



BIOLOGY

BOOKS - TRUEMAN BIOLOGY

BODY FLUIDS AND CIRCULATION

Multiple Choice Questions

1. Hepatic protal system extends from

A. Digestive system to liver

B. Kidney to liver

C. Liver to heart

D. Liver to kidney

Answer: A



2. Which blood vessel has the largest amount of urea ?

A. Dorsal aorta

B. Hepatic vein

C. Hepatic artery

D. Dorsal portal vein

Answer: B

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3. Carotid artery supplies

A. deoxygenated blood to kidneys

B. deoxygenated blood to liver

C. oxygenated blood to limbs

D. oxygenated blood to brain

Answer: D



4. Deoxygenated blood from wall of heart is carried by

A. coronary sinus

B. inferior vena cava

C. superior vena cava

D. pulmonary artery

Answer: A



5. Which one represents pulmonary circulation ?

A. Left auricle (oxygenated blood $\
ightarrow$ lungs (deoxygenated blood $\
ightarrow$

Right auricle

B. Left auricle (deoxygenated blood $\
ightarrow$ lungs (oxygenated blood $\
ightarrow$

Right auricle

C. Left auricle (oxygenated blood $\
ightarrow$ lungs (deoxygenated blood $\
ightarrow$

left auricle

D. Right auricle (deoxygenated blood $\
ightarrow$ lungs (oxygenated blood

 \rightarrow Left auricle

Answer: D

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6. Erythroblastosis foetalis occurs when a factor from mother passes into

foetus through placenta

A. Rh antigens

B. Agglutinins

C. Rh antibodies

D. ABO antibodies

Answer: C

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7. Blood leaving liver and moving to the heart has usually high concentration of

A. Bile

B. Glycogen

C. Amino acids

D. Urea

Answer: D

8. Blood vessel carrying least CO_2 is

A. Pulmonary vein

B. Pulmonary artery

C. Vena Cava

D. Hepatic vein

Answer: A

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9. Which is not true about chordae tendineae?

A. They are stripes of muscles fibres

B. They are attached to valves

C. They are attached to papillary muscles

D. They prevent collapsing of valves into atria

Answer: A

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10. Which is not detected usually by ECG ?

A. Arrhythmia

B. Myocardial infarction

C. Heart block

D. Valvular defects

Answer: D

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11. A correct systemic circulation pathway is

A. Right auricle \rightarrow Left ventricle \rightarrow Aorta \rightarrow Tissue \rightarrow Veins

B. Right Ventricles \rightarrow Pulmonary aorta \rightarrow Tissues \rightarrow Pulmonary

vein \rightarrow Left auricle

C. Left atrium \rightarrow Left ventricle \rightarrow Aorta \rightarrow Arteries \rightarrow Tissues

ightarrow Veins ightarrow Right atrium

D. left auricle \rightarrow Left ventricle \rightarrow Pulmonary aorta \rightarrow Tissues \rightarrow

Right auricle

Answer: C

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12. Valves occur in

A. Arteries, veins and auricles

- B. Atria , ventricles and veins
- C. Arteries , veins and ventricles
- D. SA node, AV node and veins

Answer: B

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13. In order for the blood to flow from right ventricle to left ventricle in mammalian heart, it must flow through

- A. Right ventricle, pulmonary arteries, lungs , pulmonary veins, left atrium
- B. Right ventricles , pulmonary veins , lungs pulmonary arteries , left atrium
- C. Right ventricle, right atrium, lungs , pulmonary veins , left atrium
- D. Right ventricle , systemic aorta , lungs , pulmonary veins, left atrium

Answer: A

14. Cardiac muscles are found in :

A. epicardium

B. myocardium

C. endocardium

D. all of these

Answer: B

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15. The bulk of the heart wall is

A. endocardium

B. pericardium

C. epicardium

D. myocardium

Answer: D

16. Though the heart is an involuntary organ, the fibers are different from

smooth muscles in possessing

A. striations

B. tendons

C. mitochondria

D. sarcoplasm

Answer: A

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17. Musclar ridges on the interior surfacce of the atria are called

A. trabeculae carneae

B. endocardium

C. papillary muscles

D. musculi pectinai

Answer: D

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18. Foramen ovale is present only in the heart of embryos leading from

the right atrium to

A. left atrium

B. right ventricle

C. postcaval vein

D. pulmonary artery

Answer: A

19. In mammals, the opening of postcaval in the right atrium is guarded

by

A. mitral valve

B. bicuspid valve

C. thebesian valve

D. eustachian valve

Answer: D

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20. Tricuspid valve is found in between

A. two atria

B. two ventricles

C. left atrium and ventricle

D. right atrium and ventricle

Answer: D



21. In which one of the following pairs, two terms represent the same thing ?

A. Plasma-Serum

B. Atrioventricular node-Pacemaker

C. Leucocytes -Lymphocytes

D. Mitral valve-bicuspid valve

Answer: D



22. Bicuspid valve (mitral) guards the opening inn mammals between :

- A. left atrium and left ventricle
- B. right atrium and left ventricle
- C. left atrium and right ventricle
- D. right atrium and right ventricle

Answer: A



23. The thick muscular projections on the walls of the ventricle are called

A. columnae carneae

- B. conus arteriosus
- C. chordae tendineae
- D. truncus arteriosus

Answer: A



24. Which of the following organs has papillary muscles ?

A. Wall of heart

B. Lungs

C. Lingual papilla

D. Mammary glands

Answer: A

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25. In the heart of man, the mitral value is attached to the papillary muscles by

A. Bundle of His

B. Purkinje fibres

C. Columnae fibres

D. Chordae tendinae

Answer: D



26. Which has the thickest walls : –

A. Left auricle

B. Left ventricle

C. Right auricle

D. Right ventricle

Answer: B



27. In mammalian embryo the pulmonary aorta communicates with carotico-systemic aorta by a narrow ductus arteriosus, in the adult this connection closes learving : –

A. Carotico-pulmonary aperture

B. ligamentum arteriosus

C. fossa ovalis

D. none of the above

Answer: B

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28. Which term does not applied to human heart?

