



**STARS ENTRY TEST SYSTEM-2021
ON-CAMPUS SESSION - MDCAT**

Time Allowed: 40 Minutes

Test Code: B1 (Support & Movement)

Which one is the most primitive form of muscle?

- A) Cardiac muscle
- B) Skeletal muscle

- C) Smooth muscle
- D) Cardiac & smooth

The collection of sarcoplasmic reticulum and tubule is called as:

- A) Triad
- B) Trimuscular body

- C) Tetracular
- D) All of those

How are muscles attached to bones?

- A) Cartilage
- B) Tendon

- C) Ligament
- D) Osteocytes

Which two muscles are in your upper arm?

- A) Biceps and triceps
- B) Hamstrings and quadriceps

- C) Biceps and hamstrings
- D) Biceps and thigh

Which muscle is adapted to be highly resistant to fatigue?

- A) Cardiac
- B) Striped

- C) Unstriated
- D) Voluntary

Thick filaments in skeletal muscle are composed of _____.

- A) Actin
- B) Myosin

- C) Troponin
- D) Tropomyosin

Which of the following statements regarding the shortening of a skeletal-muscle fiber is not true? When a skeletal-muscle fiber shortens the:

- A) Sarcomeres shorten
- B) The myofilaments shorten

- C) The distance between Z lines decreases
- D) The myofilaments slide past each other

In skeletal muscle, calcium facilitates contraction by binding to _____.

- A) Tropomyosin
- B) Actin

- C) Troponin
- D) Myosin

Rigor mortis occurs in a dead animal because:

- A) ATP, which is necessary for the detachment of cross bridges, is not being formed
- B) ATP, which is necessary for the formation of cross bridges, is not being formed
- C) ATP, which is necessary for the formation of cross bridges, continues to be formed for several hours after death
- D) Deterioration of muscle proteins prevents detachment of cross bridges

An action potential in the motor end plate rapidly spreads to the central portions of a muscle cell by means of the _____.

- A) Z lines
- B) Sarcoplasmic reticulum

- C) H zone
- D) Transverse tubules

How many types of protein is present in the thin filament?

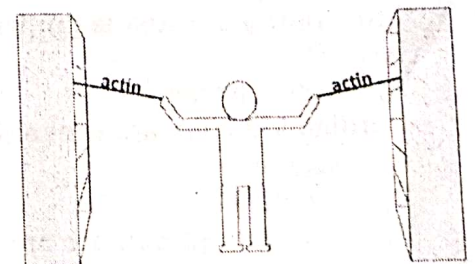
- A) 1
- B) 2

- C) 3
- D) 4

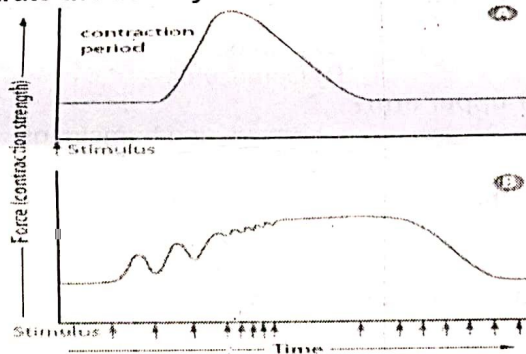
What may be the alternative name for man if the below diagram is a sarcomere?

- A) Actin
- B) Myosin

- C) ATP
- D) Calcium



13. **The term "Motor unit" refers to:**
 A) A single motor neuron plus all the muscle fibres it innervates
 B) A single muscle fibre plus all of the motor neurons that innervate it
 C) All of the motor neurons supplying a single muscle
 D) A pair of antagonistic muscles
14. **The functions of tropomyosin in skeletal muscle include:**
 A) Sliding on actin to produce shortening
 B) Releasing Ca^{2+} after initiation of contraction
 C) Binding to myosin during contraction
 D) Acting as a "relaxing protein" at rest by covering up the sites where myosin binds to actin
15. **Which of the following statements about the structure of skeletal muscle is not correct?**
 A) Myofibres of skeletal muscle cells contain numerous myofibrils that are divided into sarcomeres
 B) The arrangement of thick myosin and thin actin filaments give the sarcomeres of skeletal muscle a striated appearance under the microscope
 C) In skeletal muscle Z discs of proteins at each end of the sarcomeres have the actin filaments attached to them
 D) The arrangement of thin myosin and thick actin filaments give the sarcomeres of skeletal muscle a striated appearance under the microscope
16. **The graphs given below illustrate the activity of two muscles.**



Select the correct option

- A) Muscle A is more active than B
 B) Muscle B is more energetic than A
 C) Muscle A showed the excessive activity than B
 D) Muscle B showed the excessive activity than A

17. **Which of the following statements about the contraction of skeletal muscle is correct?**
 A) The power stroke of skeletal muscle contraction occurs when the myosin head hydrolyses ATP
 B) The power stroke of skeletal muscle contraction occurs when the myosin head binds ATP
 C) The power stroke of skeletal muscle contraction occurs when the myosin head releases ATP
 D) The power stroke of skeletal muscle contraction occurs when the myosin head releases ADP and P_i
18. **Which of the following statements about the role of calcium (Ca^{2+}) during skeletal muscle contraction is correct?**
 A) Ca^{2+} released into a myofibril by the action of a nerve impulse binds to a site on the myosin head to initiate contraction
 B) Ca^{2+} released into a myofibril by the action of a nerve impulse binds to a site on tropomyosin to initiate contraction
 C) Ca^{2+} released into a myofibril by the action of a nerve impulse binds to a site on the actin to initiate contraction
 D) Ca^{2+} released into a myofibril by the action of a nerve impulse binds to a site on troponin to initiate contraction
19. **The muscle bundle is covered by _____.**
 A) Epimysium
 B) Endomysium
 C) Perimysium
 D) Mesomysium
20. **The energy of muscle contraction is derived from the following except:**
 A) ATP
 B) Muscle glycogen
 C) Creatine phosphate
 D) All of these
21. **Cardiac Muscles are present in which of following wall of heart .**
 A) Epicardium
 B) Myocardium
 C) Endocardium
 D) All of these.
22. **All about the Sarcomere are true except:**
 A) Is the distance between myosin and actin
 B) Is the contractile unite of the muscle
 C) Is the distance between two Z membranes
 D) Shorten when the muscle contracts

