

Locomotion and Movement

NEET previous year questions · Biology

8 questions from the official papers: NEET 2026 (3), Re-NEET 2026 (4), NEET 2020 (1). Each is followed by its answer and a worked solution written by BrainIt. Generated on 23 October 2026.



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1. NEET 2026 · Q161

Choose the correct statements regarding muscle contraction and choose the correct answer from the options given below.

Statement I: A motor neuron carries a signal sent by the Central Nervous System (CNS) to the sarcolemma of the muscle fibre.

Statement II: The neural signal generates an action potential which causes the release of Ca^{++} into sarcoplasm.

Statement III: Increase in Ca^{++} inactivates the actin for breaking cross bridges.

Statement IV: Actin binds to the myosin head to form a cross bridge.

Statement V: Shortening of sarcomere takes place, by pulling actin filaments towards the centre of 'A' band.

- | | |
|---------------------|--------------------------|
| (1) III and IV only | (2) I and II only |
| (3) III and V only | (4) I, II, IV and V only |

Answer (4)

Sol. Statements I, II, IV and V correctly describe excitation-contraction coupling in muscle. Statement III is wrong because a rise in Ca^{++} actually activates the actin by unmasking its binding sites (allowing cross-bridge formation) rather than inactivating actin. Hence the correct set is I, II, IV and V, which is option (4).

2. NEET 2026 · Q162

Which of the following statements are correct with reference to human endoskeleton? Choose the correct answer from the options given below.

Statement I: Human skull is monocondylic.

Statement II: The joint between any two adjoining vertebrae is a cartilaginous joint.

Statement III: In human beings, the number of cervical vertebrae is seven.

Statement IV: All ribs except the last 2 pairs are bicephalic.

Statement V: The occipital bone of skull is articulated with atlas vertebra.

- | | |
|------------------------|------------------------|
| (1) II and V only | (2) II, III and V only |
| (3) III, IV and V only | (4) I, II and IV only |

Answer (2)

Sol. The human skull is dicondylic (two occipital condyles), so I is wrong, and all human ribs are bicephalic (not just those except the last two pairs), so IV is wrong. Statements II (cartilaginous inter-vertebral joints), III (seven cervical vertebrae) and V (occipital bone articulating with the atlas) are correct, giving option (2).

3. NEET 2026 · Q177

Match List I with List II related to muscular/skeletal system:

List I	List II
P) Tetany	I) Inflammation of joints
Q) Arthritis	II) Autoimmune disorder affecting neuromuscular junction
R) Myasthenia gravis	III) Wild contraction in muscle due to low Ca^{++} in body fluid
S) Muscular dystrophy	IV) Progressive degeneration of skeletal muscle

Choose the correct answer from the options given below:

- (1) P-III, Q-I, R-II, S-IV (2) P-I, Q-II, R-III, S-IV
 (3) P-IV, Q-III, R-II, S-I (4) P-III, Q-II, R-I, S-IV

Answer (1)

Sol. Tetany is the rapid, wild muscle spasm caused by low Ca^{++} in body fluid (P-III).

Arthritis is inflammation of the joints (Q-I).

Myasthenia gravis is an autoimmune disorder affecting the neuromuscular junction (R-II).

Muscular dystrophy is progressive degeneration of skeletal muscle (S-IV).

Hence P-III, Q-I, R-II, S-IV.

4. Re-NEET 2026 · Q91

The number of vertebrae in a human is _____.

- (1) 7 (2) 12 (3) 26 (4) 206

Answer (3)

Sol. The adult vertebral column contains 26 vertebrae. The count starts from 33 in the embryo but falls as the five sacral vertebrae fuse into a single sacrum and the four coccygeal vertebrae fuse into one coccyx: 7 cervical + 12 thoracic + 5 lumbar + 1 sacrum + 1 coccyx = 26.

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5. Re-NEET 2026 · Q104

Which of the following represents the correct sequence of arrangement of bones in the lower limb of humans?

