EXERCISE-I



- **1.** Innervation of heart in the intact animals is primarily meant for
 - (A) Initiation of heart beat
 - (B) Regulation of heart beat
 - (C) Release of acetylcholine only
 - (D) Release of adrenalin only
- 2. Oxygenated blood is carried by
 - (A) Pulmonary vein
 - (B) Pulmonary artery
 - (C) Renal vein
 - (D) Hepatic portal vein
- 3. Purkinje's fibres are special types of
 - (A) Muscle fibres located in heart
 - (B) Nerve fibres located in cerebrum
 - (C) Connective tissue fibres joining one bone to another bone

(D) Sensory fibres extending from retina into optic nerve

- 4. The tricuspid valve is present at the origin of
 (A) Carotid arch
 (B) Pulmonary arch
 (C) Truncus arteriosus
 (D) Systemic arch
- **5.** The atrio-ventricular valves of the heart is prevented from turning inside out by tough strands of connective tissue is called as
 - (A) Tendinous cords (B) Tricuspid
 - (C) Pocket valve (D) Mitral valve
- 6. The pericardium and the pericardial fluid help in

(A) Protecting the heart from friction, shocks and keeps it moist

(B) Pumping the blood

(C) Receiving the blood from various parts of the body

(D) None of the above

- 7. For reaching left side of heart, blood must pass through(A) Liver(B) Kidneys
 - (C) Lungs (D) Brain
- **8.** Blood leaving liver and moving to the heart has usually high concentration of
 - (A) Urea (B) Bile
 - (C) Glucose (D) Erythrocytes
- 9. Blood leaving lungs is rich in
 - (A) Oxygen
 - (B) Haemoglobin
 - (C) Carbon dioxide
 - (D) More number of RBC
- **10.** In rabbit, the opening of post caval in the right auricle is guarded by
 - (A) Bicuspid valve
 - (B) Tricuspid valve
 - (C) Eustachian valve
 - (D) Sino-auricular valve
- **11.** Ventricular contraction is preceded by atrial contraction by what duration
 - (A) 1 second (B) 1/2 second
 - (C) 1/4 second (D) 1/6 second
- **12.** Cardiac muscle is composed of

(A) Striated, branched and voluntary muscle fibres

(B) Unstriated (smooth), spindle shaped and voluntary muscle fibres

(C) Unstriated (smooth), spindle shaped and involuntary muscle fibres

(D) Striated, branched and involuntary muscle fibres

- 13. Cardiac output signifies
 - (A) The amount of blood entering the heart per unit time
 - (B) The amount of blood entering the lung per unit time
 - (C) The amount of blood leaving the heart per unit time
 - (D) The amount of blood leaving the lung per unit time
- 14. Which one of the following has elastic wall (B) Dorsal aorta (A) Arteriole (C) Precaval (D) Post caval
- **15.** Heart beats are accelerated by
 - (A) Cranial nerves and acetylcholine
 - (B) Sympathetic nerves and acetylcholine
 - (C) Cranial nerves and adrenaline
 - (D) Sympathetic nerves and epinephrine
- 16. What is the maximum efficiency of heart (B) 20–25% (A) 10–15% (D) 100% (C) 40-60%
- 17. Which of the following cardiac effects can be observed if the potassium concentration is increased two to three times the normal value
 - (A) Weakness of heart
 - (B) Abnormal rhythm
 - (C) Death
 - (D) All the above
- 18. Histology of heart superficially shows the following structure except
 - (A) Endocardium
 - (B) Cardiac muscle
 - (C) Fibrous pericardium
 - (D) Tunica intima
- **19.** Rouget cells surround the walls of
 - (A) Arteries (B) Veins
 - (C) Arterioles (D) Capillaries
- 20. The ion that always keeps the cardiac muscle unit in contracting state is
 - (A) Sodium (B) Potassium
 - (D) Magnesium (C) Calcium

- **21.** Which of the following statements is false (A) Blood from the right side of the heart is carried to the lungs by the pulmonary artery (B) The term *pleura* refers the double layered covering of the kidney (C) Pancreas is both an exocrine and endocrine gland (D) Scurvy is caused by the deficiency of vitamin C
- **22.** The pace–setter in the heart is called (A) Purkinje fibres
 - (B) Sino-aterial node (SAN)
 - (C) Papillary muscle
 - (D) Atrio-ventricular node (AVN)
- **23.** Largest heart is found in (B) Giraffe (A) Elephant
 - (C) Crocodile (D) Lion
- 24. Average cardiac output is (A) 4 litres per minute
 - (B) 6.3 litres per minute
 - (C) 5.3 litres per minute
 - (D) 7.3 litres per minute
- **25.** Pacemaker is one that influences the
 - (A) Rate of locomotion
 - (B) Heart beat
 - (C) Rate of transmission of impulse
 - (D) Rate of flow of blood
- 26. Valves are necessary in veins but not in arteries because
 - (A) Blood flows with greater force in veins
 - (B) Blood in veins flows without jerk
 - (C) Blood from heart may not be pushed back into veins
 - (D) Pressure in veins is low, which can flow the blood
- 27. Mitral valve in mammals guards the opening between
 - (A) Stomach and intestine
 - (B) Pulmonary vein and left auricle
 - (C) Right auricle and right ventricle
 - (D) Left auricle and left ventricle