A. Pacemaker

B. Mitral valve

C. Neurogenic

D. Four chambered

Answer: C



29. Heart of Heart is or

Pace maker of the heart is

A. SA node

B. AV node

C. Bundle of His

D. Purkinje fibres

Answer: A

30. 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 ventricle
- D. upper part of wall of right atrium

Answer: D

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31. Impulse originating from sinu-atrial node are transmitted to the

- A. Pacemaker
- B. Bundle of His
- C. Purkinje system
- D. Atrioventricular node

Answer: D



32. What happens when the pacemaker becomes nonfunctional ?

A. Only ventricle will contract rhythmically

B. Only the Atria will contract rhythmically

C. Atria and ventricles contract simultaneously

D. The cardiac muscles do no contract in a coordinated manner

rhythmically

Answer: D



33. Given these structures of the conduction system of the heart

1. Bundles of His

2. AV node

3. Bundle branches

4. Purkinje fibres

5. SA node

Choose the arrangement that lists the structures in an order of an action

potential passes through them.

A. 2,5,3,1,4

B. 5,2,1,3,4

C. 2,5,1,3,4

D. 5,2,4,1,3

Answer: B

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34. The duration of cardiac cycle is

A. 0.8 seconds

B. 80 seconds

C. 8 seconds

D. 72 seconds

Answer: A

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35. Identify the correct sequence of events in a cardiac cycle

A. diastole, atrial systole, ventricular diastole

B. atrial systole, ventricular systole , joint diastole

C. atrial systole, ventricular diastole, ventricular systole

D. ventricular diastole , diastole , ventricular , systole , atrial systole

Answer: B

36. During systole of heart

A. only atria contract

B. only ventricles contract

C. atria and ventricles contract seperately

D. Atria and ventricles contract simultaneously

Answer: C

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- 37. During ventricular systole
 - A. oxygenated blood is pumped into the aorta and deoxygenated

blood is pumped into the pulmonary artery

B. oxygenated blood is pumped into the pulmonary artery and

deoxygenated blood is pumped into the aorta

C. oxygenated blood is pumped into the aorta and deoxygenated

blood is pumped into the pulmonary vein

D. oxygenated blood is pumped into the pulmonary vein and

deoxygenated blood is pumped into the pulmonary artery.

Answer: A



38. The function of vagus nerve innervating the heart is to

A. maintain constant heartbeat

B. accelerate the heartbeat

C. initiate the heartbeat

D. reduce the heartbeat

Answer: D



39. Sympathetic stimulation

A. decreases blood pressure

B. increases heartbeat

C. decreases heartbeat

D. not related to heartbeat

Answer: B

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40. Heartbeat is accelerated by

A. cranial nerves and adrenaline

B. cranial nerves and acetylcholine

C. sympathetic nerves and epineprine

D. sympathetic nerves and acetylcholine

Answer: C



41. Which of the following hormones has no effect on heart beat

A. Oxytocin

B. Thyroxine

C. Adrenaline

D. Noradrenaline

Answer: A



42. Parasympathetic stimulation of the heart

A. decreases the heart rate

B. increases cardiac output

C. increases the force of ventricular contraction

D. increases the rate of depolarization of the SA node

Answer: A

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43. The secretion of vagus nerve , which reduces the heart rate, is

A. dopamine

B. adrenaline

C. epinephrine

D. acetylcholine

Answer: D

44. Rate of heartbeat is maximum in

A. man

B. whale

C. elephant

D. mouse

Answer: D

- 45. P wave of ECG indicates
- 1. activation of SA node
- 2. depolarization of atrial muslces
- 3. spread of excitation from AV node to Purkinje fibres
- 4. repolarization of atria and depolarization of ventricles

A. 1 and 2 are correct

B. 2 and 4 are correct

C.1 and 3 are correct

D. 1,2 and 3 are correct

Answer: A

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46. QRS is related to

A. SA more activation

B. atrial relaxation

C. atrial contraction

D. ventricular contraction

Answer: D



47. In ECG, what does T wave represent?

A. Diastole of atria

B. Systole of ventricle

C. Repolarisation of ventricles

D. Diastole of atria and ventricles

Answer: C

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48. Which correctly pairs an ECG phase with the cardiac event responsible

?

A. P wave -Depolarization of the ventricles

B. P wave -Depolarization of the AV node

C. QRS wave-Depolarizatiion of the ventricles

D. T wave-Repolarization of the atria

Answer: C



49. Typical 'lubb-dupp' sounds heard during heartbeat are due to

A. closing of semilunar valves

B. blood under pressure through aorta

C. closing of bicuspid-tricuspid valves

D. closure of bicuspid-tricuspid valves followed by semilunar valves

Answer: D



50. Closure of which of the following makes louder sound of heartbeat ?

A. Thebesian

B. Eustachian

C. Semilunar valves

D. Atrio ventricular valves

Answer: D

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51. The "lubb" sound (first heart sound) is caused by

A. filling of the ventricles

B. ventricular contraction

C. closing of the AV valves

D. closing of semilunar valves

Answer: B

52. A heart " murmur" disorder indicates a defect of : -

A. heart valve

B. bundle of His

C. sinoatrial node

D. Atrioventricular node

Answer: B

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53. Cardiac output is defined as

A. heart rate times stroke volume

B. peripheral resistance times heart rate

C. blood pressure minus peripheral resistance

D. blood pressure times peripheral resistance

Answer: D



54. Normal Cardiac output is :

A. 4 L/min

B. 5 L/min

C. 6.3 L/min

D. 7.3 L/min

Answer: B



55. Which one of the following will be the cardiac output (in litres per minutes) ?

A. 63.30

B.63.00

C.00.63

 $D.\,06.30$

Answer: C

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56. By which instrument BP of man is determined ?

A. BP meter

B. Ultrasound

C. Stethoscope

D. Sphygmomanometer

Answer: C

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57. Systolic pressure is higher than diastolic pressure due to : -

A. arteries contract during systole only

B. arteries offer resistance to the following of blood

C. volume of blood in heart is greater during systole

D. blood is forcefully pumped into arteries by the heart during systole

Answer: C

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58. The pulse pressure is a measure of the

A. number of heartbeats per minutes

B. sum of the diastolic & systolic pressure

C. difference between the arterial and venous pressure

D. difference between the systolic and diastolic pressure

Answer: d

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59. Pressure in the aorta is at its lowest

A. just before AV valves open

B. at the time of first heart sound

C. at the time of second heart sound

D. just before the semilunar valves open

Answer: D

60. Tachycardia is : -

A. abnormal heart rhythm

B. high blood pressure

C. slow rate of heartbeat

D. rapid rate of heartbeat

Answer: D

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61. Slowing of heartbeat is called

A. tachycardia

B. bradycardia

C. cardiac arrest

D. angina pectoris

Answer: B

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62. How many times a red blood corpuscle will have to pass through the

heart in its journey from hepatic artery?

