BIOLOGY

NEET & AIIMS

LOCOMOTION AND MOVEMENT

Example

1. What is movement ?

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2. Define locomotion .

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3. what are cilia ?

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4. Name two human body cells which show pseudodial movements.

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5. Name the different stimuli that cause excition of muscle fibre .

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6. What is epimysium ?

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7. Name the three proteins present on the thin myo-filament

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8. which element is required for conversion of G-actin into F-actin ?

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9. What does sarcomere comprises of ?

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10. Describe HMM.

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11. Name the oxygen - binding protein in the muscle ?

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12. What is skeletal system ?

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13. Which two struures the skeleton ?

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14. Name the two types of skeletal system .

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15. What is hyoid bone ?

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16. Name the three bones of ear ossicle .

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17. What if formation magnum ?

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18. What is appendicular skeletion ?

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19. Name the two bones which constitute each half of the pectoral girdle .

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20. What does sarcrum and coccyx together form?

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21. Describe the hip Joint .

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22. Define Joints .

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23. What are sutures ?

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24. Which fluid is present in the cavity formed by articulation of freely moveable joints?

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25. Name the different types of synovial joints .

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26. What are autoimmune disorders ?

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27. What is dystrophin ? Why is it important ?

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28. What is gout ?

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Try Yourself

1. Which movement is involved is involved in the passage of ovum through the oviduct ?

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2. Which of the following cells use flagella for locomotion ?

A. Spermatozoa

B. Ovum

C. Alvoli

D. RBC

Answer:

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3. Name the structure used By Hydra to capture to capture food.

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4. Straming of protoplasm in Amoeba leads to the formation of

A. Cilia

B. Flagella

C. Tentacles

D. Pseudopodia

Answer:

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5. In human beings , the movement of limbs , jaws and tongue occurs due to

A. Contraction and relaxation of muscle

B. Contraction and relaxation of flagella

C. Contraction and relaxation of cilia

D. Contraction and relaxation of Pseudopodia

Answer:

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6. Select the correct statement

A. All locomotions are movements.

B. All movements are locomotions

C. Paramoecilm use flagella for ingesting food particles .

D. Hydra use flagella for locomotion

Answer:

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7. Why is movement necessary in WBC and macrophages ?

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8. Why are cilia present in trachea?

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9. Give and example to show that movement of internal body parts is essential for carrting out Vital processes in organism .

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10. What is the role of cilia in paramoecium ?

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11. What are fascia ?

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12. Match the following

	Column-I		Column-II
$a.$	troponin T	(i)	Binding site for calcium
$b.$	Troponin I	(ii)	Binding site for Tropomyosin
$c.$	Troponin C	(iii)	Inhibits actin-Myosin interaction

A. a(ii),b(iii)c(i)

B. a(i) ,b(ii),c(iii)

C. a(iii),b(i),c(ii)

D. a(ii),b(i),c(iii)

Answer:

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13. What are Fasciculi?

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14. Name the muscle which is non-striated involuntary and not attached to akeketon .

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15. What is the location of cardiac muscle ?

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16. Match the following

	Column-I		Column-II
$a.$	Begining of oesophagus	(i)	Skeletal muscle
$b.$	Posterior end of oesophagus	(ii)	Cardiac muscle
$c.$	Heart	(iii)	smooth muscle

A. a(i),b(iii),c(ii)

B. a(i),b(ii),c(iii)

C. a(ii),b(iii),c(i)

D. a(iii),b(i),c(ii)

Answer:

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17. Which of the following tissue is originated from mesoderm?

A. Spinal cord

B. Brain

C. Muscles

D. Digestive tract

Answer:

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18. Which of the muscle is primarily involved in locomation ?

A. Smooth

B. Cardiac

C. Tendon

D. Skeletal

Answer:

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19. Which protein is present in thick flament and thin filament ?

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20. Which neurotransmitter is responible for contraction of muscle ?

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21. How does contraction of muscle fibres occur?

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22. What are T-Tubules ?

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23. Globular head of mysin molecule act as

A. ATPase

B. CTPase

C. TIPAse

D. GTPase

Answer:

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24. How many bones are present in the human body ?

