

Locomotion and Movement — CBSE Pattern Test 1

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

Test 1 — CBSE Pattern (90 minutes, 40 marks)

Class 11 Biology · Locomotion and Movement · 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)

1. A movement that results in change of place is called
 - (A) locomotion
 - (B) movement
 - (C) contraction
 - (D) relaxation
2. The human skeleton consists of
 - (A) 206 bones
 - (B) 306 bones
 - (C) 180 bones
 - (D) 150 bones
3. The axial skeleton consists of
 - (A) 80 bones
 - (B) 126 bones
 - (C) 206 bones
 - (D) 60 bones
4. The number of pairs of ribs in humans is
 - (A) 12
 - (B) 11
 - (C) 10
 - (D) 14
5. A freely movable joint is a
 - (A) synovial joint
 - (B) fibrous joint
 - (C) cartilaginous joint
 - (D) suture
6. The joint at the shoulder is an example of a
 - (A) ball-and-socket joint
 - (B) hinge joint
 - (C) pivot joint
 - (D) gliding joint
7. The functional unit of a muscle fibre is the
 - (A) sarcomere

- (B) myofibril
 - (C) neuron
 - (D) tendon
8. Muscle contraction occurs by the
- (A) sliding filament mechanism
 - (B) photolysis
 - (C) osmosis
 - (D) diffusion
9. Define locomotion.
10. What is a sarcomere?

Section B — Short Answer I ($4 \times 2 = 8$ marks)

11. Name one cell that shows amoeboid movement.
12. What type of tissue is bone?
13. How many pairs of ribs are there?
14. Which ion triggers muscle contraction?

Section C — Short Answer II ($4 \times 3 = 12$ marks)

15. Distinguish between movement and locomotion.
16. Distinguish between axial and appendicular skeleton.
17. Distinguish between true ribs and false ribs.
18. State the sliding filament mechanism.

Section D — Long Answers ($2 \times 5 = 10$ marks)

19. (a) Describe the human skeletal system and its functions. (b) Describe the axial and appendicular skeleton.
20. (a) Describe the classification of joints with examples. (b) Explain the sliding filament mechanism of muscle contraction.

Answer Key (Marking Scheme)

- Q1 — (A) locomotion. Q2 — (A) 206 bones. Q3 — (A) 80 bones. Q4 — (A) 12. Q5 — (A) synovial joint. Q6 — (A) ball-and-socket joint. Q7 — (A) sarcomere. Q8 — (A) sliding filament mechanism.
- Q9 — Locomotion is the movement of an organism from one place to another.
- Q10 — A sarcomere is the functional unit of a muscle fibre, between two successive Z lines.
- Q11 — Macrophages (also leucocytes).
- Q12 — A connective tissue.
- Q13 — 12 pairs.
- Q14 — Calcium ions.
- Q15 — Movement is a change in position of a body part; locomotion changes the place of the organism.
- Q16 — Axial: skull, vertebral column, ribs and sternum (80 bones); appendicular: limbs and girdles (126 bones).
- Q17 — True ribs (1–7) attach directly to the sternum; false ribs (8–10) attach indirectly (floating ribs 11–12 do not attach).
- Q18 — Actin filaments slide over myosin filaments, shortening the sarcomere, driven by ATP.

Q19 — (a) 206 bones; support, protection, movement, mineral storage. (b) Axial (80) and appendicular (126) skeletons.

Q20 — (a) Fibrous (immovable), cartilaginous (slightly movable), synovial (freely movable, e.g. shoulder/knee). (b)

Calcium releases binding sites, myosin heads bind actin and slide it, ATP detaches the heads; the A band stays constant.