Yakeen NEET 2.0 2026

Zoology By Samapti Sinha Ma'am

Locomotion & Movement

DPP: 2

Q1 Which structure forms the plasma membrane of a muscle fibre?
(A) Sarcoplasmic reticulum
(B) Sarcolemma
(C) Myofibrils
(D) Nuclei

Q2 Read the following statements with respect to striated muscle fibres and choose the incorrect statement.
(A) Muscle fibres are lined by the plasma membrane called sarcolemma
(B) Muscle fibres have sarcoplasmic reticulum for storage of calcium ions
(C) Muscles fibres are uninucleated structures and nucleus is present in peripheral part
(D) Muscle fibres have parallelly arranged filaments

Q3 **Assertion A**: In humans, skeletal muscle fibre is a syncytium.
Reason R: The sarcoplasm of the skeletal muscle fibre contains numerous nuclei.
(A) Both assertion and reason are correct and reason is the correct explanation of the assertion.
(B) Both assertion and reason are correct but reason is not the correct explanation of the assertion.
(C) Assertion is correct but reason is incorrect.
(D) Assertion is incorrect but reason is correct.

Q4 What is the characteristic feature of muscle fibres due to the distribution pattern of actin and myosin proteins?
(A) Striated appearance
(B) Non-Striated appearance
(C) Syncitium formation
(D) Fusiform

Q5 Given below are two statements:
Statement I: The sarcoplasmic reticulum stores calcium ions which are crucial for muscle contraction.
Statement II: The I-band contains myosin and is called the isotropic band.
In the light of the above statements, choose the *most appropriate* answer from the options given below:
(A) Statement I is correct but Statement II is incorrect.
(B) Statement I is incorrect but Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

Q6 Which of the following statements about striated muscles are **false**?
I. Thick filaments in the 'A' band are held together in the middle of this band by a thin fibrous membrane called 'M' line.
II. In the centre of each I band is an elastic fibre called 'Z' line which bisects it.
III. The thick filaments are firmly attached to the 'Z' line.
IV. This central part of thick filament overlapped by thin filaments is called the 'H' zone.
(A) I, II and III only
(B) II, III and IV only
(C) III and IV only
(D) I, II and IV only

Q7 **Assertion (A):** The portion of the myofibril between two successive 'Z' lines is called a sarcomere.
Reason (R): A sarcomere consists of one 'A-band' and two half 'I-band".
(A) Both **Assertion (A)** and **Reason (R)** are the true, and **Reason (R)** is a correct explanation of **Assertion (A)**.
(B) Both **Assertion (A)** and **Reason (R)** are the true, but **Reason (R)** is not a correct explanation of **Assertion (A)**.
(C) **Assertion (A)** is true, and **Reason (R)** is false.
(D) **Assertion (A)** is false, and **Reason (R)** is true.

Q8 The dark bands of a skeletal muscle are known as;
(A) isotropic bands.
(B) anisotropic bands.
(C) intercalated disc.
(D) cross bridges.

Q9 M-line passes through the centre of:
(A) Z-disc (B) I-band
(C) HMM (D) H-zone

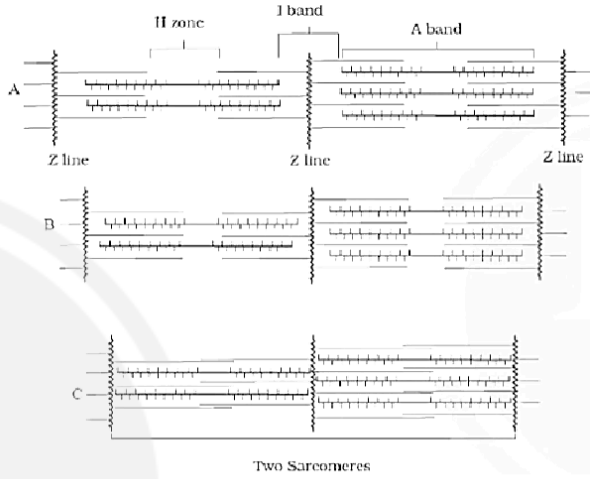
Q10 The structural and functional unit of myofibril which contracts to cause movement is called:
(A) Sarcolemma (B) Sarcomere
(C) Fascia (D) Myosin

Q11 A sarcomere consists of:
(A) One A-band and one I-band
(B) Half A-band and two half I-band
(C) Half A-band and one I-band
(D) One A-band and two half I-band