23. Which of the following is not associated with nutritional deficiency or lethargy?
 A) Muscle fatigue
 B) Muscle cramps
 C) Tetany
 D) Tetanus
24. Which muscles are Maximum in human body?
 A) Skeletal
 B) Cardiac
 C) Smooth
 D) All are present in almost equal number.
26. Bones and cartilage consist of living cells embedded in the matrix of protein:
 A) Collagen
 B) Insulin
 C) Keratin
 D) Fibrinogen
27. Bone to bone attachment is by:
 A) Tendon
 B) Nerves
 C) Muscles
 D) Ligament
28. Sacrum is formed by the fusion of anterior _____ vertebrae of Pelvic region:
 A) Two bones
 B) Three bones
 C) Four bones
 D) Five bones
29. An inflammatory or degenerative disease that damages the joint is:
 A) Hepatitis.
 B) Arthritis
 C) Anthrax
 D) Meningitis
30. Pick up wrist bones from following.
 A. tarsals.
 B metatarsal
 C carpal
 D metacarpals.
31. *Ulna* Humerus and radius form..... joint at their Distal end with carpals.
 A ball and socket
 B Hinge
 C multistag
 D pivot
32. How many bones in appendicular skeleton are there.
 A 80
 B 126
 C 206
 D 300
33. facial bones contains paired andunpaired bones respectively.
 A 2,6
 B 2,4
 C 4,2
 D 6,2
34. Stiffness of body after death is .
 A post martum
 B Biopsy
 C rigor mortis
 D All of these
35. The joint which allows movement in several direction is
 A Hinge
 B ball and socket
 C saddle
 D pivot
36. The joint between radius and ulna are .
 A multistage
 B pivot
 C yes
 D sutures.
37. pick up the muscle of tongue from following.
 A Skeletal
 B Smooth
 C Cardiac
 D A & B
38. The smallest contractile unit of muscle fiber is
 A dark band
 B sarcomere
 C sarcoplasmic reticulum
 D myofubril
39. Skeletal Muscle cell looks non striated when viewed Under
 A ultra power
 B Low power
 C High power
 D electron microscope
40. Myofibril contains .
 A ~~myofibril~~ Myofilaments
 B thick filament
 C thin filament
 D muscle fiber
41. The diameter of thin filament is
 A 16 um
 B 8 um
 C 1- 2um
 D 10 - 10100um
42. Secondary Source of muscle contraction is
 A ATP
 B creatinine phosphate.
 C calcium
 D All of these.
43. H Zone is a part of
 A dark band
 B light band
 C sarcomere
 D Z line

44. Which of following ion is responsible for muscle contraction
 A Ca C Mg
 B Fe D Na
45. Muscle contraction is based on
 A All and all principal C All and None principal
 B None and None principal D it Don't depend on any principal
46. which of following have many nuclei per cell
 A smooth muscle C Cardiac muscle
 B Skeletal Muscle D All are multinucleate
47. The muscles of urinary Bladder and blood vessel are
 A smooth C Skeletal
 B Cardiac D All of these
48. Pick up a 3 polypeptide protein from following.
 A actin C Tropomyosin
 B myosin D troponine
49. During muscle contraction bond will be form between.
 A Actin and myosin C actin myosin and troponine
 B myosin and troponine D actin and Tropomyosin
50. T system extends and Encircle the myofibril at the level of :
 A A band C Z line and I junction
 B Z line D M line and I junction
51. The contraction of Cardiac muscles is caused by:
 A spontaneous C Stretch
 B Nervous and Hormonal D All of these.
52. Total muscles in our body are
 A 206 C 650
 B 605 D 300
53. Where does head of femur articulate .
 A Glenoid cavity C Foramen
 B Acetabulum. D shoulder bone
54. Ribs cage consist of total bones
 A 12 C 25
 B 24 D 28
55. The respiratory protein in muscle is
 A Hemoglobin C Troponine
 B Myoglobin D All of these
56. Pick up Palm bones from following
 A tarsal C ~~carpals~~ metacarpals
 B metatarsal D phalanges
57. Pick up longest bone of the body
 A Humerus C femur
 B ulna D vertebral column
58. Each myosin molecule has a tail terminating in.
 A Two globular heads C linear head
 B Two tails D flat head
59. Wrist bones in man are
 A 8 C 56
 B 16 D 28
60. When more energy is required to contract then it is provided by
 A ATP C lactic acid
 B phospho creatinine D A and B

SUBJECT

1	A	B	<input checked="" type="radio"/>	D
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3	A	<input checked="" type="radio"/>	C	D
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40	<input checked="" type="radio"/>	B	C	D

41	A	<input checked="" type="radio"/>	C	D
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59	A	<input checked="" type="radio"/>	C	D
60	A	<input checked="" type="radio"/>	C	D

- ## INSTRUCTIONS
- USE BLUE BALLPOINT PEN
 - FILL IN BUBBLES
 - EXAMPLE
 - DO NOT FOLD
 - MULTIPLE CHOICE
 - PLEASE FILL IN ALL BUBBLES
 - THE UNIVERSITY OF ...
- ABOVE INSTRUCTIONS