A. 205

B. 206

C. 201

D. 200

Answer:

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25. Name the two principal divisions of skeletal system present in human beings .

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26. The skeleton of the head is called

A. Hyoid

B. Skull

C. Ossicle

D. Cartillage

Answer:

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27. The matrix of bones is mainly made up of

A. Calcium salt

B. Sodium salt

C. Chondroitin salt

D. Magnesium salt

Answer:

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28. Name the bone which is present at the base of buccal cavity .

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29. how many vertebrane are present at the base busccal cavity .

A. 26

B. 30

C. 20

D. 14

Answer:

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30. Which of the following is the first vertebrae ?

A. Axis

B. Atlas

C. Sacrum

D. Coccyx

Answer:

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31. How many lumber present in vertebral column of human ?

A. 7

B. 11

C. 6

D. 5

Answer:

Watch Video Solution

32. How many lumber vertebrae present in the human body ?

A. 12

B. 24

C. 13

D. 05

Answer:

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33. Name the three types of ribs.

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34. What are cervical vertebrae ?

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35. What are intervertebral discs ?

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36. The floating ribs play an important role fot the protection of

A. Buccal cavity

B. Testes

C. Kidneys

D. Ovaries

Answer:

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37. Which of the following is the hardest connective tissue ?

A. Blood

B. Cartilage

C. Areolar connective tissue

D. Bone

Answer:

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38. Why do we need appendicular skeleton ?

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39. The scapula extends on the backside of the thorax between

A. 2^{nd} and 8^{th} rib

B. 1^{st} and 7^{th} rib

C. 2^{nd} and 7^{th} rib

D. 3^{rd} and 7^{th} rib

Answer:

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40. which bone articulates with the acetabulum ?

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41. How many bones are present in each lower limb of human ?

A. 25

B. 24

C. 30

D. 27

Answer:

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42. What are tarsal ?

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43. How many bones forms girdle in human ?

A. 1

B. 2

C. 5

D. 4

Answer:

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44. Name the joint present in the elbow

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45. Name the cartiluage which oovers the ends of bones forming joints

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46. In cartilaginous joints , which struture joints the two bones ?

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47. Give and example of saddle joint.

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48. Which is the simplest synovial joint ?

A. Ball and socket

B. Hinge joint

C. Saddle joint

D. Gliding joint

Answer:

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49. Which of the following joint is present between staernum and ribs ?

A. Cartilginous joint

B. Fibrous joint

C. Synovial

D. Suture

Answer:

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50. Name the structure where sutures are present .

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51. Name the joint present between the radius and ulna

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52. Which of the following joints allow movement in many directions ?

A. Saddle joint gliding joint

B. Ball and socket joint and saddle joint

C. Pivot joint and hinge joint

D. Ball and socket joint and hinge joint

Answer:

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53. Which joint do not allow any movement ?

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54. Name the muscular disorder in which rapid or wild contraction of muscles occurs .

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55. Which of the following is a genetic disorder ?

A. Osteoporosis

B. Arthrtis

C. Gout

D. Muscular dystrophy

Answer:

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56. Which receptors are affected in myasthenia gravis ?

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57. Where does uric acid deposit in gout ?

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58. In tetany patients the level of _____ decreases in the extra cellular matrix

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59. Name the gland which produces calcitonin.

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Exercise

1. Cyclosis , A characteristic of plants cells this movement due to

A. Sliping microtububule

B. Cytoplasmic streaming

C. Beating of cilia

D. Podia formation

Answer: B

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2. Sheet or band of fibrous connective tissue that is deep to the skin and entire muscles and other organs of body are

A. Epimysin

B. Fasicule

C. Endoomysium

D. Fascia

Answer: D

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3. Contractile unit of muscle is part of myosfibril between

A. X-line and I-band

B. Z-line and Z-line

C. Z- line and A-band

D. A-band and I- band

Answer: B

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4. The number of thick myofilaments (myosin) surrounding single thin myofilament (actin) are

A. 3

B. 6

C. 2

D. 4

Answer: A

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5. At rest, when mucsle is relaxed, thin filaments interdigitate with thick filaments only

