BIOLOGY

BOOKS - ARIHANT NEET BIOLOGY (HINGLISH)

MOVEMENT AND LOCOMOTION

Check Point 27 1

1. Locomotion is rare in

A. animals

B. reptiles

C. Plants

D. Both (a) and (b)

Answer: c

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2. Pseudopodia in Protozoa is formed by the streaming of

A. Cytoplasm

B. Cytoskelton

C. cell membrane

D. cell wall

Answer: a

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3. Choose the correct statement (s) for the flagellar movements.

A. They are found in choanocytes of sponges

B. Human sperm also show this

C. They help in movement in Paramecium

D. Both (a) and (b)

Answer: d

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4. How many muscles are present in human body?

A. 639

B. 640

C. 635

D. 750

Answer: a

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5. The longest smooth muscle is

A. gluteus maximus

B. massetes

C. rectus abdominis

D. None of these

Answer: c

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6. The plasma membrane covering of the muscle fibre is called as

A. sarcolemma

B. Sarcoplasmic reticulum

C. sarcoplasma

D. Both (a) and (b)

Answer: a

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7. The muscle fibres that contract slowly are

A. red muscle fibres

B. white muscle fibres

C. Both (a) and (b)

D. None of these

Answer: a

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8. A skeletal muscle can show

A. isotonic contraction

B. isometric contraction

C. twitch contraction

D. All of the above

Answer: d

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9. Adductor muscle is antagonist of

A. abductor

B. Flexor

C. pronator

D. rotator

Answer: a

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10. The muscle around the openings like iris are

A. sphincter

B. rotator

C. dilator

D. elevator

Answer: c

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11. The portion between two successive Z-line is called

A. sarcomere

B. N-band

C. M-line

D. I-band

Answer: a

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12. The length of sarcomere is about

A. $2 - 3\mu$

B. $0.1 - 0.9\mu$

C. $3 - 10\mu$

D. 10μ

Answer: a

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13. The myofibris are surrounded by a canalicular network of

A. Sarcolemma

B. Sarcoplasmic reticulum

C. T-tubules

D. Both (a) and (c)

Answer: d

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14. The transmission of action potential from cell membrane to muscle fibres take place through

A. sarcoplasmic reticulum

B. T-tubule

C. Myofilaments

D. None of these

Answer: b

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15. The major contractile proteins of muscles is/are

A. actin

B. myosin

C. Both (a) and (b)

D. albumin

Answer: c

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16. The enzyme used in fractional differentiation is

A. trypsin

B. lipase

C. actinase

D. Both (a) and (c)

Answer: a

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17. The protein that prevents the exposure of myosin binding site of action is

A. actin

B. tropomyosin

C. troponin

D. myosin

Answer: b

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18. The relay of action potential during muscle contraction is aided by

A. dystrophin

B. myosin

C. actin

D. None of these

Answer: a

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19. In sarcoplasmic reticulum, Ca^{2+} binds to a calcium-bindig protein known as

A. dystrophin

B. calmodulin

C. calquestrin

D. acetylcholine-esterase

Answer: c

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20. Corl's cycle is related to

A. formation of lactic acid in the muscles

B. regeneration of glycogen in the liver

C. Both (a) and (b)

D. None of the above

Answer: c

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Check Point 27 2

1. The study of skeletal systems is known as

A. Osteology

B. Myology

C. Skeletology

D. Both (a) and (b)

Answer: d

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2. The examples of exoskeletal systme in vertebrates is/are

A. nails

B. horns

C. hoofs

D. All of these

Answer: d

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3. How many bones are present in axial skeleton of humans ?

A. 80

B. 89

C. 20

D. 26

Answer: a

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4. Which of the following bones serves as a point of attachment for tongue ?

A. Hyoid bone

B. Ear ossicles

C. Cranium

D. Foramen magnum

Answer: a

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5. Procoelous type of centrum or body is found in the vertebrate of

A. Fishes and amphibians

B. frogs

C. mammals

D. birds

Answer: a

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6. Lumbar vertebrae are found in

A. neck region

B. abdominal region

C. hip region

D. thorax

Answer: b

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7. How many sacral vertebrate fuse to form a single structure called sacrum in adults ?

A. Five

B. Four

C. Three

D. Six

Answer: a

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8. The longest part of sternum is

A. merosternum

B. xiphisternum

C. prosternum

D. metasternum

Answer: a

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9. Out of the 12 pairs, of ribs, true ribs are formed by

A. VIII, IX an X pairs of ribs

B. Last two pairs of ribs

C. First VII pairs of ribs

D. First V pairs of ribs

Answer: c

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10. Appendicular skeleton includes bones of

A. forelimbs

B. hindlimbs

C. pertoral and pelvic girdle

D. All of these

Answer: d

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11. The large, flat, trianglular bone present in two halves of shoulder girdle is

A. scapula

B. ulna

C. clavicle

D. radius

Answer: a

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12. The collar bone is also known as

A. clavicle

B. scapula

C. pollex

D. phalanges

Answer: a

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13. Ulna articulates with humerus through

A. transverse process

B. coracoid process

C. acromian process

D. olecranion process

Answer: d

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14. The bone of pelvic girdle that participates in the formation of acetabulum is

A. ilium

B. Pubis

C. ischium

D. All of these

Answer: d

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15. The 14 bones that form toes are called

A. phalanges

B. tarsals

C. quadriceps femoris

D. metatarsal

Answer: a

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Check Point 27 3

1. Fibrous joints are

A. immovable

B. movable

C. slightly movable

D. None of these

Answer: a

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2. Sutures of human skull are example of

A. fibrous joints

B. hinge joints

C. synovial joints

D. pivots joints

Answer: a

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3. The ankle, knee and elbow joints are

A. pivot joints

B. ellipsoid joints

C. hinge joints

D. synovial joints

Answer: c

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4. The joints between atlas and axis of mammals is an example of

A. pivot joint

B. hinge joint

C. saddle joint

D. gliding joint

Answer: a

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5. In producing movement, joints act as

A. effort

B. fulcrum

C. resistance

D. load

Answer: b

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6. Raising the body on toes is an example of

A. first class lever

B. second class lever

C. third class lever

D. fourth class lever

Answer: b

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7. The most common levers in the body is

A. first class

B. second class

C. third class

D. fourth class

Answer: c

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8. A disease caused by the inflammation of joints is

A. glaucoma

B. arthritis

C. hemia

D. horner's syndrome

Answer: b

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9. Severe twisting of joint without dislocation is called

A. sprain

B. dislocation

C. strain

D. fracture

Answer: a

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10. Muscular dystrophy in humans is a

A. viral disease

B. bacterial disease

C. genetic disease

D. fungal diseases

Answer: c

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Taking It Together Assorted Questions Of The Chapter For Advanced Level Practice

1. Myoglobin of skeletal muscles

A. is present in sarcoplasm

B. stores carbon dioxide

C. stores oxygen

D. Both (a) and (c)

Answer: d

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2. Macrophages and leucocytes exhibit

A. ciliary movement

B. flagellar movement

C. amoeboid movement

D. gliding movement

Answer: c

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3. Muscle contraction of shortest duration occurs in

A. eye lids

B. heart

C. intestine

D. jaws

Answer: a

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4. Muscles immune to fatigue are

A. cardiac

B. eye muscles

C. unstriated

D. skeletal

Answer: a

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5. ATPase of the type muscle is located in

A. actinin

B. troponin

C. myosin

D. actin

Answer: c

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6. Foramen magnum and occipital condyles are

A. frontoparietal bone

B. occipital bone

C. prootic bones

D. squamosal bone

Answer: b

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7. The superior and middle conchae are bony structures of which bone ?

A. Palatine bone

B. Nasal bone

C. Ethmoid bone

D. Maxilla

Answer: c

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8. A facial bone that is not paired, is the

A. maxilla

B. lacrimal bone

C. vomer

D. nasal bone

Answer: c

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9. Which one of the following bones is not the part of axial skeleton ?