- (1) Femur-tibia-patella-tarsal
 (2) Patella-femur-tibia-tarsal
 (3) Femur-patella-tibia-tarsal
 (4) Femur-tarsal-patella-tibia

Answer (3)

Sol. Working downward from the hip: the femur is the thigh bone, the patella is the kneecap covering the knee joint, the tibia and fibula form the leg below the knee, and the tarsals make up the ankle. The sequence femur-patella-tibia-tarsal follows that anatomical order. NCERT Class 11, Locomotion and Movement.

6. Re-NEET 2026 · Q152

Muscle contraction is initiated by a signal sent by the central nervous system by the release of _____.

- (1) acetylcholine
 (2) acetyl coenzyme A
 (3) cyclic guanosine monophosphate
 (4) cyclic adenosine monophosphate

Answer (1)

Sol. A motor neuron releases acetylcholine (ACh) at the neuromuscular junction. Acetylcholine binds to receptors on the muscle fibre membrane and generates an action potential. The action potential spreads along the sarcolemma and through the T-tubules, triggering the release of Ca^{2+} from the sarcoplasmic reticulum. Calcium then initiates the interaction between actin and myosin, leading to muscle contraction.

7. Re-NEET 2026 · Q158

Which of the following is the correct order of arrangement of vertebrate column from the head to toe?

- (1) Cervical vertebra, thoracic vertebra, sacrum, lumbar vertebra
 (2) Sacrum, lumbar vertebra, thoracic vertebra, cervical vertebra
 (3) Cervical vertebra, lumbar vertebra, thoracic vertebra, sacrum
 (4) Cervical vertebra, thoracic vertebra, lumbar vertebra, sacrum

Answer (4)

Sol. Running head to toe, the vertebral column is cervical (neck, 7), thoracic (chest, 12), lumbar (lower back, 5), then sacrum (5 fused) and finally coccyx (4 fused).

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8. NEET 2020 · Q6

Match the following columns and select the correct option.

List I	List II
P) Floating ribs	I) Located between second and seventh ribs
Q) Acromion	II) Head of the humerus
R) Scapula	III) Clavicle
S) Glenoid cavity	IV) Do not connect with the sternum

- (1) P-I, Q-III, R-II, S-IV (2) P-III, Q-II, R-IV, S-I
 (3) P-IV, Q-III, R-I, S-II (4) P-II, Q-IV, R-I, S-III

Answer (3)

Sol. Floating ribs do not connect with the sternum; the acromion articulates with the clavicle; the scapula lies between the second and seventh ribs; and the glenoid cavity receives the humeral head. Thus P-IV, Q-III, R-I, S-II. Chapter: Locomotion and Movement.

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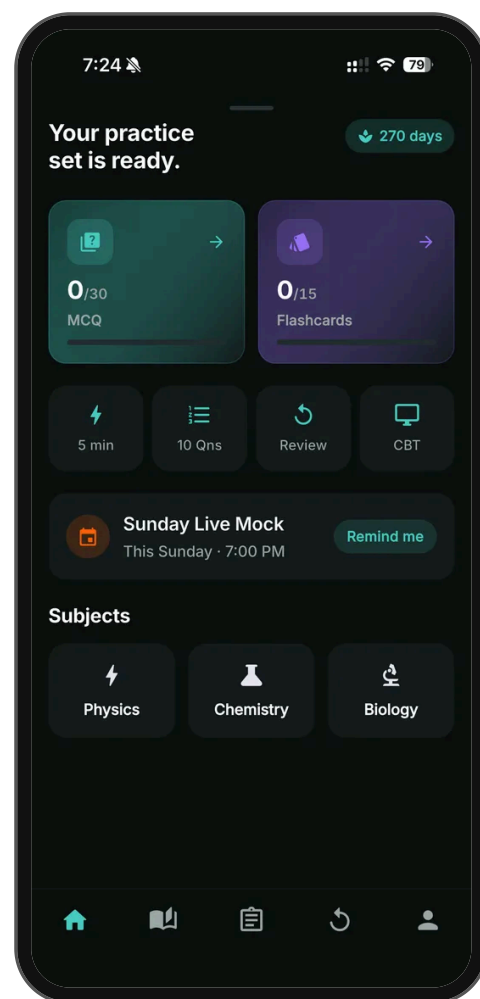
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