Yakeen NEET 2.0 2026

Body Fluids and Circuation

Tapasya Practice Sheet

1. Cardiac activities of the heart are regulated by:

A. Nodal tissue
B. A special neural centre in the medulla oblongata
C. Adrenal medullary hormones
D. Adrenal cortical hormones

Choose the correct answer from the options given below: **(2025)**

(1) A, B and C Only.
(2) A, B, C and D
(3) A, C and D Only
(4) A, B and D Only

2. Match List I with List II: **(2024)**

	List-I		List-II
A.	P wave	I.	Heart muscles are electrically silent.
B.	QRS complex	II.	Depolarisation of ventricles.
C.	T wave	III.	Depolarisation of atria.
D.	T-P gap	IV.	Repolarisation of ventricles.

Choose the correct answer form the options giver below:

(1) A-II, B-III, C-I, D-IV
(2) A-IV, B-II, C-I, D-III
(3) A-I, B-III, C-IV, D-II
(4) A-III, B-II, C-IV, D-I

3. Following are the stages of pathway for conduction of an action potential through the heart: **(2024)**

A. AV bundle
B. Purkinje fibres
C. AV node
D. Bundle branches
E. SA node

Choose the correct sequence of pathway from the options given below:

(1) B-D-E-C-A
(2) E-A-D-B-C
(3) E-C-A-D-B
(4) A-E-C-B-D

4. Which of the following statements are correct?

A. Basophils are most abundant cells of the total WBCs
B. Basophils secrete histamine, serotonin and heparin
C. Basophils are involved in inflammatory response
D. Basophils have kidney shaped nucleus
E. Basophils are agranulocytes

Choose the correct answer from the options given below: **(2023)**

(1) B and C only
(2) A and B only
(3) D and E only
(4) C and E only

5. Arrange the following formed elements in the decreasing order of their abundance in blood in humans: **(2023)**

(a) Platelets (b) Neutrophils
(c) Erythrocytes (d) Eosinophils
(e) Monocytes

Choose the most appropriate answer from the options given below :

(1) (a), (c), (b), (d), (e)
(2) (c), (a), (b), (e), (d)
(3) (c), (b), (a), (e), (d)
(4) (d), (e), (b), (a), (c)

6. Which one of the following statements is correct? **(2022)**

(1) Increased ventricular pressure causes closing of the semilunar values
(2) The atrio-ventricular node (AVN) generates an action potential to stimulate atrial contraction
(3) The tricuspid and the bicuspid valves open due to the pressure exerted by the simultaneous contraction of the atria
(4) Blood moves freely from atrium to the ventricle during joint diastole.

7. Given below are two statements: **(2022)**

Statement I: The coagulum is formed of network of threads called thrombins.

Statement II: Spleen is the graveyard of erythrocytes.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement I is incorrect but Statement II is correct

(2) Both Statement I and Statement II are correct

(3) Statement I is correct but Statement II are incorrect

(4) Statement I is correct but Statement II is incorrect

8. Persons with 'AB' blood group are called as "Universal recipients". This is due to: **(2021)**

(1) Absence of antigens A and B on the surface of RBCs

(2) Absence of antigens A and B in plasma

(3) Presence of antibodies, anti-A and anti-B, on RBCs

(4) Absence of antibodies, anti-A and anti-B, in plasma

9. Which enzyme is responsible for the conversion of inactive fibrinogens to fibrins? **(2021)**

(1) Thrombin

(2) Renin

(3) Epinephrine

(4) Thrombokinase

10. The QRS complex in a standard ECG represents: **(2020)**

(1) Repolarisation of ventricles

(2) Repolarisation of auricles

(3) Depolarisation of auricles

(4) Depolarisation of ventricles

11. Which of the following conditions cause erythroblastosis foetalis? **(2020)**

(1) Mother Rh^{+ve} and foetus Rh^{-ve}

(2) Mother Rh^{-ve} and foetus Rh^{+ve}

(3) Both mother and foetus Rh^{-ve}

(4) Both mother and foetus Rh^{+ve}

12. Match the following columns and select the correct option. **(2019)**

	Column 1		**Column 2**
A)	Eosinophils	1)	immune response
B)	Basophils	2)	Phagocytosis
C)	Neutrphils	3)	Release histaminase, destructive enzymes
D)	lymphocytes	4)	Release granules containing histamine