A. Outsine A- band

B. Outside H- bond

C. Inside A- band

D. Inside M-line

Answer: B

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6. The ion that must be present in adequate amount for the binding of cross bridges with actin is

A. Ca^{+}

B. Na^{+}

C. K^{+}

D. Mg^{+2}

Answer: A

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7. In which cateory of muscle of muscle contraction the filament that move to shorten a muscle are

A. Skeletal muscle fibre

B. Cardiac muscle fibre

C. Smooth muscle fibres

D. All of these

Answer: D

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8. According to sliding filament theory of muscle contraction, the filament that move to shorten a muscle are

A. Myosin

B. Actin

C. Collagen

D. Creating phosphate

Answer: B

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9. Anaerobic work becomes painful due to the accumulation of

A. Ca^{+} ions

B. Myosin

C. Lactic acid

D. Creatine phoshate

Answer: C

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10. The lactic acid generated during muscle contraction is finally converted to glycogen in

A. Muscle

B. Kidney

C. Liver

D. Pancreas

Answer: C

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11. Which bone is keystone of the cranial floor ?

A. Parietal

B. Occipital

C. Sphenoid

D. Frontal

Answer: C

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12. Which is the only movable skull bone other than auditory ossicles ?

A. Maxillae

B. Mandible

C. inferior nasal conchase

D. Zygomatic

Answer: B

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13. Which if the best distinguishing feature of thoracic vertebrae ?

A. They have larger transverse process

B. Their spinous process is directed posteriorly

C. They articular with the ribs

D. Abence of vertebral transverse formen

Answer: C

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14. Which of the following ribs are not connected ventrally with the stenum and are called as floating ribs ?

A. First five pairs

B. $8^{th}, 9^{th}$ and 10^{th} pairs

C. 11^{th} and 12^{th} pair

D. $7^{th}, 8^{th}$ and 9^{th} pairs

Answer: C

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15. Which part can be easily felt as high point of shoulder ?

A. Sterno - clavicle joint

B. Acromian-Clavicle joint

C. Gleno- clavicle joint

D. Superior angle of scapula

Answer: B

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16. During walking talus Passes/transmits about the half of the weight of body to

A. Cuneiform

B. Cuboid

C. Calcaneus

D. Navicular

Answer: C

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17. 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 , Malleus tibia metatarsals

B. Tarsals , fermuar , metatarsals tibia

C. Pelvis , ulna , patella tarsals

D. Sternum femur tibia fibula

Answer: B

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18. Lower jaw is made up to

A. Mandible

B. Vomer

C. Maxilla

D. Palatine

Answer: A

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19. Sella turcica, a depression enclosing the pituitary gland is found in

A. Temporal bone

B. Parietal bone

C. Sphenoid bone

D. Frontal bone

Answer: C

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20. Odontoid process is present with which vertebrae of vertabral column ?

A. Atlas vertebrae

B. Axis vertebrae

C. Vertebrae prominens

D. Lumber vertebrae

Answer: B

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21. How many vertebra-chondral ribs are present in the human ?

A. 7 pairs

B. 2 pairs

C. 3 pairs

D. 12 pairs

Answer: C

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22. Glenoid cavity is associated with

A. Pelvic girdle

B. Coracoid

C. Clavicle

D. Scapula

Answer: D

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23. Which one of the following is called hip bone ?

A. Innominate

B. Scapula

C. Manubrium

D. Coracold

Answer: A

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24. Saddle joint is present between

A. Radius and ulna

B. Carpals

C. Carpal and metacarpal of thumb

D. Ulna and humerus

Answer: C

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25. Hinge joint is present between

A. Humerus and Radio -Ulna

B. Femur and Pelvic girdle

C. Femur and Acetabulum

D. Humerus and pectoral girdle

Answer: A

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26. 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 thuscle 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 of pelvic girdle

Answer: A

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27. Which of the following abnoromalities will include the secretion of abnormal granules-pannus ?