A. only once

B. two times

C. four times

D. several times

Answer: B

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63. Pulmonary artery differs from pulmonary vein in having

A. no endothelium

B. having strong valves

C. having oxygenated blood

D. having thick muscular walls

Answer: D

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64. Given these blood vessels

1.Aorta

- 2. Inferior vena cava
- 3. Pulmonary arteries
- 4. Pulmonary veins

Which vessels carry oxygen -rich blood ?

A. 1,3

B. 1,4

C. 2,3

D. 4,2

Answer: B

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65. Which one of the following has elastic wall ?

A. Precaval

B. Postcaval

C. Dorsal aorta

D. Pulmonary vein

Answer: C

66. Which of the statements is false ?

- A. Tunica media is thin in veins
- B. Capillaries have a greater total surface area than any other type of

vessel

C. Exchange between blood and tissue fluid occur across the walls of

venules

D. Small arteries and arterioles present great resistance to blood flow

Answer: C

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67. Both pulmonary and renal ateries

A. have internal valves

B. contain oxygenated blood

C. have thick-wall and narrow lumen

D. deliver carbon dioxide to the organs they supply

Answer: C

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68. Blood of which vessel in mammals carries least percentage of urea ?

A. Renal vein

B. Dorsal aorta

C. Renal artery

D. Posterior vena cava

Answer: A

69. Maximum suface area of circulating system is seen in : –

A. veins

B. heart

C. arterioles

D. capillaries

Answer: D

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70. The structure of which of the following consist of a layer of single cell

thickness

A. artery

B. venule

C. capillary

D. arteriole

Answer: C

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71. Which of the following is not characteristic of the body's capillaries ?

A. Thin-walls

B. Highly branched

C. High blood velocity

D. Large total surface area

Answer: C

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72. In a Portal system (Man) : -

A. a vein starts from an organ and ends up in the heart

B. an artery breaks up in an organ and restarts by union of capillary

C. a vein enters into an organ other than the ehart and breaks up into

capillaries

D. the blood from gut is brought into kidneys before it is poured into

posterior vena cava

Answer: C

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73. Lymph

A. transports CO_2 to lungs

B. transports oxygen to brain

C. returns interstitial fluid to blood

D. returns RBCs and WBCs to lymph nodes

Answer: C

74. Which of the following is the largest lymphatic vessel of the human

body?

A. Lacteal duct

B. Thoracic duct

C. Cisterna chyle

D. Right lymphatic duct

Answer: B

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75. Which of the following is first to receive lymphatic duct from legs

A. Left subclavian vein

B. Right subclavian vein

C. Right lyphatic duct

D. Thoracic duct

Answer: D

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76. Which organ is considered as "Graveyard of RBC" where most of them

are destroyed by macrophages

Which of the following organs can be called as a sort of "blood bank"

A. Lungs

B. Heart

C. Liver

D. Spleen

Answer: D

77. Role of spleen of mammals is to

A. act as a haemopoietic tissue

B. secrete digestive enzymes

C. assist kidneys

D. produce angioteninogen

Answer: A

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78. The thickening of walls of arteries is called

A. arthritis

B. aneurysm

C. arterioscelerosis

D. both 2 and 3

Answer: C

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79. An ischemic injury to the heart that destroys myocardial cells is

A. heart block

B. fibrillation

C. cardiac arrest

D. myocardial infarction

Answer: D

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80. To which of the following, bundles of His passes stimulus for contraction ?

A. Atrium

B. AV node

C. SA node

D. Purkinje fibres

Answer: D

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81. Largest single mass of lymphatic tissue in the body is

A. lung

B. liver

C. kidney

D. Spleen

Answer: D

82. ____ accelerates heart due to stimulation of adrenal medulla by sympathetic nerves

A. Adrenaline

B. Acetylcholine

C. Vasopressin

D. Collip's hormone

Answer: A

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83. Which of the following is not a major organ of lymphatic system

A. Spleen

B. Kidney

C. Thymus

D. Lymph nodes

Answer: B



84. Congestion of the lungs is one of the main symptoms in

A. angina

B. hypotension

C. heart failure

D. atherosclerosis

Answer: C



85. Consider the following statements

A marathon runner is likely to show

- 1. Reduced heart rate
- 2. Enlarged heart
- 3. larger stroke volume
- 4. Decreased arterial blood pressure

Which of the above statement is/are correct?

A. All of the above

B. 1, 2 and 3

C. 1 and 2

D.1 alone

Answer: B

86. Go through the following statements

(i) Vagus nerve decreases the rate of impulse formation from the SA node and its conduction

(ii) As the human heart is myogenic in nature, the rate of formation and conduction of cariac impulse cannot be changed by the action of nerves(iii) The end of T-wave in ECG marks the end of systole.

(iv) If the P-wave in ECG is inverted , it indicates that SA node fails to initiate impulse and the atrial muscle depolarises by the impulse originating in A.V. node.

Whic of these are correct ?

A. (i),(ii) & (iii)

B. (i),(iii) & (iv)

C. (ii),(iii) & (v)

D. All are correct

Answer: B

87. SA node acts as a pacemaker of the heart because of the fact that it

A. is capable of generating impulses spontaneously

B. has rich sympathetic innervation

C. has poor cholinergic innervation

D. generates impulses at the highest rate

Answer: D

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88. Go through the following statements,

(i) The stroke volume multiplied by heart rate gives the cardiac output.

(ii) The second heart sound is associated with the closure of semilunar

valves

(iii) Heart failure is the same as cardiac arrest or a heart attack.

Which of these are correct ?

A. (i) & (ii)

B. (ii) & (iii)

C. (i) & (iii)

D. All are correct

Answer: A

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89. Go through the following statements

(i) As smaller animals have the higher metabolic rate, their heart rate is

higher than that of the larger animals

(ii) Systoles of artria and ventricles never overlap while their diastoles

always partly overlap.

(iii) Cardiac cycle time is inversely proportional to the heart rate

Which of these are correct ?

A. (i) & (ii)

B. (ii) & (iii)

C. (i) & (iii)

D. All are correct

Answer: D

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90. A baby is born with a congenital cardiac defect that allows right atrial blood to bypass the lungs and enter the left atrium . Which of the following structural defects must be surgically repaired to save this baby's life ?