A. Hyoid bone

B. Sacrum

C. Sphenoid bone

D. Clavicle

Answer: d

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10. Longest bone in lower ram is

A. ulna

B. radius

C. tibia

D. femur

Answer: a

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11. The only movable bone in the skull is

A. maxilla

B. frontoparietal

C. mandible

D. nasal

Answer: c

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12. Transverse process of sacral vertebrae are attached to which part of pelvic girdle ?

A. Mastoid process

B. Ilium

C. Ischium

D. Pubis

Answer: b

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13. Chemical ions responsible for muscle contraction are

A. Ca^{2+} and K^{+}

B. Na^{+} and K^{+}

C. Na^{+} and Ca^{2+}

D. Ca^{2+} and Mg^{2+}

Answer: d

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14. Ventral wall of pubis has a small bone called

A. coracoid

B. cotyloid

C. pubic symphysis

D. femur

Answer: c

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15. Ribs are attached to

A. scapula

B. sternum

C. clavicle

D. ilium

Answer: b

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16. Which one is an odd pair ?

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17. Which one of the following is the shortest muscle ?

A. Masseter

B. Sartorius

C. Stapedial muscle

D. Rectus abdominis

Answer: c

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18. Centrum of man is

A. procoelus

B. amphicoelus

C. amphiplatyan

D. opisthocoelous

Answer: c

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19. In man, coccygeal bone is formed by the fusion of..... vertebrae.

A. three vertebrae

B. six vertebrae

C. five vertebrae

D. four vertebrae

Answer: d

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20. The vertebral column is connected to the pelvic girdle in the

A. coccygeal region

B. sacral region

C. lumbar region

D. cervical region

Answer: b

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21. Innominate or hip bone is formed by the fusion of how many bones

A. Two

B. Three

C. Four

D. Five

Answer: b

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22. Deltoid ridge is found in which one of the following bones

A. Radius

B. Tibia

C. Femur

D. Humerus

Answer: d

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23. The cup-shaped structure of pelvic girdle, the acetabulum in man, is formed by

A. ilium, ischium and pubis

B. ilium, ischium and cotyloid

C. ilium and ischium

D. ilium and cotyloid

Answer: a

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24. The head of the rib, which articulates with the transverse process of thoracic vertebrates is called

A. capitulum

B. tuberculum

C. centrum

D. shaft

Answer: b

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25. Pectoral girdle, pelvic girdle and limb bones constitute : —

A. axial skeleton

B. appendicular skeleton

C. visceral skeleton

D. outer skeleton

Answer: b

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26. In mammals, the largest vertebrae is

A. cervical

B. lumbar

C. caudal

D. sacral

Answer: b

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27. Number of lumbar vertebrae in human skeleton is

A. twelve

B. seven

C. five

D. two

Answer: c

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28. The proteins which in association with actin forms the thin filament of muscles is/are

A. tropomyosin

B. troponin

C. Both (a) and (b)

D. myosin

Answer: c

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29. The vertebrae in which centrum is absent and transverse process are present is known as

A. lumbar vertebrae

B. anterior thoracic

C. axis vertebrae

D. atlas vertebrae

Answer: d

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30. Intervertbral disc is found in the vertebral column of

A. birds

B. reptiles

C. mammals

D. amphibians

Answer: c

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31. A vertebra has a convexity both in front and behind it. It is called

A. precoelous

B. amphicoelus

C. acoelous

D. amphiplatyon

Answer: c

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32. Cervical vertebrae are located in

A. thoracic region

B. abdominal region

C. neck region

D. lumbar region

Answer: c

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33. Posterior teminal part of the vertebral column in man and other tailless apes is known as

A. coccyx

B. filum terminale

C. telson

D. urostyle

Answer: a

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34. Cranium of man is made up of

A. 8 bones

B. 12 bones

C. 10 bones

D. 16 bones

Answer: a

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35. The number of bones in half of the lower jaw of man is

A. one

B. four

C. six

D. eight

Answer: a

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36. The vetebrae which bears the whole weight of the skull is

A. axis

B. sacral

C. cervical

D. atlas

Answer: a

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37. In human being g, the second cervical vertebra helps in rotatory movements of head through knowb-like process called :

A. prezygapophysis

B. postzygapophysis

C. odontoid process

D. metaphysis

Answer: c

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38. Surface for attachment of tongue is

A. palatine

B. sphenoid

C. pterygoid

D. hyoid apparatus

Answer: d

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39. Which one of the following is not a disorder of bone ?

A. Arthritis

B. Osteoporosis

C. Rickets

D. Atherosclerosis

Answer: d

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40. What is the type of movable joint present between the atlas and axis?

A. Pivot

B. Saddle

C. Hinge

D. Gliding

Answer: a

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41. In man the thoracic basket is composed of

A. ribs and thoracic vertebrae

B. ribs and sternum

C. ribs, sternum and lumbar vertebrae

D. ribs, sternum and thoracic vertebrae

Answer: d

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42. Vertebral formula for human beings is

A. $C_5T_{12}L_7S_5C_{3-5} = 33 - 35$

B. $C_7T_{12}L_5S_5C_{3-5} = 33 - 35$

C. $C_5T_{10}L_5S_5C_{3-5} = 33$

D. $C_7T_{10}L_5S_5C_{3-5} = 33$

Answer: b

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43. Which of the following is not a function of the skeletal system ?

A. Production of bood cells

B. Storage of minerals

C. Storage of carbohydrates

D. Protection of vital organs

Answer: c

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44. Knee joint and elbow joints are examles of

A. saddle joint

B. ball and socket joint

C. pivot joint

D. hinge joint

Answer: d

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45. Ciliary movement helps in

A. removing waste substances inhaled along with air

B. movement of leucocytes and microfilaments

C. contraction and relaxation of muscles

D. All of the above

Answer: a

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46. Muscles with characteristic striations and involuntary are

A. muscles in the wall of alimentary canal

B. muscles of the heart

C. muscles assisting locomotion

D. muscles of the eyelids

Answer: b

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47. Which one of the following movements in man are directing concerned with locomotion ?

A. Bending of arm at elbow

B. Rotation of head of femur in accetabulum

C. Peristaltic movement

D. Contraction of the heart

Answer: b

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48. The 8th and 9th ribs are known as false are known as false ribs because their external portions are attached to

A. xiphisternum

B. costal cartilage of seventh rib

C. they have no costa

D. None of the above

Answer: b

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49. Axis vertebra of a mammal differs from atlas in

A. absence of centrum

B. presence of supportive process

C. Presence of central canal

D. Presence of odontoid process

Answer: d

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50. Find out the correct order of number of bones in the parts of skull such as cranial bone, facial bone, hyoid bone and middle ear bone respectively

A. 14, 8, 1 and 6

B. 6, 8, 14, and 1

C. 14, 8, 6, and 1

D. 8, 14, 1, and 6

Answer: d

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51. Which one of the following is showing the correct sequential order of vertebrae in the vertebral column of human beings ?

A. Cervical – lumbar – thoracic – sacral – coccygeal

B. Cervical – thoracic – sacral – lumbar – coccygeal

C. Cervical – sacral – thoracic – lumbar – coccygeal

D. Cervical – thoracic – lumbar – sacral – coccygeal

Answer: d

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52. In old age, stiffness of joints is due to the

A. hardening of bones

B. ineffciency of muscles

C. decrease in synovial fluid

D. enlargement of bones

Answer: c

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53. Skeletal muscles fibre has light and dark bands. Which is correct match of protein with its light refractive property and colour

A.

Protein	Colour	Property
Myosin	Light	Anisotropic

B.

Protein	Colour	Property
Actin	Dark	Anisotropic

C.