A. Osteoarthritis

B. Rheumatoid arthritis

C. Gout

D. Osteoporsis

Answer: B

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28. The cells responsible for the resorption of bone matrix during the growth and remodeling of the skeleton are called

A. Osteoblasts

B. Osteclasts

C. Chondroblasts

D. Chondroclasts

Answer: B

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29. When a bone breaks into more than two pieces, such a fracture is called

A. simple fracture

B. Green stick fracture

C. Comminuted fracture

D. Compound fracture

Answer: C

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30. Bone formed by the ossification of tendon is called as

A. Sesamoid

B. Cartilage or replacing bone

C. Investing or replacing bone

D. Membranous bone

Answer: A

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Assignment Section A

1. The movements which results in change of place or location constitutes

A. Locomotion

B. protoplasmic streaming

C. Vital movement

D. Elasticity

Answer: A

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2. Amoeba shows movement with help of

A. Pseudopodia

B. Flagella

C. Cilia

D. Muscle

Answer: A

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3. Muscle fatigue due to accumuation of

A. CO_2

B. Myosin ATPase

C. Lactic acid

D. Creatine phosphate

Answer: C

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4. The number of floating ribs is

A. 2 pairs

B. 12 pairs

C. 7 pairs

D. 3 pairs

Answer: A

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5. _____ circulates blood to different parts of the body .

A. Peristaltic movement of oesophagus

B. Pumping of heart

C. Peristaltic movement of intestine

D. Ciliary movement of oviduct

Answer: B

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6. Which of the following is not a function of locomotion ?

A. Procurement of food

B. Finding mate

C. Peristaltic movements

D. Searching and building of shelter

Answer: C

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7. The cells of the body which show pseudpodial movement are

A. RBC and WBC

B. WBC and macrophages

C. Liver cell and WBC

D. Marcrophages and liver cell

Answer: B

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8. Which of the following structures contract and relax rhythically to produce movement ?

A. Flagella

B. Cilia

C. Muscles

D. Pseudopodia

Answer: C

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9. The muscle is a specuialised tissue which is originated from

A. Endoderm

B. Mesoderm

C. Ectoderm

D. Yolk sac

Answer: B

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10. The specialised cells that make the muscular tissue are

A. Neuroblast

B. Osteoblast

C. Osteocytes

D. Myocytes

Answer: D

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11. A human body contains how many muscles ?

A. 640

B. 639

C. 600

D. 700

Answer: B

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12. A collagenous connective tissue layer hold the muscle bundles together .

A. Perimysin

B. Endomysium

C. Epimysium

D. Fascia

Answer: D

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13. A bundle of muscle fibre is called

A. Fascia

B. Glenoid cavity

C. myocyte

D. Fasciculus

Answer: D

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14. The sheath covering the bundle of muscle fibres is

A. Epimsium

B. Endomysium

C. Perimysium

D. Mesoderm

Answer: C

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15. Tendons connects

A. Muscle to bone

B. Bone to vertebral column

C. Bone to bone

D. Bone to cartillage

Answer: A

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16. The plasma membrane of the muscle fibre is called

A. Sarcoplasma

B. Sarcolemma

C. Sarcoplasmic Reticulum

D. Syncytial

Answer: B

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17. The dark band present on myofibril is

A. Isotropic band

B. Anisotropic band

C. Hensen's Zone

D. M-line

Answer: B

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18. M-line passes through the sentre of

A. Z-disc

B. I-band

C. HMM

D. H-zone

Answer: D

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19. The structural and functional unit of myofibrill which contracts to cause movement is called

A. Sarcolemma

B. Sarcomere

C. Fascia

D. Myosin

Answer: B

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20. A sarcomere comsists of

A. One A-band and one I-band

B. HalfA band and two half I -band

C. Half A -band and one I- band

D. One A -band and two half I -band

Answer: D

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21. Which of the protein is not a part of thin myofiament ?