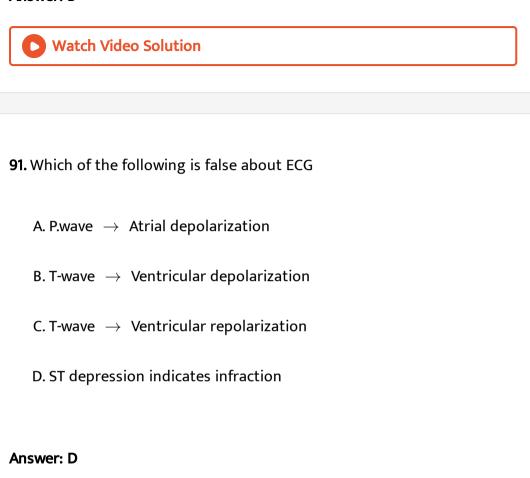
A. Ductus venosus

B. Foramen ovale

C. Ductus arteriosus

D. Ductus vena cavas

Answer: B





92. Find out the wrong statement :

A. SA node is called the pacemaker of the heart

- B. Tricuspid valve is located between right atrium and right ventricle
- C. By counting the number fo QRS complexes that occur in a given

time period, one can determine the heart beat rate of an individual

D. The P-wave represents the depolarization of the atria while QRS

complex represents the repolarisation of the ventricles

Answer: D



93. The sequence of flow of blood in the hepatic portal system of a mammal is

A. caudal vein, hepatic vein, liver, posterior venacava

B. intestine , liver, hepatic , vein, posterior venacava

C. kidney, liver, intestine, sinus venosus

D. posterior venacava, intestine, liver, hepatic vein, portal vein

Answer: B

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- 94. Which one of the following is a matching pair ?
 - A. Lubb-Sharp closure of AV valves at the beginning of ventricular

systole

B. Dup-Sudden opening of semilunar valves at the beginning of

ventricular diastole

- C. Pulsation of the radial artery-valves in the blood vessels
- D. Initiation of the heart beat-Purkinje fibres

Answer: A

95. If there is a blockage between the AV node and AV bundle, how will this affect the appearance of the ECG /

A. P-R interval would be smaller

B. There would be more P waves than QRS complexes

C. There would be more QRS complexes than P waves

D. none of the above

Answer: B

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96. Pulmonary aorta in mammlian embryo communicates with aorta by a thin vessel called ductus arteriosus which later closes are remains in adult as

A. Fossa ovalis

B. ligamentum arteriosus

- C. Carotico-pulmonary aperture
- D. none of the above

Answer: B

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97. All of the following are true except

A. Trabeculae carnae , the muscular ridges of ventricles are also known

as columnae carnae

B. Musculi pectinati are present in ventricular walls

C. There are three papillary muscles in right ventricle are two in left

ventricle

D. Papillary muscles are attached to AV valves through chordae

tendinae

Answer: B

98. If all chordae tendinae are weakened or severed , the immidiate effect would be

A. Fall in diastolic pressure and unaffectedsystolic pressure

B. Diastolic pressure unaffected but fall in systolic pressure

C. Fall in both diastolic and systolic pressure

D. Both diastolic and systolic pressure unaffected

Answer: B

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99. Narrowing of which of the following heart valves would cause blood to accumulate in the left atrium ?

A. Tricuspid valve

B. Aortic valve

C. Mitral valve

D. Pulmonic valve

Answer: C

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100. Go through the following statements

(i) The inner surface of atria have got transverse muscular ridges called papillary muscles.

(ii) Chordae tendinae are special fibrous cords attached to the AV valves and prevent them from collapsing back into the atria during powerful vantricular contraction

(iii) The neurogenic heart stops functioning immidiately after removal from the body.

(iv) The conduction of cardiac impulse is slowest in the A.V. node.

Which of these are correct ?

A. (i), (ii) & (iii)

B. (ii) , (iii) & (iv)

C. (i) & (iii)

D. (ii) & (iv)

Answer: B



101. Read the following statements

(i) The cardioinhibitory centre of medulla oblongata is connected with the heart through vagus nerve

(ii) Carotid sinus is the chemoreceptor located in the wall of external carotid artery.

(iii) The signals from carotid sinus are tramsmitted through Hering's nerve to the glossophyrangeal nerve and then to the medulla oblongata.(iv) Adrenaline has a greater effect on heart activity than nonadrenaline.Which of these are correct ?

A. (i) ,(ii) & (iii)

B. (i),(iii) & (iv)

C. (i) & (iii)

D. All are correct

Answer: B



102. Go through the following statements .

(i) Hypophysial portal vein carries blood from the hypothalamus to the anterior lobe of the pituitary gland.

(ii) The central nervous system lacks lymphatic channels.

(ii) The thoracic duct drains into the left subclavian vein.

(iv) Hepatic portal vein is formed by the union of superior mesenteric vein

and splenic vein.

Which of these are correct ?

A. (i) ,(ii) & (iii)

B. (ii) , (iii) & (iv)

C. (i) ,(iii) & (iv)

D. All are correct

Answer: D

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103. Read the following statements

(i) The nodal musculature of the heart has the ability to generate action

potentials without any external stimuli.

(ii) The AV node is located in the right ventricle close to the AV septum

(iii) The stroke volume is the amount of blood pumped out by each ventricle per minute.

Which of these are correct ?

A. (i) , & (ii)

B. (ii) & (iii)

C. only (ii)

D. only (i)

Answer: D

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104. ECG depicts the depolarisation and repolarisation process during the cardiac cycle. In the ECG of a normal healthy individual one of the following waves is not represented.

A. Depolarisation of atria

B. Repolarisation of atria

C. Depolarisation of ventricles

D. Repolarisation of ventricles

Answer: B

105. Which of the following statements is incorrect?

A. A person of 'O' blood group has anti 'A' and anti 'B' antibodies in his

blood plasma.

B. A person of 'B' blood group cannot donate blood to a person of 'A'

blood group .

C. Blood group is designated on the basis of the presence of

antibodie in the blood plasma.

D. A person of AB blood group is universal recipient.

Answer: C

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106. In which of the following pairs the two items mean one and the same

thing?

A. Malleus -Anvil

- B. SA node -Pace maker
- C. Leucocytes -Lymphocytes
- D. Haemophilia -Blood cancer

Answer: B



107. An artifical pace-maker is implanted subcutaneously and connected

to the heart in patients

A. having 90% blockage of the three main coronary arteries

B. having a very high blood pressure

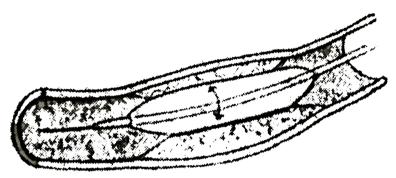
C. with irregularity in the heart rhythm

D. suffering from arteriosclerosis

Answer: C

108. The given figure shows an angiogram of the coronary blood vessel. Which one of the following statements correctly describes, what is being

done?