Protein	Colour	Property
Myosin	Dark	Isotropic

D.

Protein	Colour	Property
Actin	Light	Isotropic

Answer: d

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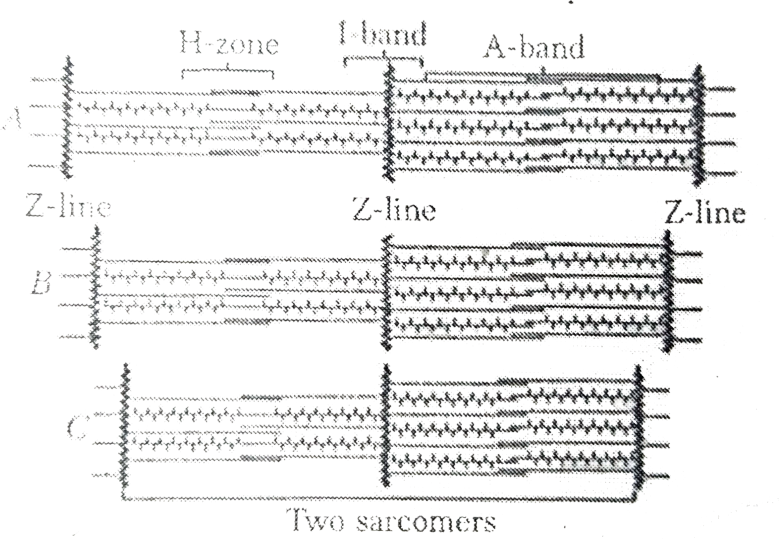
54. Carefully observe the diagram and identify the states of sacromere in A, B and C.



Choose the correct option identifying the state of sacromeres.

A. Contracting, Relaxed, Maximally contracted

B. Relaxed, Contracting, Maximally contracted

C. Maximally contracted, Contracting, Relaxed

D. Relaxed, Maximally contracted, Contracting

Answer: b

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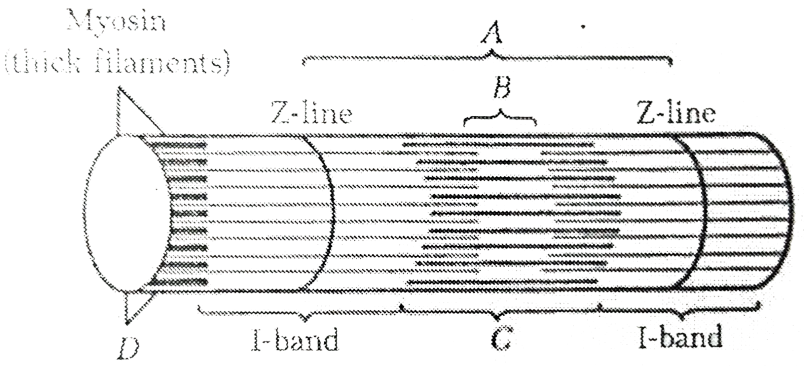
55. Identify the marked structures in the given figure.



A. A-Sarcomere, B-H-zone, C-A band, D-Actin

B. A-H-zone, B-A-band, C-Actin, D-Sarcomere

C. A-Actin, B-H-zone, C-A-band, D-Sarcomere

D. A-Sarcomere, B-A-band, C-H-zone, D- Actin

Answer: a

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56. Which one of the following statement is true ?

A. Head of humerus bone articulates with acetabulum of pectoral girdle

B. Head of humerus bone articulates with glenoid cavity of pectoral girdle

C. Head of humerus bone articulates with a cavity called acetabulum of pelvic girdle

D. Head of humerus bone articulates with glenoid cavity of pelvic girdle

Answer: b

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57. Function of pre and posyzygopophysis is to

A. allow the maximum bending of vertebrae

B. prevent undue bending of adjacent vertebrae

C. prevent displacement of the adjacent vertebrae

D. Both (a) and (b)

Answer: c

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58. The last two pairs of ribs are named floating ribs because

A. their sternal parts are attached to the sternum directly

B. their sternal parts are attached on the seventh pair of ribs

C. their sternal parts remain free and do not even reach the sternum

D. None of the above

Answer: c

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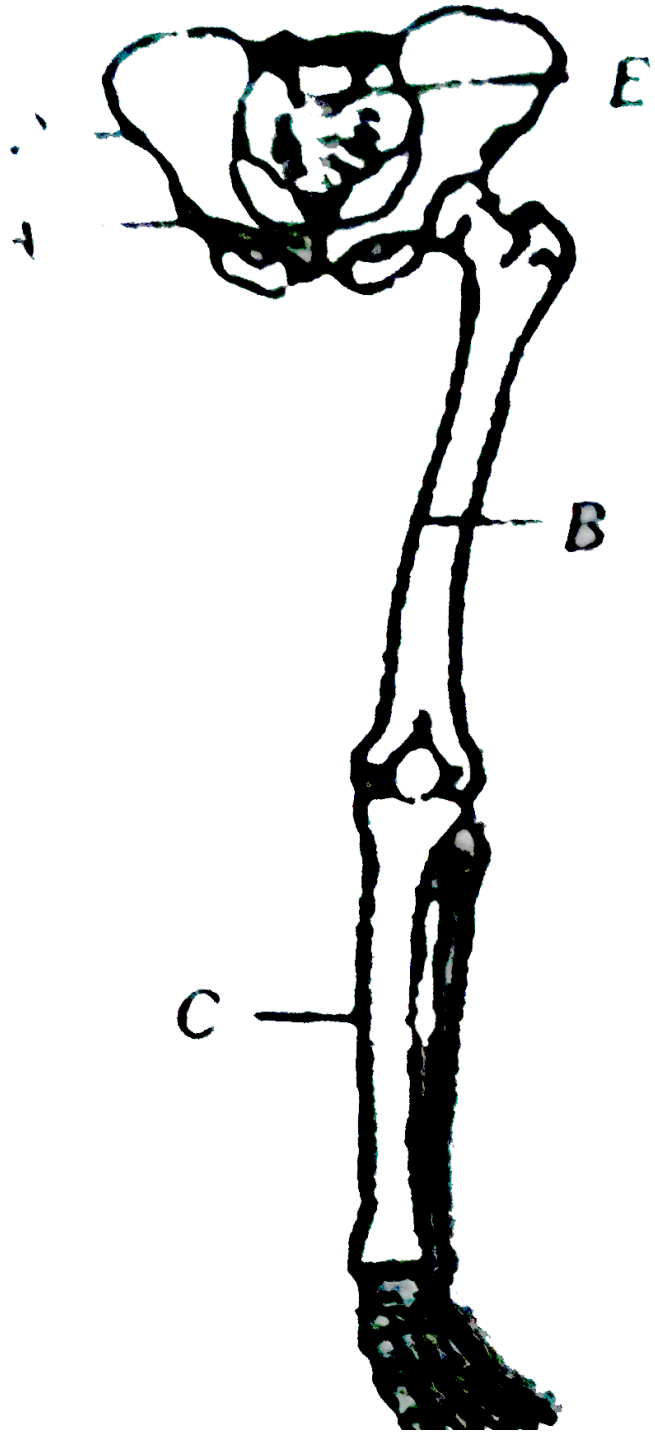
59. Consider the diagram given below



Parts labelled as 'A', 'B', 'C' , 'D' and 'E' respectively indicate

A. Iliium, Femur, Tibia, Pubis and Sacrum

B. Pubis, Tibia, Femur, Ilium and Sacrum

C. Ilium, Femur, Tibia, Pubis and Sacrum

D. Pubis, Femur, Tibia, Ilium and Sacrum

Answer: d

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60. A cricket player is fast chasing ball in the field.Which one of the following group of bones is directly contributing in this movement ?