A. myosin

B. Actin

C. troponin

D. Tropormyosin

Answer: A

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22. The monomeric protein which polymerises to form myosin is

A. Actin

B. Meromyosin

C. Tropomtosin

D. Troponin

Answer: B

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23. Select the correct option

A. HMM=Tail+ short arm

B. LMM=Tail + Head

C. HMM=Head+short arm

D. LMM=Head

Answer: C

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24. ATP binding site is located on the

A. Tropomyosin

B. Actin

C. Myosin

D. Troponin

Answer: C

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25. The anaerobic contraction of skeletal muscle causes deposition or accurmulation of

A. Gluconic acid

B. Lactic acid

C. pyruvic acid

D. Hydrochloric acid

Answer: B

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26. 80% of the lactic acid is converted to _____ in the liver

A. Cellulose

B. Acetyl CoA

C. Glycogen

D. Starch

Answer: C

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27. The number of bones present in the skeleton that runs along the middle longitudinal axis of the body is

A. 87

B. 90

C. 80

D. 78

Answer: C

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28. Cranium protects the brain is mode up of

A. 9 bones

B. 18 bones

C. 28 bones

D. 8 Bones

Answer: D

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29. Head of humerus articulates with _____ cavity

A. Glenoid

B. Acetabulum

C. Foramen magnum

D. Obturator formation

Answer: A

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30. Match the following

	Column-I		Column-II
a.	Incus	(i)	Hammer shaped
b.	Malleus	(ii)	Stirrup shaped
c.	Stapes	(iii)	Anvil shaped

A. a(iii),b(ii),c(i)

B. a(ii),b(i),c(iii)

C. a(i),b(iii),c(ii)

D. a(iii),b(i),c(ii)

Answer: D

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31. The U -shaped bone present at the base of buccal cavity is

A. Skull

B. Hyoid

C. Incus

D. Stapes

Answer: B

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32. The longest bone of the thigh is

A. Phalanges

B. Tarsal

C. Femur

D. Metatarsal

Answer: C

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33. Match the following

	Column I	Column II
a.	Tarsal	(i) 14
b.	Phalanges	(ii) 1
c.	Meta tarsal	(iii) 7
d.	Femur	(iv) 5

A. a(iii),b(i),c(iv),d(ii)

B. a(i),b(ii),c(iii),d(iv)

C. a(ii),b(iii),c(iv),d(i)

D. a(iv),b(i),c(iii),d(ii)

Answer: A

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34. The joint present between radius and ulna is

A. Gliding joint

B. Saddle joint

C. Pivot joint

D. Angular joint

Answer: C

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35. In Myasthenia gravis _____ is affected .

A. Sarcoplasmic reticulum

B. Sarcolemma

C. Neuromuscular junction

D. T-Tubules

Answer: C

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Assignment Section B

1. Select the true statement

A. A band is present in the middle of sarcomere

B. H zone is present in the middle of A - band

C. M line is present in the middle of H-Zone

D. All of these

Answer: D

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2. During muscle contraction in a sjeletal muscle fibre Ca^{2+} combines with

A. $T_P T$

B. T_PC

C. T_PI

D. Tropomyosin

Answer: B

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3. The contraction of muscle of shortest duration is seen in

A. Jaws

B. Eye lids

C. Heart

D. intestine

Answer: B

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4. In a contracted skeletal muscle fiber,

A. M line disappears

B. H-zone elongates

C. I-band remains constant

D. A - band disappears

Answer: A

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5. One of the followuing ions is essential for muscular contraction

A. Na^+, Ca^{++}

B. Mg^{++}, Ca^{++}

C. Mg^{++}, K^+

D. K^+, Na^+

Answer: B

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6. The potential difference across the membrane of a relaxed muscle fibre is called resting potential ,It amounts to about

A. $-70mV$

B. $50MV$

C. $100mV$

D. $50-100mV$

Answer: A

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7. In which one of the following functions, white muscles are not used ?

A. Moving of eye balls

B. Fast and strenuous work for short duration

C. For sustained work at a slow rate for a prolonged duration

D. Fast flights as in sparrows

Answer: C

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8. Cori cycle involves

A. Liver

B. Muscles

C. Liver and Muscles both

D. None of these

Answer: C

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9. Which one of the following is a viral disease that weakens the muscles ?

A. Atrophy

B. Poliomylitis

C. Dystrophy

D. Muscular hypertrophy

Answer: B

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10. The backward bending of the shank is worked out by

A. Gluteus maximus

B. Quadriceps femoris muscles

C. Adductor group of muscles

D. Gastrocnemius and hamstrings

Answer: D

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11. Which one is not the character of red skeletal muscles ?

