: Persons suffering from haemophilia fail to produce blood clotting factor VIII.

Reason: Prothrombin producing platelets in such persons are found in very low concentration.

A. A

B. B

C. C

D. D

**Answer:**



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**220.** These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses.

If both Assertion and Reason are true and Reason is correct explanation of Assertion.

If both assertion and Reason are true but reason is not correct explanation of Assertion.

If Assertion is true but Reason is false.



If both Assertion and Reason are false.

Assertion: Persons suffering from haemophilia fail to produce blood clotting factor VIII.

Reason: Prothrombin producing platelets in such persons are found in very low concentration.

A. A

B. B

C. C

D. D

**Answer:**



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**221.** Name 2-layered sac surrounding the human heart.



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**222.** Whether human heart is myogenic or neurogenic?



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**223.** Name two heart sounds.



**Watch Video Solution**

**224.** What is the amount off blood ejected by the ventricles in one minute?



**Watch Video Solution**

**225.** Name the vessel which brings oxygenated blood in the left auricle.





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**226.** Give the term for the formation and destruction of blood cells.



[Watch Video Solution](#)

**227.** What is blood coagulation?



[Watch Video Solution](#)

**228.** State the amount of blood and cardiac output at rest and exercise.



**Watch Video Solution**

**229.** Give the location of mitral valve and semilunar valves.



**Watch Video Solution**

**230.** Define hypertension.



[Watch Video Solution](#)

**231.** Name the most abundant and least abundant type of blood cells.



[Watch Video Solution](#)

**232.** Which disorder is characterized by the formation of angina?



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**233.** Which corpuscles can undergo diapedesis?



**Watch Video Solution**

**234.** Where does cardiac impulses originate?



**Watch Video Solution**

**235.** What is joint diastole?



**Watch Video Solution**

**236.** Which of the following has the thickest wall?



**Watch Video Solution**

**237.** Why is the S-A node called pace-maker of the heart?



**Watch Video Solution**



**238.** Man has double circulation. Name the two circulations.



**Watch Video Solution**

**239.** Which tissue is called river of life.



**Watch Video Solution**

**240.** Give the terms for low WBC count and high WBC count.



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**241.** Give the haemoglobin count in human male and human female.



[Watch Video Solution](#)

**242.** A cardiologist observed an elevated ST-segment in the ECG of a patient. What is it indicative of?



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**243.** How is haemoglobin differently located in humans and earthworms?



**Watch Video Solution**

**244.** A cardiologist observed an elevated ST-segment in the ECG of a patient. What is it indicative of?



**Watch Video Solution**

**245.** Name the cells that produce antibodies.



**Watch Video Solution**

**246.** Briefly describe atherosclerosis and hypertension.



**Watch Video Solution**

**247.** What do you understand by polycythaemia?



**Watch Video Solution**

**248.** What happens in the secondary lymphoid organs with respect to immunity?



**Watch Video Solution**

**249.** What is haemocoel? Give one example.



**Watch Video Solution**

**250.** Name the granulocytes that are significant in allergic reactions.



**Watch Video Solution**

**251.** Differentiate between

Tricuspid and bicuspid valve



**Watch Video Solution**

**252.** Differentiate pulmonary circulation and systemic circulation.



**Watch Video Solution**

**253.** What is electrophoresis ? What is its significance ?



**Watch Video Solution**

**254.** How is arteriosclerosis different from atherosclerosis?



**Watch Video Solution**

**255.** What is SA node? Where is it located?  
What is its function?



**Watch Video Solution**



**256.** How are "Lub" and "Dup" sounds are produced during cardiac cycle?



**Watch Video Solution**

**257.** What is meant by systole? What happens to mitral valve and related blood flow during ventricular systole?



**Watch Video Solution**

**258.** Name different types of granulocytes .Give the function of one which constitutes maximum percentage of the total leucocytes.



**Watch Video Solution**

**259.** Describe the condition termed as atherosclerosis. How does it affect the body?



**Watch Video Solution**

**260.** What is hypertension? How does it affect human health?



**Watch Video Solution**

**261.** Name the proteins present in blood plasma. What are their functions?



**Watch Video Solution**

**262.** Which two heart sounds are heard through the stethoscope when placed on the chest ?When are these sounds produced respectively?