- **28.** The coronary sinus in the heart is situated along its
 - (A) Left margin
 - (B) Right margin
 - (C) Diaphragmatic surface
 - (D) Lower boarder of the heart
- **29.** Tunica media of an elastic artery is made up of mainly
 - (A) Smooth muscle fibre
 - (B) Loose alveolar tissue
 - (C) Elastic fibres
 - (D) Collagen fibres
- **30.** Putting adrenaline on the heart will cause the heart beat to
 - (A) Retard
 - (B) Accelerate
 - (C) Produce louder sound
 - (D) Stop
- **31.** The pre-caval veins collect blood from
 - (A) Trunk and hind limbs
 - (B) Fore limbs and hind limbs
 - (C) Head and fore limbs
 - (D) Head and hind limbs
- **32.** The two branches of the iliac artery are
 - (A) Femoral and renal
 - (B) Femoral and sciatic
 - (C) Vesiculo-epigastric and femoral
 - (D) Renal and sciatic
- **33.** The unpaired systemic branch is
 - (A) Coeliaco-mesentric
 - (B) Renal artery
 - (C) Iliac
 - (D) Vesiculo-epigastric
- **34.** The shoulder and fore limb are connected to the heart by
 - (A) Dorsal aorta
 - (B) Subclavian artery
 - (C) Oesophageal
 - (D) Occipito-vertebral

35. Inter-auricular septum in the embryonic stages has a/an (A) Foramen ovale (B) Fenestra ovalis (C) Fenestra rotunda (D) Inter-auricular aperture **36.** Bundle of His is a network of (A) Nerve fibres found throughout the heart (B) Muscle fibres distributed throughout the heart walls (C) Muscle fibres found only in the ventricle wall (D) Nerve fibres distributed in ventricles **37.** Which is correct about veins (A) Valves are absent (B) Carry blood towards heart (C) Always carry oxygenated blood (D) Always carry deoxygenated blood 38. How many lateral hearts are in *Pheretima* (A) 4 **(B)** 8 (D) 12 (C) 16 **39.** What is correct about sinus venosus (A) It is situated on dorsal surface of rabbit heart (B) It is situated ventrally in frog heart (C) It sends blood to dorsal aorta (D) It opens into right auricle **40.** In amphibia, the heart has (A) Two auricles and two ventricle (B) Two auricles and one ventricle (C) One auricle and two ventricles (D) One auricle and one ventricle **41.** The circulation of blood was discovered by (A) Jagdish Chandra Bose (B) Karl Landstiner (C) Watson and Crick (D) William Harvey

42. Which of the following is the correct statement about the circulatory system of cockroach (A) It is closed type of circulatory system (B) It is a complicated type of circulatory system (C) It takes place without the participation of tissue (D) It has 13 chambered heart and in each segment one pair of ostia are present **43.** Open vascular system is found in (A) Man (B) Fish (C) Prawn (D) Snake 44. Select the animals having open type of circulatory system (i) Ascidia (ii) Cockroach (iii) Earthworm (iv) Prawn (v) Silver fish (vi) Snail (vii) Squid (A) (ii), (iv), (vi) (B) (i), (ii), (iv), (vi) (C) (iii), (iv), (v), (vii) (D) (ii), (iv), (v), (vi) 45. Mammals are said to have a "double circulatory system". This means (A) That the blood vessels are paired (B) That there are two types of blood vessels attached to every organ; an artery and a vein (C) That there are two system; one from the heart to the lungs and back to the heart and other to and from rest of the body (D) That the blood circulates twice as quickly **46.** The heart of a crocodile consists of (A) A single auricle and two ventricles (B) Two auricles and a single ventricle (C) Two auricles and two ventricles (D) A single auricle and a single ventricle 47. In man artificial pacemaker is implanted due to defects in (A) SA node (B) AV node