A. Smaller diameter

B. More mitrochondira

C. More sarcoplasmic reticulum

D. More blood capillaries

Answer: C

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12. Which of the following is an example of multiunit smooth muscles ?

A. Smooth muscle in uterine wall

B. Smooth muscle with the intestine

C. Masseter muscle of the jaw

D. Arrector pili muscle of skin

Answer: D

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13. Least blood supply will be present in : —

A. Skeletal muscle

B. Smooth muscle

C. Cardiac muscle

D. None of these

Answer: B

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14. Foramen magnum is associated with which bone ?

A. Frontal

B. Parietal

C. Temporal

D. Occipotal

Answer: D

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15. Tongue bone is

A. Mandible

B. Hyoid

C. Flat bone

D. Coccyx

Answer: B

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16. The number of anterior curves present with human vertebral column is

A. 2

B. 4

C. 6

D. 1

Answer: A

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17. The heaviest and largest vertebrae are

A. Thoracic

B. Lumbar

C. Cervical

D. Sacral

Answer: B

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18. Type of vertebrae in case of human is

A. Amphiplatyan

B. Procoelus

C. Amphicoelus

D. Heterocoelus

Answer: A

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19. 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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20. Olecranon fossa is present over

A. Radius

B. Ulna

C. Humerus

D. Femur

Answer: C

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21. Phalangeal formula for the hand is

A. 23333

B. 33333

C. 33322

D. 32333

Answer: A

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22. Obturator formen is enclosed between

A. llium , ischium and pubis

B. Ischium and pubis

C. lium and ischium

D. llium and pubis

Answer: B

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23. Which of the following are involved in the formation of acetabulum ?

a. llium

b. ischium

c. pubis

A. a & b only

B. b & c only

C. a & c only

D. a ,b & c

Answer: D

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24. Which of the following muscles are not under the voluntary control of nervous system ?

A. Pharynx

B. Urinary bladder

C. Anterior end of oesophagus

D. Tongue

Answer: B

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25. Mark the odd one w.r.t girdle bones

A. Clavicle

B. Ischium

C. Ileum

D. Pubis

Answer: C

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Assignment Section C

1. The pivot joint between atlas and axis is a type of

A. Fibrous joint

B. Cartilaginous joint

C. Synovial joint

D. Saddle joint

Answer: C

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2. Out of 'x" paris of ribs in humans only 'Y' Pairs are true ribs selecet the option that correctly represents values of X and Y and provides their explanation

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3. Name the ion responsible for masking active sites for myosin for cross-bridge activity during muscle contraction

A. Calcium

B. Magnesium

C. Sodium

D. Potassium

Answer: A

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

A. Immune disorder affecting neuromuscular junction leding to fatigure

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

C. Decreased level of estrogen

D. Accummation of joints

Answer: C

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5. Lack of relaxation between successive stimuli in striated muscle contraction is known as

A. Tonus

B. Spasm

C. Fatigue

D. Tetanus

Answer: D

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

A. Locomotion

B. Producation of erythrtocytes

C. Strorage of minerals

D. Producation of body heat

Answer: D

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7. Which of the following joints would allow no movement

A. Ball and socket jkoint

B. Fibrous joint

C. Cartilaginous joint

D. Syncytial joint

Answer: B

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8. Sliding filament theory can be best explained as

A. When myfilaments slide pass each other myosin filaments shorten while actin filaments do not shorten

B. When myfilaments slide pass each other actin filaments shorten while myosin filaments do not shorten

C. Actin and myosin filaments shorten and slide pass each other

D. Actin and myosin filaments do not shorten but rather slide pass each other

Answer: D

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9. Glenoid cavity articulates

A. Humerus with scapula

B. Clavicle with acromion

C. Scapula with acromion

D. Clavicle with scapula

Answer: A

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

A.

Type of joint	Example
Cartilahinous joint	Between frontal and parietal

B.

Type of joint	Example
Pivot joint	Between third and fouth cervical vertebrae

C.

Type of joint	Example
Hinge joint	Between humerus and pectoral girdle

D.

Type of joint	Example
Gliding joint	Between carpals

Answer: D

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11. Stimulation of a muscle fibre by a motar neuron occurs at

A. The neuromuscular junction

B. The transverse tubules

C. The myofibrill

D. The sarcoplasmic reticulum

Answer: A

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12. 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	Examples
Fluid filed between two joint , provides cushion	Skull bones

B.

