

Body Fluids and Circulation — CBSE Pattern Test 2

Class 11 Biology · 90 minutes · 40 marks · Sections A–D with answer key · Narayan Gurukul Academy

Test 2 — CBSE Pattern (90 minutes, 40 marks)

Class 11 Biology · Body Fluids and Circulation · Narayan Gurukul Academy (ClassApna)

General Instructions: (1) This paper has four sections — Section A (1×10), Section B (2×4), Section C (3×4) and Section D (5×2) — total 40 marks. Time allowed: 90 minutes.
(2) All questions are compulsory. No overall choice is given; internal choice, where allowed, is clearly marked.
(3) For MCQ questions choose the single correct option; for VSA answers write a single line.
(4) Take $g = 10 \text{ m/s}^2$. All symbols carry their usual meaning. Use of a calculator is not permitted.

Section A — MCQ & VSA ($10 \times 1 = 10$ marks)

- The number of RBCs per cubic mm in a healthy adult is about
 - 5 million
 - 5000
 - 50000
 - 500 million
- Lymph is similar to plasma but has
 - less protein
 - more protein
 - no water
 - more RBCs
- A person with blood group AB has
 - both A and B antigens
 - no antigens
 - only A antigen
 - only B antigen
- The valve between the left atrium and left ventricle is the
 - bicuspid (mitral) valve
 - tricuspid valve
 - semilunar valve
 - pulmonary valve
- Double circulation means blood passes through the heart
 - twice per cycle
 - once per cycle
 - three times
 - never
- The QRS complex in an ECG represents
 - ventricular depolarisation
 - atrial depolarisation
 - ventricular repolarisation
 - heart block
- A condition caused by reduced blood supply to the heart muscle is
 - angina

- (B) anaemia
 - (C) leukaemia
 - (D) haemophilia
8. Haemophilia is a disorder of
- (A) blood clotting
 - (B) blood pressure
 - (C) heart rhythm
 - (D) oxygen transport
9. What is lymph?
10. What is the pacemaker of the heart?

Section B — Short Answer I (4 × 2 = 8 marks)

11. Name one substance transported by lymph.
12. What is the Rh antigen also called?
13. State the events of the cardiac cycle.
14. What does an ECG record?

Section C — Short Answer II (4 × 3 = 12 marks)

15. Name the three types of blood cells and give one function of each.
16. How does lymph differ from blood?
17. Why is blood group O called the universal donor?
18. Distinguish between pulmonary and systemic circulation.

Section D — Long Answers (2 × 5 = 10 marks)

19. (a) Describe the mechanism of blood coagulation. (b) Explain the cardiac cycle with reference to systole and diastole.
20. (a) Describe the waves of an ECG and their significance. (b) Describe the disorders of the circulatory system.

Answer Key (Marking Scheme)

- Q1 — (A) 5 million. Q2 — (A) less protein. Q3 — (A) both A and B antigens. Q4 — (A) bicuspid (mitral) valve. Q5 — (A) twice per cycle. Q6 — (A) ventricular depolarisation. Q7 — (A) angina. Q8 — (A) blood clotting.
- Q9 — Lymph is the tissue fluid that drains into lymph vessels.
- Q10 — The SA node.
- Q11 — Fats (or fat-soluble vitamins).
- Q12 — The D antigen.
- Q13 — Atrial systole, ventricular systole and joint diastole.
- Q14 — The electrical activity of the heart.
- Q15 — RBCs (oxygen transport), WBCs (defence) and platelets (clotting).
- Q16 — Lymph has no RBCs and less protein than blood.
- Q17 — Because its RBCs carry no A or B antigens, so it can be given to any ABO group.
- Q18 — Pulmonary: heart to lungs and back; systemic: heart to body and back.

Q19 — (a) Injury → platelets/factors → prothrombin to thrombin → fibrinogen to fibrin → clot. (b) Systole (contraction, blood pumped out) and diastole (relaxation, chambers fill).

Q20 — (a) P (atrial depolarisation), QRS (ventricular depolarisation), T (ventricular repolarisation). (b) Hypertension, angina, heart failure, thrombosis and haemophilia.