A. Femur, mlleus, tibia, metatarsals

B. Pelvis, ulna, patella, tarsals

C. Sternum, femur, tibia, fibula

D. Tarsals, femur, metatarsals, tibia

Answer: d

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61. Which one of the following pair is incorrect?

A. Hinge joiont - Between humerus and pectoral girdle

B. Pivot joint - Between atlas, axis and occipital condyle

C. Gliding joint - Between the carpals

D. Saddle joint - Between carpel and metacarpals of thumb

Answer: a

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62. Which one of the following statement is incorrect

A. Heart muscles are striated and involuntary

B. The muscles of hands and legs are striated and voluntary

C. The muscles located in the inner walls of alimentary canal are striated and involuntary

D. Muscles located in the reproductive tracts are unstriated and involuntary

Answer: c

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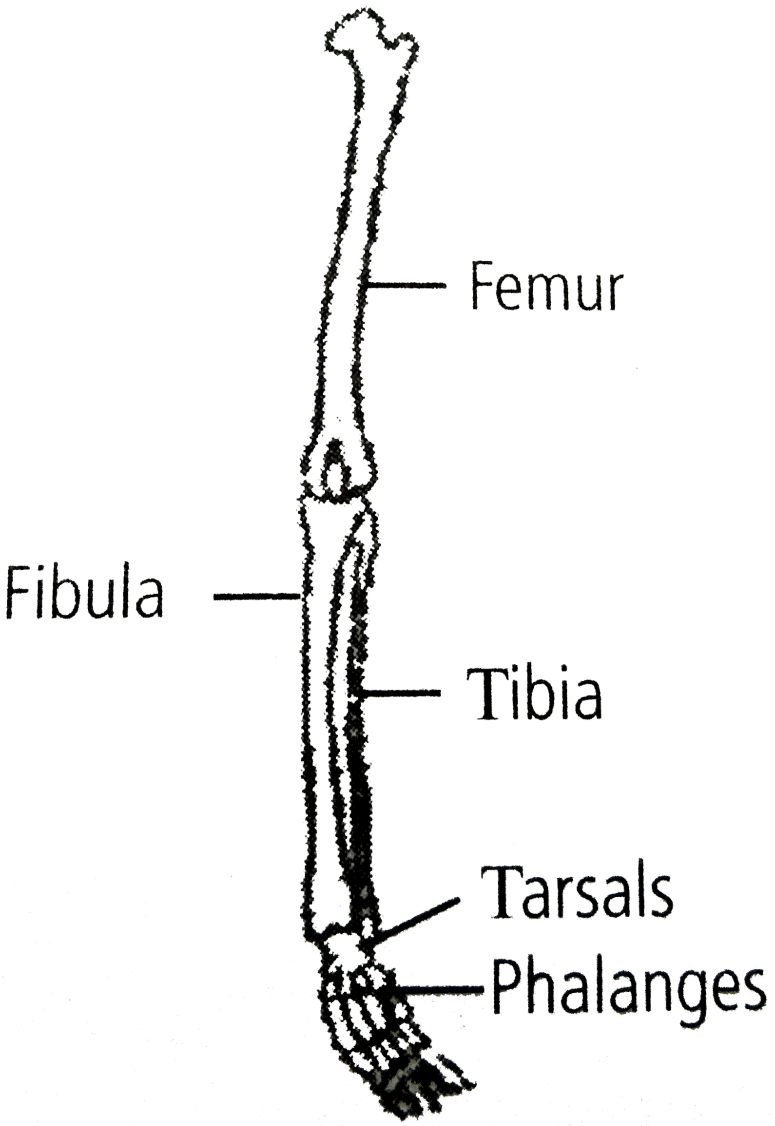
63. Given diagram shows bone of the left human hindlimb as seen from front. It has certain mistakes in labelling.

Which of the following pairs contain both wrongly labelled bones ?



A. tibia and tarsals

B. femur and fibula

C. fibula and phalanges

D. tarsals and femur

Answer: c

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64. The gliding joints are important for gliding movements. One example of such a joint is between the

A. zygapophysis of adjacent vertebrae

B. humerus and he glenoid cavity

C. occipital condyle and odontoid process

D. femur and tibio-fibula

Answer: a

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65. Gout is a disease that affects the joints and leads to arthritis. It is associated with an abnormality of

A. pyrimidine metabolism

B. purine metabolism

C. fat metabolism

D. protein metabolism

Answer: b

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66. Progressive degeneration of skeletal muscle, mostly due to genetic disorder occurs in

A. myasthenia gravis

B. muscular dystrophy

C. tetany

D. osteoporosis

Answer: b

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67. Which of the following movements in mammalian skeleton represent the leverage of the third order ltbgt (force applied at a point between fulcrum and the point of resistance) ?

A. Biceps muscle flexing arm at elbow

B. Triceps muscle extending arm at elbow.

C. Gastrocnemius muscle raising weight of body on toes

D. Movement of the head of femur in the acetabulum o pelvic girdle

Answer: a

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68. Choose the correct match pair.

A. Opisthocoelus - Lower amphibians and most fishes

B. Heterocoelus - Mammals

C. Amphiplotyon - Birds

D. Amphicoelus - Frog vertebrae

Answer: a

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69. How many of these bones are a part of appendicular skeleton ?

(Radius, ethmoid, temporals, parietal, patella

Metatarsals, carpels, phalenges, coxal, hip)

A. Six

B. Seven

C. Four

D. Eight

Answer: a

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70. How many of these characteristics ar true for scapula ?

(Cup-like glenoid cavity, acromian process, coracoid process

Flat and trianglular, narrow and S-shaped, collar bone, olecranon process,

capitulum process)

A. Two

B. Six

C. Four

D. Five

Answer: c

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71. Which of the following statements is correct ?

A. Capitulum process articulates with ulna of lower arm

B. Trochlea articulates with radius of lower arm

C. Ulna articulates with humerus through olecranon process

D. Pelvis in males has larger diameter

Answer: c

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72. Out of the following match pairs choose the incorrect one.

A. Clavicle - Anterior region of thorax

B. Sacrum - Lies between innominate bones of pectoral girdle

C. Thoracic vertebrae - are 12 in number

D. Hyoid - Above the larynx in throat

Answer: b

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73. Read the following statements and pick the correct one.

A. In platybasic skull eye are not situated much apart.

B. In tropibasic skull eyes and brain are present in same plane

C. Splanchnocranium help in encasing or jaws and gills

D. Mammals have monocondylic

Answer: c

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74. Choose the incorrect match pair.

A. Synarthrosis -Movable joints

B. Amphiarthrosis -Slighly movable joints

C. Shoulder joint -Between humerus and glenoid cavity

D. Gliding joint -Monoaxial joint

Answer: a

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75. Select the incorrect match pair.

A. Green stick fracture - Hair line fracture

B. Exclusive fracture -Breaking bone into two or more parts

C. Comminuted fracture -Breaking bone in more than two pieces

D. Compound fracture -More than one tissue is damaged

Answer: b

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76. Select the correct match pair.

A. Abductor - Triceps extending forearm.

B. Adductor - Biceps bending forearm towards upper arm

C. Elevator -Latissimus dorsi

D. Rotator -Pyriformis that raises thigh

Answer: d

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77. Choose the correct statement.

A. The two condyles present at the distal end of femur are separated by intercondylar fossa

B. The shank region consists of tarsals and metatarsals

C. Almost 17 bones form toe

D. Patella is the largest bone among ethamoid bones

Answer: a

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78. Choose the incorrect statement.

A. Innominate bone is the hipbone

B. The two halves of pectoral girdle meet dorsally and form pelvic symphysis

C. Pubic symphysis contains fibrous cartilage

D. Oburator foramen is found in birds and fishes

Answer: b

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79. Which of the following is correct regarding the bones of skull ?