- A. It is coronary artery which has a cancerous growth that is being removed.
- B. It is coronary artery which is blocked by a plaque and the same is being cracked.
- C. It is coronary vein in which the defective valves are being opened.
- D. It is coronary vein blocked by a parasite (blood fluke) that is being

removed.

Answer: B



109. The chief difference between the erthrocytes of man and frog is

A. Human erythrocytes have more haemoglobin

B. Human erthrocytes have more nuclei

C. Human erthrocytes have no nuclei

D. Human erthrocytes have less haemoglobin

Answer: C

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110. Formation of blood corpuscles is known as

A. Haemolysis

B. Rouleaux

C. Haemopoiesis

D. Phagocytosis

Answer: C

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111. ESR (erythrocyte sedimentation rate) is meant for knowing

A. degree of disease

B. erythrocyte count

C. study of plasma

D. calculation of haemoglobin

Answer: A

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112. The cation (mineral) necessary for coagulation of blood is

A. Na B. Ca

C. K

D. Cl

Answer: C

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113. Removal of calcium from freshly collected blood would

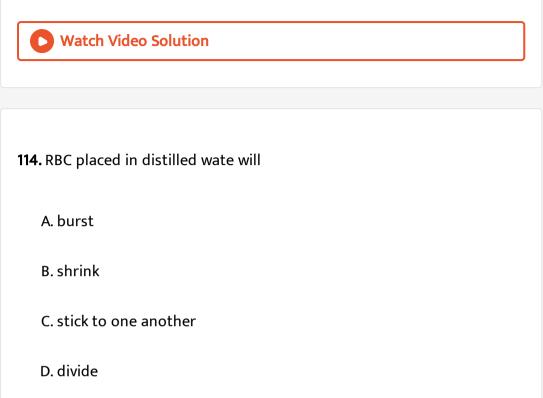
A. accelerate clotting

B. prevent clotting

C. cause immediate clotting

D. prevent destruction of haemoglobin

Answer: B



Answer: B



115. Largest corpuscles in human blood are

A. Lymphocytes

B. basophils

C. Erythrocytes

D. Monocytes

Answer: C

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116. The ratio of RBC to WBC in human is

A. 6:1

B.60:1

C. 600:1

D. 6000:1

Answer: B

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117. Cells formed in bone marrow include

A. RBC

B. RBC, leucoytes and platelets

C. Leucocytes

D. Lymphocytes

Answer: C

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118. Thrombocytes have a life of

A. 3-4 weeks

B. 4-5 weeks

C. 4-5 days

D. 4-5 hours

Answer: B



119. Donor X and recipient Y belong to same blood group. Transfusion has

led to RBC agglutination because

A. X is ${\it Rh}^+$, Y is ${\it Rh}^-$

B. X is $Rh^{\,-}$, Y is $Rh^{\,+}$

C. Both are Rh^+

D. Both are $Rh^{\,-}$

Answer: C

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120. Which is correct about leucocytes?

- A. They are red coloured
- B. They can cross capillaries
- C. They are enucleate
- D. Decrease in their number causes leukemia

Answer: B

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- 121. For safe blood transfusion
 - A. Donor's RBC should not contain antibodies against recipient's serum
 - B. Recipient's serum should not contain antigens against donor's antibodies
 - C. Recipient's serum should not contain antibodies against RBC of

donors

D. Recipient's RBC should not contain antibodies against donor's

antigens

Answer: C

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122. Which among the following statements are correct and which are wrong ?

- 1. Plasma constitutes $45~\%\,$ of blood.
- 2. Albumin is plasma protein involved in osmotic balance,
- 3. Blood clotting factors are present in blood.
- 4. Plasma without clotting factors is serum.
- 5. Minerals are not found in blood

A. 1-4 correct, 5 wrong

- B. 1-2 correct, 3,4,5 wrong
- C. 2,3,4 correct, 1 and 5 wrong

D. 1 and 5 correct, 2,3,4 wrong

Answer: C



123. Platelets are given in case of

A. Anaemia

B. Polycythemia

C. Thrombocytopenia

D. Leukopenia

Answer: C



124. Which blood transfusion is correct ?

 $\begin{array}{l} \mathsf{A}.\,\mathsf{A} \rightarrow \mathsf{B} \\ \\ \mathsf{B}.\,\mathsf{B} \ \rightarrow \ \mathsf{A} \\ \\ \mathsf{C}.\,\mathsf{A}\mathsf{B} \ \rightarrow \ \mathsf{A} \\ \\ \\ \mathsf{D}.\,\mathsf{O} \ \rightarrow \ \mathsf{A} \end{array}$

Answer: D

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125. Go through the following table

A. Basophils	(i) Megakaryocyte
B. Monocytes	(ii) Allergy
C. Thrombocytes	(iii) Macrophages
D. B- Lymphocytes	(iv) Serotonin
E. Eosinophils	(v) Plasma cells

Choose the option which matches the components on the left with the

related components on the right

A. A- (iii) ,B-(v),C-(iv),D-(ii),E-(i)

B. A-(v),B-(iii),C-(i),D-(iv),E-(ii)

C. A-(ii),B-(iv),C-(v),D-(iii),E-(i)

D. A-(iv),B-(iii),C-(i),D-(v),E-(ii)

Answer: D

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126. Which statement is incorrect regarding human blood?

A. Average leucoytes count is 6000-8000 mm^{-3}

B. Average RBC count is 2-4 million mm^{-3}

C. Proteins contribute about 8 percent of plasma

D. A healthy human has about 12-16 gms of haemoglobin per 100 ml

blood

Answer: B

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127. Which of the following is present in both plasma and serum in humans.