(D) Purkinje fibres

(C) Mitral valve

- **48.** Which one of the following is a matching pair (A) Lubb - sharp closure of AV valves at the beginning of ventricular systole (B) Dupp - 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 **49.** In the evolution of animals a heart to pump the blood is found for the first time in (A) Annelids (B) Roundworms (C) Arthropods (D) Flat worms 50. Purkinje's fibres of the vertebrate heart are modified (A) Parasympathetic nerves (B) Sympathetic nerves
 - (C) Motor nerves
 - (D) Muscle cells

BLOOD VESSEL

- 51. Blood vessels carrying blood from lungs to heart
 - (A) Pulmonary artery (B) Pulmonary vein
 - (D) Coronary artery (C) Azygous vein
- 52. The artery which supplies blood to the diaphgram is known as

or

The diaphragm is supplied with blood by

- (A) Cardiac artery (B) Phrenic artery
- (C) Lingual artery (D) Lumber artery
- 53. Iliac artery carries blood to the
 - (A) Lungs (B) Ileum
 - (C) Hind limbs (D) Brain

54. Which of the following has no muscular wall

- (A) Artery (B) Vein
- (D) Capillary (C) Arteriole

63. Which of the following is a repolarization 55. Thrombosis in which coronary artery is met most frequently in wave (A) Right coronary artery (A) P (B) T (B) Left anterior descending artery (C) QRS (D) None of these (C) Left circumflex coronary artery 64. Normal diastolic pressure in young man is (D) Right circumflex coronary artery about 56. Smallest lumen blood vessel in the body is (A) 20 mm Hg (B) 80 mm Hg (A) Capillary (B) Artery (C) 100 mm Hg (D) 130 mm Hg (C) Vein (D) Venacava 65. How much atrial pressure rises during atrial **57.** The blood pressure is high in contraction (mm Hg) (A) Arteries (A) 2-4 (B) Veins (B) 4-6(C) Capillaries (C) 6-8 (D) Veins of portal system (D) Does not rise at all 58. Which of the following vein has least amount 66. We feel sleepy just after taking meals because of urea (A) Blood pressure increases (A) Pulmonary vein (B) Blood pressure decreases (B) Hepatic portal vein (C) Body weight increases (C) Hepatic vein (D) We feel lithargic (D) Renal vein 67. During diastole **59.** In the inguinal canal lies (A) Blood enters lungs (A) Posterior mesentric artery (B) Blood leaves the ventricle (B) Spermatic artery (C) Blood leaves the heart (C) Internal carotid artery (D) Blood enters the heart (D) Dorsal aorta 68. Deficiency of which of the following causes 60. In allergy and urticaria the local arterioles Na^+ , high K^+ and obesity, low plasma dilate due to increased substance from mast increased blood pressure cells, called (A) Growth hormone (B) Adrenaline (A) Adrenaline (B) Antitoxin (C) Cortisol (D) Thyroxine (D) Histamine (C) Epinephrine 69. Blood pressure increases and heart rate decreases in response to **BLOOD PRESSURE, ECG** (A) Exercise 61. In a normal adult man, the blood pressure is (B) Haemorrage (A) 100/80 Hg (B) 120/80 Hg (C) Exposure to high altitude (C) 100/120 Hg (D) 100/100 Hg (D) Increased intracranial pressure 70. The carotid labyrinth of frog is concerned with 62. Fall in blood pressure due to loss of blood is the control of soon restored because the

(A) Temperature

(B) Blood sugar

(C) Blood pressure

(D) Blood composition

- (A) Blood vessels dilate
- (B) Blood cells decrease in number
- (C) Heart beat is increased
- (D) Heart beat is decreased

90

	PI OOI	0				
71	71 The huffer salts present in the blood are					
/ 1.	(A) Potassium					
	(B) Sodium					
	(C) Sodium and potassium					
	(D) Cobalt					
72.	The ratio of RBC to WB	C in man is				
	(A) 6 : 1 (B) 60 : 1					
	(C) 600 : 1	(D) 6000 : 1				
73.	<i>pH</i> of human blood varie	es between				
	(A) 6.0 to 7.0	(B) 7.0 to 8.0				
	(C) 7.3 to 7.45	(D) 7.5 to 8.0				
74.	William Harvey is known for the discovery of					
	(A) Blood transfusion					
	(B) Blood clotting					
	(C) Blood circulation					
	(D) Blood purification					
75.	The sample of a healthy	human blood is				
	(A) Alkaline	(B) Acidic				
	(C) Neutral	(D) None of these				
76.	The protein which pre-	events coagulation of				
	blood in the blood vessel is					
	(A) Platelets (B) Globular pa					
	(C) Albumin	(D) Heparin				
77.	The medium of plasma i	S				
	A) Acidic	(B) Basic				
	(C) Neutral	(D) None of these				
78.	The pH of the blood is	maintained balancing				
	the ratio of					
	(A) Lactic acid and pyru	vic acid				
	(B) NaHCO ₃ and H_2CO_3	3				
	(C) CO_2 and H_2O					
	(D) Pyruvic acid and H_2	CO ₃				
79.	The break down product	of haemoglobin is				
	(A) Iron	(B) Bilirubin				
	(C) Biliverdin (D) All the above					