A. Hyoid is not a bone of skull proper

B. Skeleton of face is formed by 10 bones

C. Zygomatic bone are freely movable bones.

D. The lower jaw is fused with cranium while the upper jaw is connected with cranium by muscles

Answer: a

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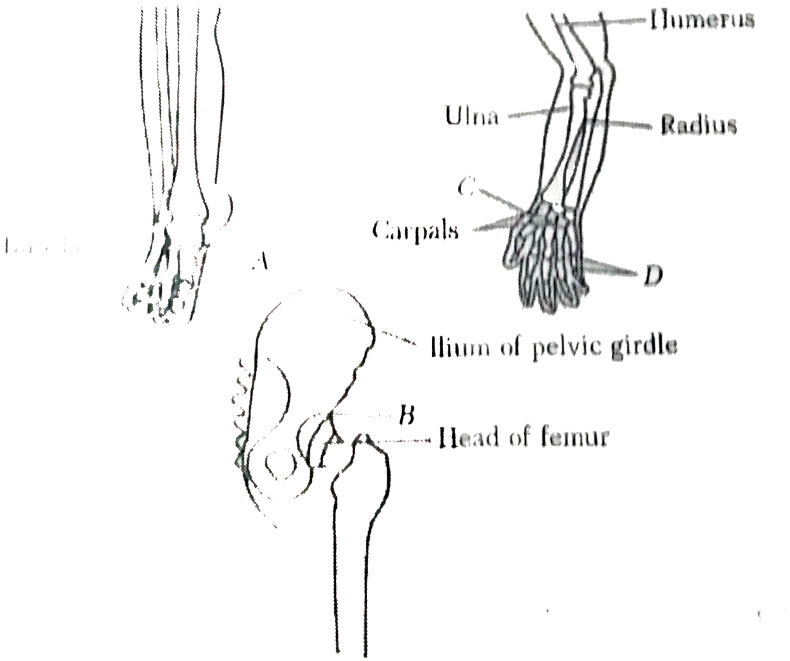
80. Identify the types of joints in given figures A, B, C and D.



Choose the correct option.

A. A Pivot B Saddle C Gliding D Hinge

B. A Gliding B Ball and socket C Saddle D Condyloid

C. A Hinge B Glidng C Pivot D Saddle

D. A Condyloid B Pivot C Saddle D Ball and socket

Answer: b

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Medical Entrances Special Format Questions Statement Based Questions

1. Skeletal muscles are

I. arttached to the bones by tendons and help in the movement of the parts of skeleton.

II. under control of conscious mind and can be moved at will.

III. exhibits transverse strips.

IV. innervated by involuntary nervous system.

Choose the option with the correct statements.

A. I, II and III

B. II and III

C. I and IV

D. II and IV

Answer: a

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2. Bundles of muscles fibres are grouped as fascicule, which

I. is held together and enclosed by collagen fibres and by connective tissue.

II. Is surrounded by tough external layer, called fascia.

III. Contains an abundance of glycogen.

Iv. is developed by repeated divisions of myoblasts.

Choose the option with the correct statements.

A. I and II

B. III and IV

C. II, III and IV

D. I and III

Answer: a

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3. The proteins present in myofilaments are

I. gloulin

II. Actin

III. Haemoglobin

IV. Tropomyosin

Choose correct option with correct statements (s).

A. I and III

B. II and IV

C. III and IV

D. Only IV

Answer: b

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4. Which of the following is/are correct for human skeleton ?

I. The axial and appendicular skeleton of adult man consist of 80 and 126

bones repectively.

II. The number of bones in the skull of man is 28.

III. Number of bone in the human cranium is 8.

IV. The number of bones in vertebral column is 7.

Choose the correct option.

A. I, II and IV

B. I and III

C. II and III

D. Only IV

Answer: b

Watch Video Solution

5. Ball and socket joints

I. are multiaxial, e.g. shoulder joints.

II. Permit movement around many axis.

III. Allow rotation around its own longitudinal axis only.

IV. Produce side to side and up and down movemens.

Choose the correct option.

A. I and II

B. II, III and IV

C. III and IV

D. I and IV

Answer: a

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6. Red muscle fibres

I. perform slow and sustained contractions for long periods without fatigue.

II. Depend mainly on anaerobic glycolysis.

III. Carry out aerobic contraction without accumulating much lactic acid

IV. Perform faster contraction rate.

Choose the correct option.

A. I and II

B. II and III

C. III and IV

D. I and III

Answer: d

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7. Which of the following statements given below are true with reference to muscle contraction.

I. Neurotransmitter acetycholine is released as nerve impulse reaches the end of axon and binds to receptor sites of motor end plate.

II. Action potential passes from motor end plate over sarcoplasmic and then into the T-tubules and sarcoplasmic reticulum.

III. Calcium ion are released into the sarcoplasm bind to troponin, causing a change in its shape and position.

IV. Myosin cross bridges are able to bind to exposed active sites of actin.

Choose the correct option.

A. I, II and III

B. II and IV

C. I and IV

D. All of these

Answer: d

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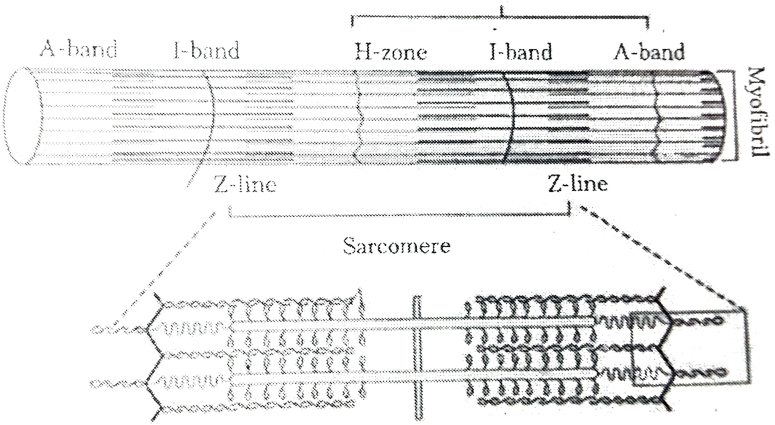
8. Consder the diagram showing muscle structure below.



Identify the events that occur during skeletal muscle contraction.

I. I-band shortens

II. A-band shortens

III. H-zone shortens

IV. Sarcomere contracts

V. ATP changes to ADP and Pi

Choose the option incorrect event(s).

A. Only I

B. Only III

C. IV and V

D. Only II

Answer: d

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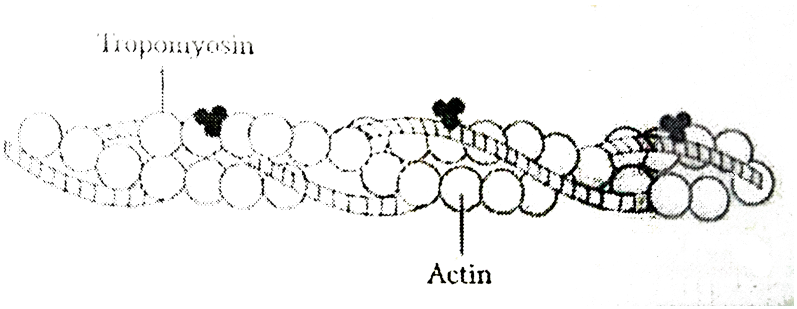
9. Consider the diagram of thin myofilament.



Now, read carefully the statements about molecular arrangement of actin and myosin in the filament.

I. Each actin (thin filament) is made up of 2 F-(filamentous) actins.

II. F-actin is the polymer of G-(globular) actin.

III. Two-F-actins are twisted into a helix.

IV. Two strands of tropomyosin run along the entire length of F-actin.

Choose the correct option.

A. I and II

B. III and IV

C. I and IV

D. All of the above

Answer: d

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10. Consider the following statements.