A. WBCs

B. Fibrinogen

C. RBCs

D. Albumin

Answer: D

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128. Cells of human blood can be arranged in a series of increasing number per cubic millimeter of blood as follows

A. Erythrocytes < Lymphocytes < Platelets < Basophils <

Neutrophils

B. basophils $<$ Lymphocytes $<$ Neutophils $<$ Platelets $<$	<
Erthrocytes	
C. Lymphocytes $<$ Basophils $<$ Platelets $<$ Neutrophils $<$	<
Erthrocytes	
D. Neutrophils < Basophils < Lymphocytes < Platelets <	\langle
Erythrocytes	
Answer: B	
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129. Which of the following substances, if introduced into the blood system, would cause coagulation of blood at the site of its introduction

A. Thromboplastin

B. Fibrinogen

C. Heparin

D. prothrombin

Answer: A



130. A drop of each of the following, is placed separately on four sides. Which of them will not coagulate ?

A. Blood serum

B. Sample from the thoracic duct of lymphatic system

C. Whole blood from pulmonary vein

D. Blood plasma

Answer: A

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131. Which one of the following mammalian cells is not capable of metabolising glucose to carbon-dioxide aerobically ?

A. Unstriated muscle cells

B. Liver cells

C. Red blood cells

D. White blood cells

Answer: C

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132. Compared to blood our lymph has

A. More WBCs and no RBCs

B. More RBCs and less WBCs

C. No plasma

D. Plasma without proteins

Answer: A



133. In ECG what is represented by P-wave , QRS complex and T-wave respectively?

- A. Repolarisation of atria, Depolarisation of atria, Repolarisation of ventricles
- B. Repolarisation of ventricles, Depolarisation of atria, Depolarisation

of ventricles

C. Repolarisation of ventricles , Depolarisation of atria, Depolarisation

of ventricles

D. Depolarisation of atria, Depolarisation of ventricles, repolarisation

of ventricles

Answer: D



134. In humans, blood passes from the post caval to the diastolic right atrium of heart due to

A. pressure difference between the post caval and atrium

B. pushing open of the venous valves suction pull

C. suction pull

D. stimulatiion of the sino auricular node

Answer: A

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135. In a standard ECG which one of the following alphabets is the correct

representation of the respective activity of the human heart ?

A. T-end of diastole

- B. P-depolarizatio of the atria
- C. R-repolarisation of ventricles
- D. S-start of systole

Answer: B

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136. Which of the following statement is true about RBCs in humans?

- A. A) They do not carry CO_2 at all.
- B. B) They carry about 20-25 per cent of CO_2 .
- C. C) They transport 99.5 per cent of O_2 .
- D. D) They transport about 80 per cent oxygen only and the rest of 20

per cent of it is transported in dissolved state in blood plasma.

Answer: B

137. If due to some injury the chordae tendineae of the tricuspid valve of the human heart is partially non-functional, what will be the immediate effect ?

A. The flow of blood into the pulmonary artery will be reduced

B. The flow of blood into the aorta will be slowed down

C. The 'pacemaker' will stop working

D. The blood will tend to flow back into the left atrium

Answer: A

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138. Fastest distribution of some injectable material / medicine and with no risk of any kind can be achieved by injecting it into the

A. A) muscles

B. B) arteries

C. C) veins

D. D) lymph vessels

Answer: C

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139. The haemoglobin content per 100 ml of blood of normal healthy human adult is

A. A) 5-11 g

B. B) 25-30 g

C. C) 17-20 g

D. D) 12-16 g

Answer: D

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140. Given below are four statements (i-iv) regarding human blood circulatory system

(i) Arteries are thick-walled and have narrow lumen as compared to veins

(ii) Angina is acute chest pain when the blood circulation to the brain is reduced

(iii) Persons with blood group AB can donate blood to any person with any blood group under ABO system

(iv) Calcium ions play a very important role in blood clotting

Which two of the above statements are correct ?

A. (i) & (iv)

B. (i) & (ii)

C. (ii) & (iii)

D. (iii) & (iv)

Answer: A

141. A portion of cardiovascular system that transport oxygen depleted blood from the heart to the lungs and brings oxygenated blood back to heart is

A. Coronary circulation

B. Systemic circulation

C. Pulmonary circulation

D. Single circulatory system

Answer: C

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142. Which blood group lacks antigen on their RBCs ?

A. O

B. A

С. В

D. AB

Answer: A

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143. Second heart sound is associated with the

A. A) lub-closure of the Semilunar valves.

B. B) lub-closure of the Tricuspid and Bicuspid valves.

C. C) dub-closure of the Tricuspid and Bicuspid valves.

D. D) dub-closure of the Semilunar valves.

Answer: D

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144. Which prevents conversion of prothrombin to thrombin in an undamaged blood vessel ?

A. Heparin

B. Thrompoplastin

C. Calcium

D. Fibrinogen

Answer: A

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145. Number of leucocytes in decreasing order in human blood is

A. Eosinophils > basophils > neutrophils

B. Neutrophils > eosinophils > basophils

C. Basophils > eosinophils > Neutrophils

D. Eosinophils > Neutrophils > basophils

Answer: B



146. Red cell count is carried out by

A. haemocytometer

B. haemoglobinometer

C. sphygmomanometer

D. electrocardiogram

Answer: A

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147. Rh factor can produce disease

A. A) A.I.D.S.

B. B) Turner's syndrome.

C. C) Erythroblastosis foetails.

D. D) Sickle-cell anemia.

Answer: C

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148. Find out the wrong statement .

- A. A) SA node is called the pacemaker of the heart.
- B. B) Tricuspid valve is located between right atrium and right ventricle.
- C. C) By counting the number of QRS complexes that occur in a given

time period, one can determine the heart beat rate of an individual.

D. 4) The P-wave represents the depolarization of the atria while QRS

complex represents the repolarization of the ventricles.

Answer: D



149. Bundle of His is a part of which one of the following organs in humans

A. Brain

B. Heart

C. Kidney

D. Pancreas

Answer: B

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150. Arteries are best defined as the vessels which

A. supply oxygenated blood to the different organs

B. carry blood away from the heart of 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: B

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

A. 130/90 mmHg is considered high and requires treatment ?

B. 100/55 mmHg is considered an ideal blood pressure

C. 105/50 mmHg makes one very active

D. 190/110 mmHg may harm vital organs like brain and kidney

Answer: D

152. A person with unknown blood group under ABO system, has suffered much loss in an accident and needs immediate blood trasfusion. His one friend who has a valid certifacte of his own blood type. What would have been the type of blood group of the donor friend

A. Type B

B. Type AB

C. Type O

D. Type A

Answer: C



153. Which one of the following proteins involved in the coagulation of

blood?