Q12 H-zone in the skeletal muscle fibre is due to:
(A) The absence of myofibrils in the central portion of A-band
(B) The central gap between myosin filaments in the A-band
(C) The central gap between actin filaments extending through myosin filaments in the A-band
(D) Extension of myosin filaments in the central portion of the A-band

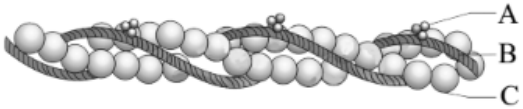
Q13 _A_ band contains actin and is called _B_ band, whereas the _C_ band called _D_ band contains myosin
Choose the correct options for A, B, C and D
(A) A-Light, B-I, C-dark, D-A
(B) A-Dark, B-I, C-light, D-A
(C) A-Dark, B-A, C-light, D-I
(D) A-Light, B-A, C-dark, D-I

Q14 Identify the state of sarcomere in the diagram and choose the correct option accordingly



(A) A-Contracting, B-Relaxed, C-Maximally contracted
(B) A-Relaxed, B-Contracting, C-Maximally contracted
(C) A-Maximally, contracted, B-Contracting, C-Relaxed
(D) A-Relaxed, B-Maximally contracted, C-Contracting

Q15 The given figure shows an actin (thin) filament. Identify the labelled parts A, B and C and select the correct option.



(A) A B C
Tropomyosin Troponin F-actin
(B) A B C
Troponin Myosin Tropomyosin
(C) A B C
Troponin Tropomyosin Myosin

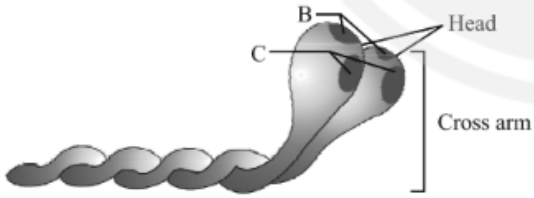
(D) A Troponin B Tropomyosin C F-actin

Q16 Read the following statements and choose the **incorrect** statement(s).
A. Each actin filament is made of two F (filamentous) actins helically wound to each other.
B. Two filaments of a protein named troponin run close to 'F' actin.
C. Troponin is distributed at regular intervals on the tropomyosin.
(A) A and B (B) Only B
(C) Only A (D) Only C

Q17 In a resting muscle fibre, tropomyosin covers :-
(A) Ca-binding sites on actin
(B) Ca-binding sites on troponin
(C) actin binding sites on myosin
(D) myosin binding sites on actin

Q18 Select the **correct** option.
(A) HMM = Tail + Short arm
(B) LMM = Tail + Head
(C) HMM = Head + Short arm
(D) LMM = Head

Q19 In myosin filament, B and C are sites for binding of ____ and _____ respectively.



(A) ATP and actin
(B) actin and ATP
(C) troponin and ATP
(D) troponin and actin

Q20 Match the list-I and list-II to find out the correct combination.

	List-I		List-II
A.	Heavy meromyosin	P.	Thin filament
B.	Light meromyosin	Q.	Globular head of myosin
C.	Actin	R.	Tail of myosin

(A) A-(Q); B-(R); C-(P)
(B) A-(Q); B-(P); C-(R)
(C) A-(P); B-(R); C-(Q)
(D) A-(P); B-(Q); C-(R)

Q21 Actin binding sites are located on:
(A) troponin.
(B) tropomyosin.
(C) meromyosin.
(D) Both (B) & (C)

Q22 ATPase enzyme of the muscle is located on;
(A) actinin. (B) troponin.
(C) myosin. (D) actin.

Q23 Read the following statements and choose the **incorrect** statement for myosin filament.
(A) It is formed by two polypeptide chains
(B) Its globular head is an active ATPase enzyme
(C) Myosin is made up of many monomeric proteins called meromyosin
(D) Cross arm is present in HMM of myosin

Q24 Read the following statements and choose the **incorrect** one for myosin.
(A) Cross arm is present in HMM of myosin.
(B) Myosin is made up of many monomeric proteins called meromyosin.
(C) Its globular head is an active ATPase enzyme.
(D) It is formed by two polypeptide chains.

Answer Key

Q1	(B)
Q2	(C)
Q3	(A)
Q4	(A)
Q5	(A)
Q6	(C)
Q7	(B)
Q8	(B)
Q9	(D)
Q10	(B)
Q11	(D)
Q12	(C)
Q13	(A)
Q14	(B)
Q15	(D)
Q16	(B)
Q17	(D)
Q18	(C)
Q19	(B)
Q20	(A)
Q21	(C)
Q22	(C)
Q23	(A)
Q24	(D)