**Watch Video Solution**

**263.** How does haemoglobin help in transport of oxygen from the lungs to body tissues?



**Watch Video Solution**

**264.** Why does the left ventricle possess a thicker wall than the right ventricle?



**Watch Video Solution**

**265.** Differentiate between S.A node and A.V. node.



**Watch Video Solution**

**266.** Differentiate between an artery and a vein.



**Watch Video Solution**

**267.** Differentiate between  
Open and closed circulatory system



**Watch Video Solution**

**268.** Differentiate between five types of leucocytes of blood.



**Watch Video Solution**

**269.** Define cardiac cycle. What are three phases of cardiac cycle. State the period of occurrence of two heart sounds.



**Watch Video Solution**

**270.** Write short note on

Hypertension



**Watch Video Solution**

**271.** Someone's finger gets cut accidentally while chopping vegetables and starts bleeding. The bleeding stops after a few minutes. What are the spots that lead to stoppage of bleeding?



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**272.** What do you mean by double circulation ?

Give its advantages.



**Watch Video Solution**

**273.** Differentiate between Blood and Lymph



**Watch Video Solution**

**274.** Describe the process of blood clotting.





[Watch Video Solution](#)

**275.** Briefly discuss the single and double circulation of blood along with examples they take place.



[Watch Video Solution](#)

**276.** Give the summary of the chemical events involved in the process of muscle contraction



[Watch Video Solution](#)

**277.** Discuss the various functions of plasma.



**Watch Video Solution**

**278.** What is arteriosclerosis? Describe its affect on human health.



**Watch Video Solution**

**279.** Describe natural and artificial pace-maker of the heart.



[Watch Video Solution](#)

**280.** Explain the working of heart under:

Systol



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**281.** Explain the working of heart under:

Diastole.



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**282.** Describe double circulation in mammals.



**Watch Video Solution**

**283.** Draw a well labelled diagram on internal structure of human heart.



**Watch Video Solution**

**284.** Explain the Nervous and chemical control of respiration.





[Watch Video Solution](#)

**285.** Give a detailed account of RBC of human blood.



[Watch Video Solution](#)

**286.** Define the terms:

SA node



[Watch Video Solution](#)

**287.** Define the terms:

Diastole



**Watch Video Solution**

**288.** Define the terms:

Pulmonary circulation.



**Watch Video Solution**

**289.** Draw the structure of human heart.



**Watch Video Solution**

**290.** What is cardiac cycle? Explain it in detail.



**Watch Video Solution**

**291.** Describe the conducting system of human heart.



**Watch Video Solution**

**292.** What is double fertilization?





**Watch Video Solution**

**293.** Name two heart sounds.



**Watch Video Solution**

**294.** Differentiate between the following:

SA node and AV node



**Watch Video Solution**

**295.** Differentiate between the following:

Myogenic and neurogenic heart.



**Watch Video Solution**

**296.** Describe various corpuscles found in blood of man.



**Watch Video Solution**

**297.** Explain the different steps involved in the secondary treatment Of sewage.



**Watch Video Solution**

**298.** What is electrocardiography?What is meant by P-Q interval in the electrocardiography?



**Watch Video Solution**

**299.** Describe step by step What happens in the different phases of cardiac cycle in humans.



**Watch Video Solution**

**300.** Name two heart sounds and mention when they are respectively produced in cardiac cycle.



**Watch Video Solution**

**301.** Draw the structure of human heart.



**Watch Video Solution**

## Example

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



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2. What is the importance of plasma proteins?



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3. Match Column I with column II:

Column I	Column II
(a) Eosinophils	(i) Coagulation
(b) RBC	(ii) Universal recipient
(c) AB blood group	(iii) Resist infection
(d) Platelets	(iv) Contraction of heart
(e) Systole	(v) Gas transport



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



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5. What is the differences between lymph and blood?



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6. What is meant by double circulation? What is its significance?



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7. Write the differences between blood and haemolymph.



**Watch Video Solution**



**8.** Write the differences between : Open and Closed system of circulation



**Watch Video Solution**

**9.** Write the differences between :  
Systole and Diastole



**Watch Video Solution**

**10.** Write the differences between :

P-wave and T-wave.



**Watch Video Solution**

**11.** Describe the evolutionary change in the pattern of heart among the vertebrates.



**Watch Video Solution**

**12.** Why do we call our heart myogenic?



[Watch Video Solution](#)

**13.** Why is the S-A node called pace-maker of the heart?



[Watch Video Solution](#)

**14.** What is the significance of atrio-ventricular node and atrio-ventricular bundle in the functioning of heart?



[Watch Video Solution](#)

**15.** Define a cardiac cycle and the cardiac output.



**Watch Video Solution**

**16.** Explain heart sounds.



**Watch Video Solution**

17. Draw a standard ECG and explain the different segments in it.



**Watch Video Solution**