	A	B	C	D
(1)	3)	4)	2)	1)
(2)	4)	1)	2)	3)
(3)	1)	2)	4)	3)
(4)	2)	1)	3)	1)

13. What would be the heart rate of a person if the cardiac output is 5L, blood volume in the end of ventricular diastole is 100 ml and at the end of ventricular systole is 50 ml ? **(2019)**

(1) 50 beats/min (2) 75 beats/min

(3) 100 beats/min (4) 125 beats/min

14. Blood clotting in a test tube can be prevented by adding a tittle of:

(1) Sodium oxalate

(2) Sodium chloride.

(3) Sodium hydroxide.

(4) Ammonium chloride.

15. Decrease in the rate of heart beat, speed of conduction of action potential and thereby the cardiac output is under the control of

(1) Neural signals through the sympathetic nerves

(2) Neural signals through the parasympathetic nerves

(3) Adrenaline

(4) ANS

16. Which of the following do not show diapedesis?

(1) Macrophages (2) Neutrophils

(3) Monocytes (4) Erythrocytes

17. Continuous bleeding from an injured part of body is due to deficiency of :-

(1) Vitamin-A (2) Vitamin-B

(3) Vitamin-K (4) Vitamin-E

18. A sample of blood shows clumping with antiserum A but not with antiserum B. The blood group would be:
(1) O (2) A
(3) B (4) AB

19. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:
Assertion (A): Heart failure is not associated with high blood pressure.
Reason (R): Hypertension increases afterload, making the left ventricle work harder to pump blood, causing myocardial thickening and higher oxygen demand, which, if unmet, can lead to ischemia and impaired ventricular function.
In the light of the above statements, choose the correct answer from the options given below:
(1) A is true but R is false.
(2) A is false but R is true.
(3) Both A and R are true and R is the correct explanation of A.
(4) Both A and R are true but R is NOT the correct explanation of A.

20. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:
Assertion A: Hypoxia and ischaemia are physiologically identical conditions.
Reason R: Both involve a deficiency of oxygen at the tissue level.
(1) A is true but R is false.
(2) A is false but R is true
(3) Both A and R are true and R is the correct explanation of A.
(4) Both A and R are true but R is NOT the correct explanation of A.

21. A healthy individual's cardiac output at rest is approximately 5 litres/minute. If, during strenuous exercise, their stroke volume increases by 20% and their heart rate elevates to 100 beats/minute, what would be the new cardiac output, and which neural mechanism is primarily responsible for such an increase?
(1) 6.72 litres/minute; Parasympathetic stimulation.
(2) 7.00 litres/minute; Adrenal medullary hormones.
(3) 8.40 litres/minute; Sympathetic neural signals.
(4) 8.40 litres/minute; Vagal stimulation.

22. A patient experiences a condition characterized by deposits of calcium, fat, cholesterol, and fibrous tissues narrowing the lumen of arteries supplying blood to the heart muscle. Based on this description, which of the following is the most accurate diagnosis and its direct cause mentioned in the text?
(1) Heart Failure; Inability of the heart to pump blood effectively.
(2) Coronary Artery Disease (CAD); Accumulation of plaques leading to arterial narrowing.
(3) Angina Pectoris; Myocardial infarction due to sudden blood supply loss.
(4) Hypertension; Elevated blood pressure above 140/90 mmHg.