I. In man, vetebral column has 33 bones which are organised as 28 bones.

II. Pelvic girdle is made up of two fused bones only.

III. Osteporosis is characterised by microarchitectural deteriortion of the bone.

IDentify the correc statment.

A. Only I

B. Only II

C. Only III

D. Only I

Answer: c

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11. Match the following Columns.

Column I	Column II
A. Ball and socket joint	1. Radius and ulna
B. Hinge joint	2. Metacarpals of thumb
C. Gliding joint	3. Glenoid cavity of pectoral girdle
D. Saddle joint	4. Between radius and carpals at wrist
E. Condyloid joint	5. Phalanges of digits

A. A B C D E
3 5 1 2 4

B. A B C D E
1 2 3 4 5

C. A B C D E
4 3 2 1 5

D. A B C D E
5 2 3 1 4

Answer: a

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12. Match the following Columns.

	Column I (Skeleton)	Column II (Number of bones)	
A.	Sternum	1.	14
B.	Ribs	2.	1
C.	Pelvis	3.	24
D.	Face	4.	3

A.	A	B	C	D
	2	3	4	1
B.	A	B	C	D
	2	4	1	3
C.	A	B	C	D
	1	3	4	2
D.	A	B	C	D
	4	1	2	3

Answer: a

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13. Match the following Columns.

	Column I		Column II
A.	Fast muscle fibres	1.	Myoglobin
B.	Slow muscle fibres	2.	Lactic acid
C.	Actin filament	3.	Contractile unit
D.	Sarcomere	4.	I-band

A.

A	B	C	D
1	2	4	3

B.

A	B	C	D
2	1	3	4

C.

A	B	C	D
2	1	4	3

D.

A	B	C	D
3	2	4	1

Answer: c

Watch Video Solution

14. Match the following Columns.

	Column I		Column II
A.	Sternum	1.	Synovial fluid
B.	Glenoid cavity	2.	Vertebrae
C.	Freely movable joint	3.	Pectoral girdle
D.	Cartilaginous joint	4.	Flat bones

A. A 2 B 1 C 3 D 4

B. A 4 B 3 C 1 D 2

C. A 2 B 1 C 4 D 3

D. A 4 B 1 C 2 D 4

Answer: b

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Assertion And Reason

1. Assertion Movement of body parts serves to change the body posture.

Resason Body parts move in relation to body axis.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correc explanation of Assertion

C. Assertion is false, but Reason is true

D. Both Assertion and Reason are false

Answer: b

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2. Assertion There are similarities between the locomotion of unicellular organisms and multicellular animal.

Reason Ciliary, flagellar and amoeboid movements occur in unicellular organisms.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correc explanation of Assertion

C. Assertion is false, but Reason is true

D. Both Assertion and Reason are false

Answer: b

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3. Assertion : Skeleton helps in blood cell formation.

Reason : Blood flows through skeleton.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correc explanation of Assertion

C. Assertion is false, but Reason is true

D. Both Assertion and Reason are false

Answer: c

Watch Video Solution

4. Assertion: Triceps is said to be an extensor muscle for elbow joint.

Reason: Triceps relaxes durings extension of forearm at the elbow joint.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correc explanation of Assertion

C. Assertion is false, but Reason is true

D. Both Assertion and Reason are false

Answer: c

Watch Video Solution

5. Assertion Muscle as a whole does not obey All-or-none law.

Reason Each muscle fibre contracts maximally whenever it contracts.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correc explanation of Assertion

C. Assertion is false, but Reason is true

D. Both Assertion and Reason are false

Answer: b

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6. Assertion Biceps and triceps are called antagonistic muscles.

Reason This is due to the fact that they contract and relax together.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correc explanation of Assertion

C. Assertion is false, but Reason is true

D. Both Assertion and Reason are false

Answer: c

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Medical Entrances Gallary Collection Of Question Asked In Neet Various Medical Entrance Exam

1. Match the following lists with reference to disorders of the muscular and skeletal system.

	Column I		Column II
A.	Muscular dystrophy	1.	Inflammation of joints due to accumulation of uric acid crystals
B.	Tetany	2.	Progressive degeneration of skeletal muscle due to certain genetic disorders
C.	Myasthenia gravis	3.	An autoimmune disorder affecting the neuro-muscular junctions
D.	Gout	4.	A state of prolonged contraction of muscles

A.	A	B	C	D
	2	3	4	1
B.	A	B	C	D
	2	4	3	1
C.	A	B	C	D
	3	2	1	4
D.	A	B	C	D
	2	3	1	4

Answer: b

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2. Osteoporosis, an age related disease of skeletal system, may occue due to

A. immune disorder affecting neuromuscular junction leading to fatigue

B. high concentration of Ca^{++} and Na^{+}

C. decreased level of oestrogen

D. accumulation of uric acid leading to inflammation of joints

Answer: c

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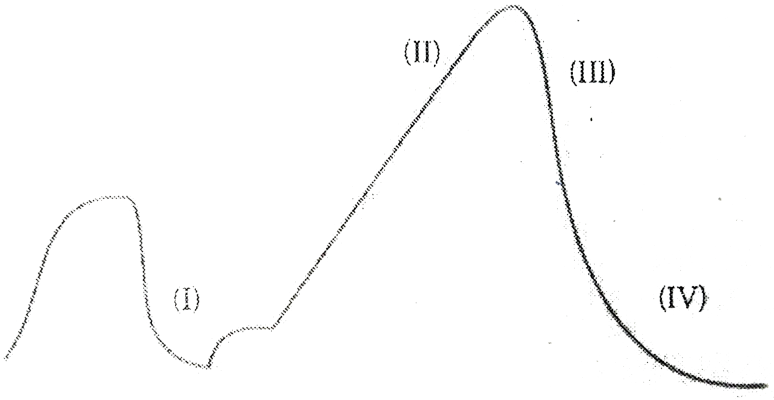
3. Contraction cycle of muscle showing parts of muscle twitch is given. Find out the correct sequence.



A. Latent period, Relaxation period, Refractory period, Contraction

B. Contraction, Latent period, Relaxation period, Refractory period

C. Latent period, Contraction, Relaxation period, Refractory period

D. Refractory period, Relaxation period, Latent period Contraction

Answer: c

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4. Which one of the following joints will not allow movement ?

A. fibrous joints

B. Cartilaginous joint

C. Synovial joint

D. Ball and socket join

Answer: a

Watch Video Solution

5. Which of the following is not a functioin of the skeletal system

A. Producting of erythrocytes

B. Storage of minerals

C. Production of body that

D. Locomotion

Answer: c

Watch Video Solution

6. Choose the incorrectly matched pair.

A. Portion of myofibril between two Z-lines- Sarcomere

B. Isotropic band-Actin

C. Anisotropic band-Myosin

D. Central part of I-band -M-line

Answer: d

Watch Video Solution

7. Select the correct matching of the type of the joint with the example in human skeletal system:

	Type of joint	Example
(A)	Cartilaginous joint	between frontal and parietal
(B)	Pivot joint	between third and fourth cervical vertebrae
(C)	Hinge joint	between humerus and pectoral girdle
(D)	Gliding joint	between carpals

A.

Types of joint	Example
Cartilaginous joint	Between frontal and parietal

B.

Types of joint	Example
Pivot joint	Between third and fourth cervical vertebrae

C.

Types of joint	Example
Hinge joint	Between humerus and pectoral girdle

D.