Characteristics	Examples
Fluid filled synovial cavity between two bones	Joint between

C.

Characteristics	Examples
Lymph filled between two bones limited movement	Gliding joi

D.

Characteristics	Example
Fluid cartilage between two bones limited movements	Knee joi

Answer: B

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13. 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. A decreased level of progesterone causes osteoporosis in old people

Answer: A

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

A. The central gap between myosin filaments in the A- band

B. The central gap between actin filaments extending through myosin filaments in the A- band

C. Extension of myosin filaments in the central portion of the A - band

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

Answer: B

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15. Three of the following pairs of the human skeletal parts are correctly matched with their respective inclesive skeletal category and one pair is not matched Identify the non-matching pair

A. Pairs of skeletal Parts — Category
Humerus and Ulna — Appendicular skeleton

B. Pairs of skeletal Parts — Category
Malleus and Stapes — Ear ossicles

C. Pairs of skeletal Parts — Category
Sternum and Ribs — Axial skeleton

D. Pairs of skeletal Parts — Category
Clavicle and Glenoid cavity — Pelvic girdle

Answer: D

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16. The type of muscles present in our

A. Thigh are striated and voluntary

B. Upper arm are smoth muscle fibres Fusifrom in shape

C. Heart are involuntary and unstriated smooth muscles

D. Interstine are striated and involuntary

Answer: A

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17. Low Ca^{+} in the body fluid may be the cause of

A. Gout

B. Tetany

C. Anaemia

D. Angina pectoris

Answer: B

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18. Which one of the following pairs of structures is correctly matched with their correct description

A.

Structures	Desription
Tibia and fibula	Both form parts of knee joint

B.

Structures	Desription
Cartilage and cornea	No Blood supply but do require oxygen for

C.

Structures	Desription
Shoulder joint and elbow joint	Ball and socket type of joint

D.

Structures	Desription
Premolars and molars	20 in all and 3 rooted

Answer: B

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19. 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 vertebra is axis which articulated with the iccipital condyles

C. The 9^{th} and 10^{th} pairs of ribs called the floating ribs

D. Glenoid cavity is a deprssion to which the thigh bone articulates

Answer: A

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20. Which one of the following is correct paring of a body part and the kind of muscle tissue that moves it ?

A. Biceps of upper arm - Smooth muscle fibres

B. Abdominal wall - Smooth muscle

C. Iris - involuntary smooth muscle

D. Heart wall - Involuntary unstriated muscle

Answer: C

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21. Which one of the is the correct matching of three items and their grouping category ?

A. Items Group
llium , ischium , pubis -Coxal bones of pelvic girdle

B. Items Group
Actin , myosin ,rhodopsin -Muscle proteins

C. Items Group
Guanine, uracil , thiamine -Pyrimidines

D. Items Group
Malleus ,incus , Cochlea -Ear ossicles

Answer: A

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22. Elbow joint is an example of

A. Hinge joint

B. Gliding joint

C. Ball and soket joint

D. Pivot joint

Answer: A

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23. Which one of the items gives its correct total number ?

A. Cervical vertebrae in humans -8

B. Floating ribs in humans-4

C. Amino acids found in proteins -16

D. Types of diabetes -3

Answer: B

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24. In human body , which one of the following is anatomically correct ?

A. Cranial nerves -10 pairs

B. Floating ribs -2 pairs

C. Collar bones -3 pairs

D. Salivary glands - 1 pairs

Answer: B

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

A. Tropomyosin

B. Myosin

C. α-Actinin

D. Troponin

Answer: B

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26. An acromian process is characieristically 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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27. Which of the following pairs is correctly matched ?

A. Cartilagenous joint - Skull bones

B. Hinge joint -Between vertebrae

C. Fibrous joint -Between phalanges

D. Gliding joint -Between zygophyses of the successive vertebrae

Answer: D

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28. Which of the following are the regulatory protein in the muscle contraction ?