23. Consider the pressure changes within the human heart during a complete cardiac cycle. At what specific point in time would the pressure inside the left ventricle first exceed the pressure in the left atrium, and what is the immediate anatomical consequence of this pressure differential?
(1) Immediately after the P-wave; Opening of the aortic semilunar valve.
(2) During the T-wave; Closure of the tricuspid valve.
(3) At the very onset of ventricular systole; Closure of the bicuspid valve.
(4) Just after the QRS complex, Relaxation of the left atrium.

24. The figure given below shows three stages in the cardiac cycle.

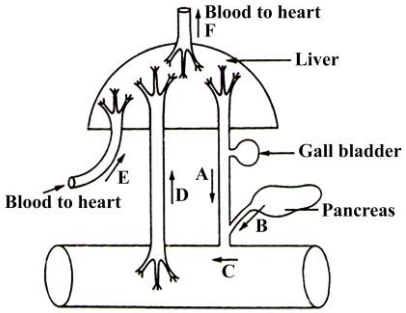
Which of the following sequences is correct regarding this?
(1) 2, 3, 1 (2) 1, 2, 3
(3) 2, 1, 3 (4) 3, 1, 2

25. A patient undergoing extensive liver damage is likely to exhibit a compromised ability to maintain appropriate blood osmotic pressure. Which primary plasma protein, crucial for this function, would be most directly affected by severe hepatic dysfunction?
(1) Fibrinogen (2) Globulin
(3) Albumin (4) Prothrombin

26. What is the time duration between dub and lub?
(1) 0.3 sec (2) 0.5 sec
(3) 0.7 sec (4) 0.1 sec

27. Choose the correct option for the given statements
A. Atrial contraction starts shortly after Q wave and mark beginning of the systole
B. T wave represents return of the ventricle from excited to normal state
C. End of T wave mark end of systole
(1) A, B (2) B, C
(3) A, C (4) A, B, C

28. The given diagram shows how things get to and from the liver. They are labelled as a, b, c, d, e, f which one of the following labelling is the correct one?



(1) A is the hepatic portal vein and E is the hepatic vein
(2) C is the intestine and F is the hepatic portal vein
(3) D is the hepatic portal vein and F is the hepatic vein
(4) B is the pancreatic artery and E is the hepatic artery

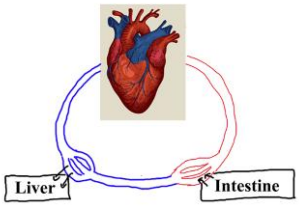
29. Among the leucocytes, which type is characterized by being the most abundant and plays a crucial initial role in destroying foreign organisms through phagocytosis?
(1) Basophils
(2) Eosinophils
(3) Lymphocytes
(4) Neutrophils

30. Which of the following statements most accurately highlights the compositional difference between plasma and serum as defined in the context of blood coagulation?
(1) Plasma contains formed elements, whereas serum does not.
(2) Serum contains active clotting factors, whereas plasma contains them in inactive form.
(3) Plasma contains fibrinogen, which is conspicuously absent in serum.
(4) Serum has a significantly lower mineral content compared to plasma.

31. Which of the following statements is incorrect?
(1) AV node generates impulses still it is not called as the pacemaker of heart.
(2) Purkinje fibres along with the right and left bundles are known as bundle of His.
(3) The number of action potentials that could be generated in a minute vary at different parts of the nodal system
(4) Left ventricle pumps blood at a much higher pressure to all body parts involved in systemic circulation.

32. **Statement I:** Atherosclerosis affects the vessels that supply blood to the heart muscle.
Statement II: In open circulatory system blood is pumped by heart passes through capillaries into open spaces or body cavities called sinuses.
(1) Statement I and Statement II both are correct.
(2) Statement I is correct but Statement II is incorrect.
(3) Statement I is incorrect but Statement II is correct.
(4) Statement I and Statement II both are incorrect.