Types of joint	Example
Gliding joint	Between carpals

Answer: d

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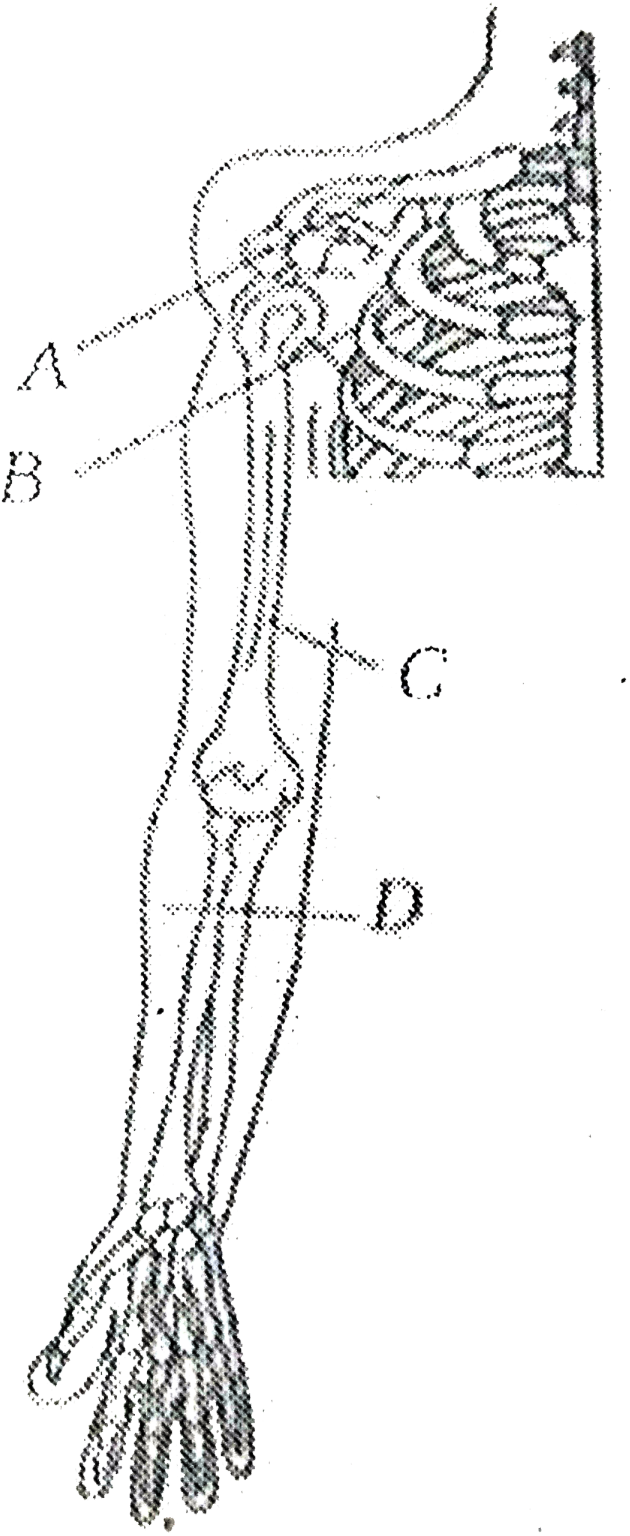
8. Which is option is correct for the region labelled as A, B, C and D in the givn diagram?


A
B
C
D

A. A Scapula, B Clavicle, C Humerus, D Ulna

B. A Clavicle, B Scapula, C Humerus, D Radius

C. A Clavicle B Ulna C Radius D Humerus

D. A Clavicle B Glenoid cavity C Radius D Ulna

Answer: b

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9. Match the following Columns.

Column I	Column II
A. Zygomatic bone	1. Keystone bone of cranium
B. Lacrimal bone	2. Cheek bone of cranium
C. Parietal bone	3. Smallest bone of face
D. Sphenoid bone	4. Roof of cranium
	5. Floor of cranium

A. A 1, B 3, C 5, D 2

B. A 2, B 4, C 5, D 1

C. A 2, B 4, C 1, D 3

D.

A	B	C	D
2	3	4	5

Answer: d

Watch Video Solution

10. Which of the following type of muscles are not fatigued soon

A. Cardiac muscle

B. Smooth muscle

C. Both (a) and (b)

D. Voluntary muscle

Answer: c

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11. Which is correct statement for white muscle fibre

A. It contains low amount of haemoglobin and mitochondria

B. It contains higher amount of myoglobin

C. It contain low amount of myoglobin and mitochondria

D. It prossesses only actin type of protein

Answer: c

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12. Select the correct statement about muscular disorder.

A. Accumulation of urea and creatine in joints.

B. An overdose of vitamin-D causes osteoporosis

C. Rapid contraction of skeletal muscles causes dystorphy

D. Failure of neuromuscular transmission in mysthenai gravis can prevent normal swallowing

Answer: d

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13. The H-zone in the skeletal muscle fibre is due to the

A. central gap between myosin filament in the A-band

B. Central gap between actin filaments extending through mysoin filament in the A-hand

C. extension of mysoin filament in the central portion of the A-band

D. absence of myofibrils in the central portion of A-band

Answer: b

Watch Video Solution

14. Select the correct statement with respect to locomotion in humans

A. Accumulation of uric acid crystals in joints causes their inflammation.

B. The vertebral column has 10 thoracic vertebrae

C. The joint between adjacent vertebrae is a fibrous joint

D. The decreased level of progesterone causes osteporosis in old people

Answer: a

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15. The characteristics and an example of a symbol joint in humans is

	Characterstics	Example
(a)	Lymph filled between two bones, limited movement	Gliding joint
(b)	Fluid cartilage between two bones, limited movements	Knee joint
(c)	Fluid filled between two joints, provides cushion	Skull bones
(d)	Fluid filled synovial cavity between two bones	Joint betwee

A.

Characteristics	Example
Fluid filled between two joints, provides cushion	Skull bones

B.

Characteristics	Example
Fluid-filled synovial cavity between two bones	Joint between at

C.

Characteristics	Example
Lymph-filled between two bones, limited movement	Gliding, joi

D.

Characteristics	Example
Fluid catilage between two bones, limited movement	Knee joint

Answer: b

Watch Video Solution

16. Match the following Columns.

Column I	Column II
A. Mastoid process	1. Premaxilla
B. Acromion process	2. Axis
C. Olecranon process	3. Scapula
D. Odontoid process	4. Ulna
	5. Periotic bone

	A	B	C	D
A.	4	5	3	2
B.	4	2	1	5
C.	5	3	4	2

D.

A	B	C	D
5	2	4	1

Answer: c

Watch Video Solution

17. Radius is a bone found in

A. arms

B. legs

C. pelvic girdle

D. None of these

Answer: a

Watch Video Solution

18. Select the correct statement regarding the specific disorder of musclular or skeletal system.

A. Muscular dystrophy -Age related shortening of muscles

B. Osteoporosis -Decrease in bone mass and higher chances of fractures with advancing age

C. Myasthenia gravis -Autoimmune disorder which inhibits sliding of myosin filaments

D. Gout -Inflammation of joints due to extra deposition of calcium

Answer: b

Watch Video Solution

19. Choose the correct option regarding a normal human.

I. the skull is dicondylic.

II. Metacarpals are five in numbers.

III. Patella is a cup-shaped bone covering the knee dorsally.

IV. Scapula is a large triangular flat bone, situated on ventral side of the thorax.

V. The pelvic girdle has two coxal bones.

Identify the correct statement(s).

A. I and V

B. I and II

C. II and V

D. III and IV

Answer: d

Watch Video Solution

20. Which is correctly categorised ?

A. Troponin and myosin - Complex proteins in striated muscles

B. Calcitonin and thymosin - Thyroid hormones

C. Pepsin - Digestive enyzmes secreted in stomach

D. Secretin and rhodopsin - Polypeptide hormones

Answer: a

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21. Basic unit of muscle contraction is

A. Collagen

B. sarcomere

C. bands

D. myofibrils

Answer: b

Watch Video Solution

22. Which one is a mismatch

A. Sternum and ribs -Axial skeleton

B. Clavicle and glenoid cavity -Pelvic girdle

C. Humerus and ulna -Appendicular skeleton

D. Malleus and stapes -Ear ossicles

Answer: b

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23. Which is not true for red fibres

A. Muscles contain a red coloured oxygen storing pigment

B. Muscles contain plenty of mitochondria

C. They are also called aerobic muscles

D. Amount of sarcoplasmic reticulum is high

Answer: d

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24. Which statements about muscle contractions are true

(i) Acetylcholine is released when neural signal reaches motor end plate

(ii) Muscle contraction is initiated by a signal sent by CNS via a sensory neuron

(iii) During muscle contraction , isotropic band gets elongated

(iv) Repeated activation of the muscle can lead to lactic acid accumulation

.