	80.	Normal haemoglobin contents of a healthy			
		man per 100 ml of blood is about			
		(A) 11.5 to 12.5 gms			
		(B) 12.0 to 14.0 gms			
		(C) 12.5 to 14.5 gms			
		(D) 14.0 to 16.0 gms			
	81.	A vellow substance oozing out from wound			
		has			
		(A) $Lymph + RBC + WBC$			
		(B) Lymph + RBC + dead bacteria			
		(C) Lymph + WBC + dead bacteria			
		(D) Lymph + dead leucocytes			
	82.	Squeezing of leucocytes out from the			
		endothelium of capillaries to fight foreign			
		agents is known as			
		(A) Haemolysis (B) Diapaedesis			
		(C) Phagocytosis (D) Rouleaux			
	83.	If glucose is to be injected in human blood,			
		the property to be matched with glucose is			
		(A) Density (B) Viscosity			
_	01	(C) Osmotic potential (D) Sugar group			
f	04.	A chemical that prevents blood clotting is			
		(Λ) Leukemia			
		(A) Leukenna (B) Anemia			
		(C) Coronary thrombosis			
		(D) Haemophilia			
	85.	Which one of the following substances in the			
		blood in man imparts the oxygen carrying			
5		capacity to it			
		(A) Haemocyanin			
		(B) Haemoglobin			
		(C) Haemerythrin or haemoerythrin			
		(D) Sodium ions			
	86.	To prevent coagulation blood stored in blood			
		bank contains a small amount of			
		(A) Calcium sulphate			
		(B) Prothrombin			
		(C) Potassium or sodium citrate			
		(D) None of these			

			-			
87.	In haemoglobin iron is a	attached with globin	9			
	protein by					
	(A) Hydrogen bond	(B) Ionic bond				
	(C) Covalent bond	(D) Coordinate bond	9			
88.	The viscosity of blood is important in maintaining					
	(A) Acid–base balance					
	(B) Diastolic blood pressure					
	(C) Systolic blood pressure					
	(D) Osmotic pressure					
89.	How much of the tota	l blood volume is				
	present in heart					
	(A) 2.5%	(B) 17%	1			
	(C) 9%	(D) 15%				
90.	For the diffusion to take	place effectively in				
	capillaries the blood stays	there for how long				
	(A) $1-3$ second	(B) $5-9$ second	-			
	(C) 9 = 13 second	(D) > 20 second	J			
01	The velocity of blood flow	(D) > 20 second				
91.	(A) Canillarias	W IS minimum in (\mathbf{D}) A starialas				
	(A) Capillaries ((B) Arterioles				
02	(C) Small arteries ((D) Aorta				
92.	The rise of blood sugar at	ove the normal level	1			
	is known as	(\mathbf{D}) Classeland				
	(A) Glucosuria	(B) Glycolysis				
03	(C) Hyperglycemia	(D) Hypoglycemia	1			
93.	Persons living at high altitude will have					
	(A) increased aiveoral capacity (D) Increased number of anythrecepter					
	(B) Increased number of erythrocytes					
	(C) Haemoglobin curve shifts towards right					
	(D) All of the above	1				
94.	In mammalian RBC,	the precentage of	1			
	haemoglobin is					
	(A) 40% of biomass					
	(B) 34% of biomass					
	(C) 90% of biomass					
~ -	(D) 50% of biomass					
95.	What percent of total b	lood coming out of				
	heart, goes to kidney		1			
	(A) 25%	(B) 50%				
	(C) 75%	(D) 40%				
	LYMPHATIC S	YSTEM				
96.	An antibody is a					
	(A) Molecule that specif	ically inactivates an				
	antigen					
	(B) WBC which invades bacteria					
	(C) Secretion of mammalian RBC					