33. Identify the given portal system and choose the most appropriate statement about it:



(1) Hepatic portal system – It consists of two sets of capillaries: one in the intestine (absorptive) and one in the liver (distributive).
(2) Renal portal system – It carries deoxygenated blood from the digestive organs to the liver.
(3) Hypophyseal portal system – It carries blood from the heart to the kidneys for filtration.
(4) Hepatic portal system – It delivers oxygenated blood to the liver from systemic circulation.

34. An individual's blood type is confirmed as B Rh-negative (B–). In an emergency transfusion where only a single unit of blood is available, which of the following donor blood types could they safely receive in their first-ever transfusion to minimize immediate immunological reactions?
(1) AB Rh-positive (AB^+)
(2) B Rh-negative (B^-)
(3) O Rh-positive (O^+)
(4) A Rh-negative (A^-)

35. During the process of blood coagulation following an injury, what is the direct role of fibrinogen, and which specific ionic factor is indispensable for its conversion into the active clot component?
(1) Converts to thrombin; requires Na^+ ions.
(2) Forms a thread-like network (fibrins); requires Ca^{++} ions.
(3) Activates thrombokinase; requires Mg^{++} ions.
(4) Initiates platelet aggregation; requires Cl^- ions.

36. A fluid sample obtained directly from the intercellular spaces of a tissue, which is then collected by the lymphatic system, would, when compared to blood plasma, conspicuously lack:
(1) Glucose and amino acids.
(2) Na^+ and Cl^- ions.
(3) Large proteins and some formed elements.
(4) Dissolved oxygen and carbon dioxide.

37. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:
Assertion A: Veins have a thinner tunica media compared to arteries.
Reason R: Blood in veins flows under lower pressure than in arteries.
In the light of the above statements, choose the correct answer from the options given below:
(1) Both A and R are true and R is the correct explanation of A.
(2) Both A and R are true but R is NOT the correct explanation of A .
(3) A is true but R is false.
(4) A is false but R is true.

38. Systolic pressure of heart is higher than diastolic pressure because
(1) arteries contract during systole only
(2) arteries offer resistance to the flowing of blood
(3) volume of blood in heart is greater during systole
(4) blood is forcefully pumped into arteries by the heart during systole

39. Collagen fibres are a characteristic component explicitly found as part of the structure of which particular layer of an artery or vein?
(1) Tunica intima
(2) Tunica media
(3) Tunica externa
(4) Squamous endothelium

40. The pulse pressure is a measure of the
(1) number of heartbeats per minute
(2) sum of the diastolic & systolic pressure
(3) difference between the arterial and venous pressure
(4) difference between the systolic and diastolic pressure

41. During which phase of the cardiac cycle is the pressure within the mammalian aorta at its peak, directly reflecting the forceful ejection of blood from the heart?
(1) Diastole of the right atrium
(2) Systole of the left atrium
(3) Diastole of the right ventricle
(4) Systole of the left ventricle

42. In the evolution of circulatory systems, the transition from an open to a closed system is considered more advantageous primarily due to:
(1) Elimination of the need for a muscular heart.
(2) Enhanced volume of circulating blood.
(3) Greater precision in regulating fluid flow to specific tissues.
(4) Complete separation of oxygenated and deoxygenated blood.

43. Choose the correct option for the given statements consider 'T' for true statements and 'F' for false statements.

A. Neutrophils are the most abundant cells among the WBCs and basophils are the least

B. Neutrophils and monocytes destroy foreign organisms entering the body by phagocytosis

C. Eosinophils resist infections

D. Basophils secrete histamine and serotonin but not heparin

	A	B	C	D
(1)	T	T	F	F
(2)	F	T	T	F
(3)	T	T	T	F
(4)	F	T	F	T

44. How many of the following statements is/are incorrect?

A. Blood is the most commonly used body fluid by most of the higher organisms including humans.

B. Plasma also contains small amount of minerals like Na^{+}, Ca^{+2}, Mg^{+2}, HCO_3^{-}, Cl^{-} etc.

C. Albumins help in osmotic balance.

D. Globulins primarily are involved in defense mechanism of the body.

E. Factors for coagulation or clotting of blood are also present in the plasma in an active form.

F. Plasma without the clotting factors is called lymph.

(1) 0 (2) 1

(3) 2 (4) 3

45. Consider the following animals.

A. Fishes B. Frog

C. Salamander D. Lizard

E. Crocodile

How many of the above animals show 3 chambered heart?