A. AN albumin

B. Serum amylase

C. A globulin

D. Fibrinogen

Answer: D

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154. Bulk of carbon dioxide (CO_2) released from body tissues into the

blood is present as

A. bicarbonate in blood plasma and RBCs

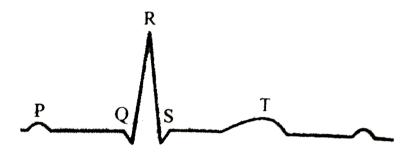
B. free CO_2 in blood plasma

C. 70% carbamino-haemoglobin and 30% as bicarbonate

D. carbomino-haemoglobin in RBCs

Answer: A

155. The given figure is the ECG of a normal human. Which one of its components is correctly interpreted below ?



A. A) Complex QRS- one complete pulse.

- B. B) Peak T-Initiation of total cardiac contraction.
- C. C) Peak P and Peak R together -systolic and diastolic blood pressures.
- D. D) Peak P -Initiation of left atrial contraction only.

Answer: D

156. Which is the first Heart sound ?

A. A) Lub-associated with the closure of Semi-lunar valves.

B. B) Lub-associated with the closure of tricuspid and bicuspid valves.

C. C) Dub-associated with the closure of tricuspid and bicuspid valves.

D. D) Dub-associated with the closure of Semilunar valves.

Answer: B

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157. In 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. A) Blood group AB

B. B) Blood group O

C. C) Blood group A

D. D) Blood group B

Answer: B



158. Which one of the following is the main graveyard of RBC?

A. A) Spleen

B. B) liver

C. C) Gall bladder

D. D) Kidney

Answer: A



159. Maximum amount of oxygen is lost from the blood in

A. A) Arteries

- B. B) Capillaries of body
- C. C) Left atrium of heart
- D. D) Capillaries surrounding alveoli

Answer: B

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160. Haemoglobin breakdown occurs in

A. A) Liver

B. B) Kidney

C. C) Lungs

D. D) Heart

Answer: A

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161. Blood diffuses out of the capillaries due to

A. A) hydrostatic pressure of Interstitial fluid.

B. B) osmotic pressure of capillaries.

C. C) hydrostatic pressure of capillaries.

D. D) osmotic pressure of interstitial fluid.

Answer: C

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162. The opening between the right atrium and the right ventricle is guarded by which valve ?

A. A) Monocuspid valve.

B. B) Bicuspid valve.

C. C) Tricuspid valve

D. d) Tetracuspid valve.

Answer: C

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163. Which one of the following human cells does not contain mitochondria

A. Nerve cell

B. Red blood cell

C. Liver cell

D. White blood cells

Answer: B

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164. The cardiac impulse is initiated and conducted further upto ventricle. The correct sequence of conduction of impulse is

```
A. SA node \rightarrow AV node \rightarrow Bundle of His \rightarrow Purkinje fibres
```

B. AV node \rightarrow Bindle of His \rightarrow SA node \rightarrow Purkinje fibres

C. SA node \rightarrow Purkinje fibres \rightarrow AV node \rightarrow Bundle of His

D. Purkinje fibres \rightarrow AV node \rightarrow SA node \rightarrow Bundie of His

Answer: A

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165. The gene of sickle cell anaemia is inherited by

A. blood cells

B. bone cells

C. sex chromosomes

D. autosomes

Answer: D

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166. Foramen ovale

A. Connects the two atria in the foetal heart

B. is a condition in which the heart valves do not completely close

C. is a shallow depression in the interventricular septum

D. is a connection between the pulmonary trunk and the aorta in the

foetus

Answer: A



167. To obtain a standard ECG, a patient is connected to the machine by

three electrodes

A. One to each wrist and to the left ankle

B. One of each ankle and to the left wrist

C. One to each wrist and to the left chest region

D. One to each ankle and to the left chest region

Answer: A

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168. Circulatory system does not help in

A. transport of respiratory gases

B. transport of hormones

C. transport of food materials

D. transfer of impulses

Answer: D



169. Blood pressure is measured by

A. barometer

B. sphygmomanometer

C. Stethoscope

D. electroencephalogram

Answer: B

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170. Bursa of Fabricius is an important organ of birds. This organ is associated with

A. generation of basophils

B. production of uric acid

C. metabolism of fatty acids

D. generation of B-cell

Answer: D



171. The blood vessel which supplies oxygenated blood to cardiac tissue is

A. coronary artery

B. coronary vein

C. cornoary sinus

D. pulmonary vein

Answer: A



172. In a normal adult human, the average cardiac output is

A. 47 ml

B. 70 ml

C. 5 litres

D. 3.3 litres

Answer: C

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173. Lub sound produced by heart is caused by

A. ventricular diastole

B. ventricular systole

C. atrial diastole

D. atrial systole

Answer: B



174. Number of action potentials that can be generated by sino-atrial node is

A. 42-50/min

B. 100-120/min

C. 70-75/min

D. 80-120/min

Answer: C

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175. A woman with blood 'O' has a child with blood group 'O'. She claims that a man with blood group 'A' as the father of her child. What would be the genotype of the father, if her claim is right

B. |A|B

C. |A|O

D. |B|O

Answer: C

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176. If blood pressure reads 140 systole and 90 diastole, the condition is

called

A. Hypertension

B. Hypotension

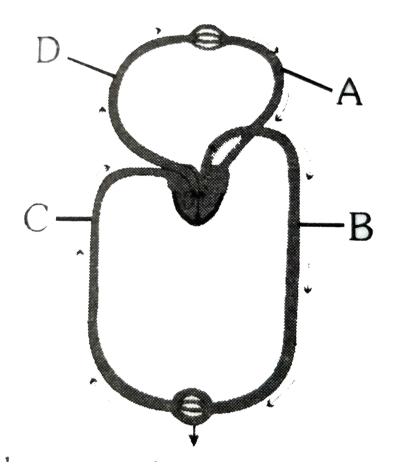
C. Normal

D. Ischemia

Answer: A

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177. Figure shows schematic plan of blood circulation in humans with labels A to D, Identify the label and give its function / s.