A. I and IV

B. I and III

C. II and III

D. I, II and III

Answer: a

Watch Video Solution

25. Actin binding sites are located over

A. troponin

B. tropomyosin

C. meromyosin

D. Both (b) and (c)

Answer: b

Watch Video Solution

26. The scapula is a large triangular flat bone situated in the dorsal part of the thorax between

A. second and fifth ribs

B. second and seventh ribs

C. third and ribs

D. third and eighth ribs

Answer: b

Watch Video Solution

27. The coxal of the pelvic girdle is formed by the fusion of

A. ilium, ischium and pubis

B. scapula and clavicle

C. ilium and scapula

D. ilium, scapula and ischium

Answer: a

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28. The joint of radio-ulna with the upper arm is

A. hinge joints

B. pivot joint

C. socket joint

D. None of these

Answer: a

Watch Video Solution

29. The clavicle articulates with _____ of scapula .

A. acromion process

B. glenoid cavity

C. acetabulum cavity

D. Ball and socket joint

Answer: a

Watch Video Solution

30. The sensation of fatigue in the muscles due to prolonged strenuous physical work. is caused by (2010)

A. a decrease in the supply of oxygen

B. minor wear and tear of muscle fibres

C. the depletion of glucose

D. the accumulation of lactic acid

Answer: d

Watch Video Solution

31. Which of the following option shows correct order of some stages of muscles contraction from the beginning to the end of the process ?

A. Stimuli $\rightarrow$ Neurotransmitter secretion $\rightarrow$ Release of Ca^{+} $\rightarrow$ Cross bridges formation $\rightarrow$ Excitation of T-system $\rightarrow$ Sliding of actin filaments

B. Stimuli $\rightarrow$ Neurotransmitter secretion $\rightarrow$ Excitation of T-system $\rightarrow$ Release of Ca^{2+} $\rightarrow$ Cross bridges formation $\rightarrow$ Sliding of actin filaments $\rightarrow$ 'H' band diminishes

C. Stimuli $\rightarrow$ Excitation of T-system $\rightarrow$ Neurotransmitter secretion $\rightarrow$ Cross bridges formation $\rightarrow$ Sliding of actin filaments $\rightarrow$ H-band diminishes

D. Stimula $\rightarrow$ Neurotransmitter secretion $\rightarrow$ Cross bridges formation $\rightarrow$ Excitation of T-system $\rightarrow$ Sliding of actin filaments

Answer: b

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32. What is the location of troponin in the process of muscle contraction

A. Attached to myosin filament

B. Attached to tropomyosin

C. Attached to myosin cross bridge

D. Attached to T-tubule

Answer: b

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33. Which one of the following is the correct description of a certain part of a normal human skeleton ?

A. Parietal bone and the temporal bone of the skull are joined by fibrous joint

B. First vertebrae is axis, which articulates with the occipital condyles

C. The 9th and 10th pairs of ribs are called the floating ribs

D. glenoid cavity is a depression to which the thigh bone articulates

Answer: a

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34. Elbow joint is an example of

A. pivot joint

B. hinge joints

C. gliding joint

D. ball and socket joint

Answer: b

Watch Video Solution

35. Pectoral girdle constitute

A. scapula and clavicle

B. radius and ulna

C. ilium and ishium

D. maxilla and mandible

Answer: a

Watch Video Solution

36. The contractile protein of skeletal muscle involving ATPase activity is

A. tropomyosin

B. myosin

C. α-actinin

D. troponin

Answer: b

Watch Video Solution

37. Which one of the following items gives its correct total number

A. Floating ribs in humans - 4

B. Amino acdis found in protein - 16

C. Types of diabetes - 3

D. Cervical vertebrae in humans - 8

Answer: a

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38. Muscles which bend the joint is

A. flexor

B. extensor

C. involution

D. twitch

Answer: a

Watch Video Solution

39. Acetabulum is a concave surface of

A. pelvis

B. pectoral

C. foramen magnum

D. foramen monro

Answer: a

Watch Video Solution

40. The total number of bones in the hindlimb of a man is

A. 14

B. 21

C. 24

D. 30

Answer: d

Watch Video Solution

41. which of the following is a contractile protein ?

A. Tubulin

B. Myosin

C. Tropomyosin

D. All of these

Answer: b

Watch Video Solution

42. The joint between atlas and axis is called

A. pivot joint

B. hinge joint

C. saddle joints

D. angular joint

Answer: a

Watch Video Solution

43. In the resting muscle fibre, tropomysin partially covers

A. calcium binding sites on troponin

B. actin binding sites on myosin

C. myosin binding sites on actin

D. calcium binding sites on actin

Answer: c

Watch Video Solution

44. In human beings the cranium is formed by

A. eight bones of which two are paired

B. fourteen bones of which six are paired

C. ten bone of which two are paired

D. twelve bones of which four are paired

Answer: a

Watch Video Solution

45. Which of the following statements are correct regarding muscle proteins ?

(i) Actin is a thin filament and is mde up to two F-actin

(ii) The complex protein, tropomyosin is distributed at regular intervals on the troponin

(iii) Myosin is a thick filament which is also a polymerised protein.

(iv) The globular head of meromyosin consists of light meromyosin (LMM).

A. I, II and III

B. I, II and IV

C. I and III

D. II and IV

Answer: c

Watch Video Solution

46. Match the following Columns.

Columns I (Types of synovial joint)	Column II (Bones involved)
A. Ball and socket	1. Carpal and metacarpal of thumb
B. Hinge	2. Atlas and axis
C. Pivot	3. Frontal and parietal
D. Saddle	4. Knee
	5. Humerus and pectoral girdle

A.	A	B	C	D
	5	4	2	1
B.	A	B	C	D
	1	3	4	5
C.	A	B	C	D
	5	4	3	1
D.	A	B	C	D
	1	2	5	4

Answer: a

Watch Video Solution

47. The number of occipital condyles in man is/are

A. one

B. two

C. three

D. four

Answer: b

Watch Video Solution

48. Progressive degeneration of skeletal muscle, mostly due to genetic disorder occurs in

A. myasthenia gravis

B. muscular dystrophy

C. tetany

D. osteoporosis

Answer: b

Watch Video Solution

49. The joint found in head of upper arm and pectoral girdle is

A. hinge joint

B. ball and socket joint

C. gliding joint

D. saddle joint

Answer: b

Watch Video Solution

50. The cytoplasmic segment of striated muscle fibre is termed

A. metamere

B. neuromere

C. sacroplasm

D. sarcomere

Answer: c

Watch Video Solution

51. Which of the following is made up of a single bone in mammal?

A. Dentary

B. Hyoid

C. Upper jaw

D. All of the above

Answer: d

Watch Video Solution

52. Pick out the correct match

A. Sternum - 14

B. Pelvis - 3

C. Ribs - 20

D. Face - 5

Answer: b

Watch Video Solution

53. An acronmian process is characteristically found in the

A. pelvic girdle of mammals

B. skull of frog

C. pectoral girdle of mammals

D. sperm of mammals

Answer: c

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54. Which one of the following pairs is correctly matched ?

A. Cartilaginous joint - Between vertebrae

B. Hinge joint -Between phalanges

C. Fibrous joint -Between zygapophysis of the successive vertebrae

D.

Answer: d

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