(1) Only two (2) Only three

(3) Only Four (4) All five

46. A closed circulatory system is present in;

A. Arthropoda B. Annelida

C. Chordata D. Mollusca

E. Hemichordata

(1) B and C only (2) A, B and C

(3) B, D and E (4) B, C and E

47. **Statement I:** The interventricular septum, a thick muscular wall, separates the two upper receiving chambers of the heart.

Statement II: The valve that regulates blood flow from the left atrium into the left ventricle is known as the tricuspid valve, which opens during ventricular diastole to allow filling.

Statement III: The pulmonary arteries are unique among arteries as they transport oxygenated blood directly from the lungs to the left atrium.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Both Statement II & III are correct but Statement I is incorrect.

(2) Only Statement III is correct.

(3) Both Statement I & Statement II are correct.

(4) All statements are incorrect.

48. In a histological section of a blood vessel, the following observations were made:

A. Presence of a prominent tunica media with dense smooth muscle layers

B. Internal surface lined by squamous epithelium

C. Thick walls with small lumen

Identify the type of vessel and justify the inference.

(1) Vein; thin tunica media with valves

(2) Artery; thick tunica media for high-pressure conduction

(3) Capillary; lacks tunica media

(4) Venule; indistinct muscle layer with large lumen

49. Identify the correct statement(s) regarding angina:

A. It occurs due to sudden death of cardiac cells.

B. Angina can occur in men and women of any age.

C. It reflects a temporary oxygen shortage to the heart.

D. It is a chronic myocardial inflammation.

E. Congestion of lungs is the main symptom.

(1) A and B

(2) B and C

(3) C and D

(4) D and E

50. Match List – I and List – II

	List-I		List-II
(A)	Hypertension	(I)	Sudden damage of heart muscle
(B)	Heart attack	(II)	Persistently elevated blood pressure
(c)	Heart failure	(III)	Sudden cessation of heart beat
(D)	Cardiac arrest	(IV)	Inability to pump blood effectively

Choose the correct answer from the options given below:

(1) A-II, B-I, C-III, D-IV
(2) A-II, B-IV, C-I, D-III
(3) A-I, B-II, C-IV, D-III
(4) A-II, B-I, C-IV, D-III

51. If a congenital defect prevents the proper coaptation (closure) of the valve guarding the opening between the right atrium and its corresponding ventricle, which of the following immediate physiological consequences would most directly arise?

(1) Regurgitation of oxygenated blood into the left atrium.
(2) Impaired ejection of blood into the pulmonary artery from the LEFT ventricle.
(3) Backward flow of deoxygenated blood from the right ventricle into the right atrium.
(4) Enhanced filling of the left ventricle due to increased atrial pressure.

52. A routine medical check-up reveals an individual's blood pressure consistently measuring 150/95 mmHg. According to the provided information, this reading is definitively indicative of:

(1) Normal blood pressure
(2) Hypotension
(3) Hypertension
(4) Optimal systolic pressure

53. Sustained hypertension, if left untreated, is explicitly mentioned to have detrimental effects on which of the following pairs of vital organs?

(1) Liver and Pancreas
(2) Lungs and Spleen
(3) Brain and Kidney
(4) Stomach and Intestines

54. A critical distinction of 'Heart Failure' from a 'Heart Attack' or 'Cardiac Arrest', as defined, is that heart failure specifically describes a state where:

(1) The heart muscle is suddenly damaged by an inadequate blood supply.
(2) The heart completely stops beating.
(3) The heart is unable to pump blood effectively enough to meet the body's metabolic demands.
(4) There is acute chest pain due to oxygen deprivation.