(D) Component of blood

	Body F	luids & Circulation			
97.	The antibodies are formed in				
	(A) Bone marrow (B) Spleen			
	(C) Calcium (D) Liver			
98.	Function of human spleen	is to			
	(A) Control the pulse rate				
	(B) Secrete hormone				
	(C) Stimulate heart				
	(D) Control blood volume				
99.	T- Lymphocytes originate	from			
	(A) Thymus (B) Bone marrow			
	(C) Liver (D) None of these			
100	Lymph glands and nodes h	nelp to			
	(A) Excrete the urea				
	(B) Eliminate the ammonia	a			
	(C) Prepare blood				
	(D) Destroy the bacteria				
101	An 'antigen' is				
	(A) That which acts with p	olasma			
	(B) That which opposes th	e action of antibody			
	(C) The stimulus for antibe	oay production			
02	(D) The antibody only The antibodies are produce	ad by the			
102	(A) PBC	B) Bone marrow			
	$(A) KDC \qquad (C) Spleen \qquad (C) Sp$	D) Lymphoid tissue			
103	The lymphatic fluid one	ens into the blood			
105	circulation <i>via</i> duct into the	e			
	(A) Artery supplying the s	nleen			
	(B) Vein coming from live	er			
	(C) Jugular vein				
	(D) Venacava near the hea	rt			
04	I. The principle function of	the lymph node in			
	the man is				
	(A) Destruction of old RB	С			
	(B) Destruction of old WB	SC			
	(C) Collection and destru	action of pathogens			
	blood				
	(D) Production of WBC				
105	Antibodies defend the boc	ly from the invading			
	antigen by				
	(A) Combining with it	to abolish its free			
	a demoging menner	ing it nom acting in			
	(B) Eliminating the toying	released by it			
	(C) Phagocytosis	Tereased by It			
	(C) I hagocylosis (D) Transporting it to th	ne liver where it is			
	destroyed	ie nivel where it is			
	acoucyea				

106. Antigen – A a	and	antibody -	-b	are	present	iı
which blood g	grou	р				
(A) B		(B)) A			

(C) AB (D) O

107. The lymph serves to

(A) Transport o_2 to the brain

- (B) Transport CO_2 to the lungs
- (C) Return the interstitial fluid to the blood

(D) Return the WBCs and the RBCs to the lymph nodes

108.Antigens are present

- (A) Inside nucleus
- (B) On cell surface
- (C) Inside cytoplasm
- (D) On nuclear membrane
- **109.**Lymph is colourless because
 - (A) WBC are absent
 - (B) WBC are present
 - (C) Haemoglobin is absent
 - (D) RBC are absent
- **110.**Lymph (nodes) glands form
 - (A) Hormones (B) Lymphs (C) Antigens
 - (D) Antibodies

PORTAL SYSTEM

111. A portal system is a system in which

(A) A vein starts from an organ and ends up in heart

(B) An artery breaks up in an organ and restarts by the union of its capillaries

(C) The blood from the gut is brought into the kidney before it is poured into posterior venacava

(D) A vein breaks up in an organ into capillaries and restarts by their union as a new vein in the same organ

- **112.**Which substance is more in blood flowing vein than blood flowing through hepatic through portal vein
 - (A) Water
 - (B) Urea
 - (C) Fatty acid
 - (D) Amino acid + oxygen

- 113.Hepatic portal system starts from
 - (A) Digestive system to liver
 - (B) Kidney to liver
 - (C) Liver to heart
 - (D) Liver to kidney
- 114.Digested food materials entering the blood reach the heart by
 - (A) Hepatic portal vein, hepatic vein and post caval
 - (B) Hepatic vein and post caval
 - (C) Hepatic portal vein and post caval
 - (D) Hepatic portal vein and hepatic vein
- 115.Blood circulation that starts in capillaries and ends in capillaries is called
 - (A) Portal circulation
 - (B) Hepatic circulation
 - (C) Cardiac circulation
 - (D) None
- 116. When a vein instead of carrying the blood directly into the heart, first carries it to some intermediate organ like liver, is known as (B) Renal portal vein (A) Pulmonary artery
 - (C) Hepatic portal vein (D) Pulmonary vein
- 117. Which of the following carries glucose from digestive tract to liver
 - (A) Hepatic artery
 - (B) Hepatic portal vein
 - (C) Pulmonary vein
 - (D) None of these
- **118.** The renal portal system is made of
 - (A) Femoral, renal portal veins
 - (B) Sciatic, renal portal veins
 - (C) Renal portal veins
 - (D) Femoral, sciatic, renal portal veins
- 119. The hepatic portal vein before reaching the liver, joins the
 - (A) Dorso-lumbar
 - (B) Gonadial veins
 - (C) Anterior abdominal vein
 - (D) Femoro-renal
- **120.**Which of the following vessel in rabbit starts with capillaries and ends in capillaries
 - (A) Pulmonary artery (B) Renal vein
 - (C) Hepatic portal vein (D) Renal artery