A. C-vena Cava-takes blood from body parts to right auricle,

 $PCO_2 = 45 \text{ mm Hg}$

B. D-Dorsal aorta-takes blood from heart to body parts, $PO_2=95$ mm

Hg

C. A-Pulmonary vein-takes impure blood from body parts, $PO_2=60$

mm Hg

D. B-Pulmonary artery-takes blood from heart to lungs, $PO_2 = 90$ mg

Hg

Answer: A

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178. If two persons with 'AB' blood group marry and have sufficiently large number of children, these children could be classified as 'A' blood group: 'AB' blood group 'B' blood group in 1:2:1 ratio. Modern technique of protein electrophoresis reveals presence of both 'A' and 'B' type proteins in 'AB' blood group individuals. This is an example of

A. Partial dominance

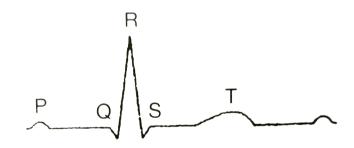
- B. Complete dominance
- C. Codominance
- D. Incomplete dominance

Answer: C

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179. The diagram given here is the standard ECG of a normal person. The P-

wave represents the



- A. Beginning of the systole
- B. End of systole
- C. Contraction of both the atria

D. Both 1 & 3

Answer: D



180. Assertion. Smaller the organism, higher is the rate of metabolism per gram weigth.

Reaons. The heart rate of six months old bady is much higher than that of person

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion, then mark a.

B. If both Assertion and Reason are true but the Reason is not the

correct explanation of the Assertion, then mark b.

C. If Assertion is true statement but Reason is false, then mark c.

D. If both Assertion and Reason are false statements then mark d.

Answer: B

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181. Assertion : Persons sufffering from haemophilia fail to produce blood cloting factor . VIII.

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

A. If both Assertion and Reason are true and the Reason is the correct

explanation of the Assertion, then mark a.

B. If both Assertion and Reason are true but the Reason is not the

correct explanation of the Assertion, then mark b.

- C. If Assertion is true statement but Reason is false, then mark c.
- D. If both Assertion and Reason are false statements then mark d.

Answer: C

182. How do parasympathertic neural signals affect the working the heart

A. Heart rate decrease but cardiac output increases

B. Reduce both heart rate and cardiac output

C. Heart rate is increased without affecting the cardiac output

D. Both heart rate and cardiac output increase

Answer: B

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183. Person with blood group AB is considered as universal recipient because he has

A. Both A and B antigens in the plasma but no antibodies

B. Both A and B antigens on RBC but no antibodies in the plasma

C. Both A and B antibodies in the plasma

D. No antigen on RBC and no antibody in the plasma

Answer: B



184. A man with blood group 'A' marries a women with blood group 'B'. What are al the posssible blood groups of their offsprings?

A. A,B and AB only

B. A,B, AB and O

C. O only

D. A and B only

Answer: B

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185. Which one of the following is correct?

A. Serum = Blood + Fibrinogen

B. Lymph = Plasma + RBC + WBC

C. Blood = Plasma + RBC + WBC+platelets

D. Plasma= Blood-Lymphocytes

Answer: C

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186. Blood pressure in the mammalian aorta is maximum during

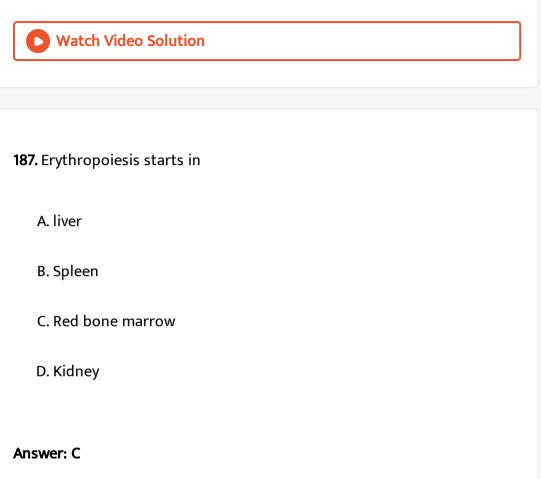
A. diastole of the right ventricle

B. systole of the left ventricle

C. diastole of the right atrium

D. systole of the left atrium

Answer: B



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188. Which one of the following animals has two separate circulatory

pathways

A. Frog

B. Lizard

C. Whale

D. Shark

Answer: C



189. If you suspect major deficiency of antibodies in a person, to which of

the following would you look for confirmatory evidence

A. Fibrinogin in plasma

B. Serum albumins

C. Haemocytes

D. Serum globulins

Answer: D

190. Doctors use stethoscope to hear the sounds produced during each cardiac cycle. The second sound is heard when

- A. AV valves open up
- B. Ventricular walls vibrate due to gushing in of blood from atria.
- C. Semilumar valves close down after the blood flows into vessels from

ventricles

D. AV node receives signal from SA node

Answer: C



191. Blood pressure in the pulmonary artery is

A. more than that in the carotid

B. more than that in the pulmonary vein

C. less than that in the venae cavae

D. same as that in the aorta

Answer: B

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192. It is much easier for a small animal to run uphill than for a large animal, because:

A. smaller animals have a higher metabolic rate

B. small animals have a lower O_2 requirement.

C. the efficiency of muscles in large animals is less than in the small

animals.

D. It is easier to carry a small body weight.

Answer: A



193. The hapatic partal vein drains blood to liver from

A. heart

B. stomach

C. kidneys

D. intestine

Answer: B::D

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194. Frog's heart when taken out of the body continues to beat for

sometime

Select the best option from the following statements

- (A) Frog is a poikilotherm
- (B) Frog does not have any coronary circulation

- (C) Heart is "Myogenic" in nature
- (D) Heart is autoexcitable
 - A. Only (iii)
 - B. Only (iv)
 - C. (i) and (ii)
 - D. (iii) and (iv)

Answer: D

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195. Which of the followin gastric cells indirectly help in erthropoiesis ?

A. Parietal cells

- B. Goblet cells
- C. Mucous cells
- D. Chief cells

Answer: A

(



196. Match the items given in Column I with those in Column II and select

the correct option given below

	Column I		Column II
(A)	Fibrinogen	(i)	Osmotic balance
(B)	Globulin	(ii)	Blood clotting
(C)	Albumin	(iii)	Defence mechanism

A.
$$\begin{array}{cccc} a & b & c \\ ii & iii & i \\ B. & a & b & c \\ i & iii & ii \\ C. & a & b & c \\ i & ii & iii \\ D. & a & b & c \\ iii & ii & i \end{array}$$

Answer: A

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197. Match the items given in Column I with those in Column II and

select the correct option given below

- Column I Column II
- A. Tricuspid valve (i) Between left atrium and left ventricle
- B. Bicuspid valve (ii) Between right ventricle and pulmonary artery
- C. Semilunar
- (iii) Between right atrium and right ventricle

^	a	b	c
A.	a_{ii}	i	iii
р	a	b	c
B.	i	ii	iii
c	a	b	c
C.	i	iii	ii
D.	a	b	с
D.	a_{iii}	i	ii

Answer: D

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