55. 'Heart failure' is sometimes referred to as 'congestive heart failure' due to the direct presence of which prominent symptom?

(1) Swelling in the lower limbs.
(2) Congestion of the lungs.
(3) Severe abdominal pain.
(4) Persistent dry cough.

56. Study of Which specific layer of a blood vessel is characterized by its composition of smooth muscle and elastic fibres, and is explicitly stated to be comparatively thinner in veins than in arteries?

(1) Tunica intima
(2) Tunica media
(3) Tunica externa
(4) Endothelium

57. The innermost lining of both arteries and veins, consisting of squamous endothelium, is known specifically by which anatomical term?

(1) Tunica externa
(2) Smooth muscle layer
(3) Tunica intima
(4) Collagen layer

58. In the pulmonary circulation pathway, deoxygenated blood, after being pumped by the right ventricle, is first directed into which of the following blood vessels?

(1) Aorta
(2) Pulmonary vein
(3) Pulmonary artery
(4) Vena cava

59. The hepatic portal system is a unique vascular connection that directly transports blood from which primary organ to the liver, before its final delivery to the general systemic circulation?
(1) Liver to the kidneys
(2) Intestine to the liver
(3) Stomach directly to the heart
(4) Liver to the lungs

60. Which specific vein is solely responsible for carrying blood from the intestine directly to the liver as an integral part of the hepatic portal system?
(1) Hepatic artery
(2) Hepatic vein
(3) Hepatic portal vein
(4) Superior vena cava

61. A special coronary system of blood vessels is present in our body exclusively for the circulation of blood to and from which specific anatomical structure?
(1) The lungs for gas exchange.
(2) The brain for neurological function.
(3) The cardiac musculature.
(4) The digestive tract for nutrient absorption.

62. Which of the following statements is/are correct about Chordae tendineae?
I. These structures are present only in the ventricles.
II. They prevent the prolapse of atrioventricular valves during ventricular contraction.
III. Their one end is attached to the cusps of AV valves and other anchored to papillary muscles.
IV. They prevent the prolapse of atrioventricular valves during atrial contraction.
V. They are also known as trabeculae.
(1) Only I, II and III
(2) Only II, III and IV
(3) Only I, III and V
(4) Only I, II, III and V

63. **Statement I:** All ischemia can lead to hypoxia but all hypoxia cannot lead ischemia.
Statement II: The significantly elevated cardiac output in trained athletes compared to sedentary individual primarily results from conditions like larger stroke volume (due to increased ventricular filling and stronger contraction) and a lower resting heart rate optimizing circulatory efficiency
(1) Statement I and Statement II both are correct.
(2) Statement I is correct but Statement II is incorrect.
(3) Statement I is incorrect but Statement II is correct.
(4) Statement I and Statement II both are incorrect.

Answer Key

1.	(1)	22.	(2)	43.	(3)
2.	(4)	23.	(3)	44.	(3)
3.	(3)	24.	(3)	45.	(2)
4.	(1)	25.	(3)	46.	(1)
5.	(2)	26.	(2)	47.	(4)
6.	(4)	27.	(2)	48.	(2)
7.	(1)	28.	(3)	49.	(2)
8.	(4)	29.	(4)	50.	(4)
9.	(1)	30.	(3)	51.	(3)
10.	(4)	31.	(2)	52.	(3)
11.	(2)	32.	(2)	53.	(3)
12.	(1)	33.	(1)	54.	(3)
13.	(3)	34.	(2)	55.	(2)
14.	(1)	35.	(2)	56.	(2)
15.	(2)	36.	(3)	57.	(3)
16.	(4)	37.	(1)	58.	(3)
17.	(3)	38.	(4)	59.	(2)
18.	(2)	39.	(3)	60.	(3)
19.	(2)	40.	(4)	61.	(3)
20.	(2)	41.	(4)	62.	(1)
21.	(3)	42.	(3)	63.	(1)

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