A. Troponin and tropomyosin

B. Troponium and actin

C. myosin and tropomyosin

D. Actin and tropomyosin

Answer: A

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29. Source of Ca^{++} for muscle contraction is both sarcoplasmic (endoplascmic) reticulum as well as extracellular fluid in case of

a. Skeletal muscles

b. Smooth muscles

C. Cariac muscles

A. A only

B. b and c only

C. a and c only

D. b only

Answer: B

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30. Which of the following in not applicable to red muscle fibes when compared to white Muscle fibres ?

A. Sustained contraction for long periods

B. Rich in myoglobin

C. Faster in contraction rate

D. Rate in mitochondria

Answer: C

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31. What is common between the muscle fibers of extensor of human back and those of flight muscles of the birds which remain in flight for long periods of time ?

a. They are thinner , red colored

b, they are thicker and light colored .

c. they have abundant mitochondria .

d. they have well developed sarcoplasmic reticulum

e. they show rate of contractions for longer periods

f, They show fast stenous activity

g. They do not get fatigued early .

h. They get fatigued quickly .

A. a,c,e,g ,are common

B. b,d,f,h are common

C. All features are common at different times

D. a,c,f,g are common

Answer: A

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32. During muscle contraction which of the following does not occurs ?

A. No change in length of isotropic band

B. Decrease in length of isotroopic band

C. No change in length of A band

D. decrease in length of actin myofilaments

Answer: D

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33. What would happen if ATP suddenly were not available after the sarcomere had started to shorten ?

A. Cross bridges would not be able to detach from actin

B. Muscle would remain in a state of rigidity

C. Muscle would relax immediately

D. Both (1) & (2)

Answer: D

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

A. Myasthenia gravis -Auto immune disorder which inhinbits sliding of myosin filaments

B. Gout- inflammation of joint due to extra deposition of calcium

C. Muscular dystrophy - age related shortening of muscles

D. Osteoporosis - decrease in bone mass and higher chanes of fractures with advancing age

Answer: D

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35. Myasthenia gravis involves weakness of skeletal muscles . Which of the following can act as a primary treatment of it ?

A. injection of neurotransmitter acetycholine

B. Injection of neurotransmitter adrenaline

C. Injection of acetyicholinesterase inhibitor

D. Taking protein rich diet

Answer: C

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36. The clavicle articulates with _____ of scapula .

A. Acromion process

B. Glenoid cavity

C. Acetabulum cavity

D. Ball and socket joint

Answer: A

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37. Stemum is connected to ribs by

A. Bony matter

B. White fibrous cartilage

C. Hyaline cartilage

D. Areolar tissue

Answer: C

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38. Which is part of pectoral girdle ?

A. Stemum

B. Acetabulum

C. Glenoid cavity

D. Ilium

Answer: C

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39. Total number of bones in limb of a tendon is called

A. 24

B. 30

C. 14

D. 21

Answer: B

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40. Bone formed by ossification of tendon is

A. Sesamoid bone

B. Cartilage bone

C. Investing bone

D. Replacing Bone

Answer: A

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41. The joint between atlas and axis is called

A. Angular joint

B. Hinge joint

C. Pivot joint

D. Saddle joint

Answer: C

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42. In which of the following fracures ,the bone is broken into more than two fragments with some of the fragments losing connection with blood circulation ?

A. Compound fracture

B. Greenstick fracture

C. Comminuated fracture

D. Simple fracture

Answer: C

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43. Formation of abnormal graanuls called pannus are secreted by synovial membrane in case of

A. Osteoarthritis

B. Rheumatoid arthritis

C. Gout

D. Osteomyelitis

Answer: B

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Assignment Section D

1. Assertion : Maximum movement is possible at the amphiarthrosis joint. Reason : Such joint are also called synovial joints and have almost frictionless movement due to synovial fluid.

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: D

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2. Assertion : Ca^{2+} plays important role in the musclc contraction.

Reason : Ca^{2+} Combines with troponin chain, displacing tropomyosin allowing the myosin head part to combine with actin to from actomyosin complex .

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: A

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3. Assertion : — On repeated application of stimuli, involuntary stripled muscles undergo fatigue.

Reason : This is due to non availability of ATP molecules.

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: D

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4. Assertion : All muscle follow " all or none" principle.

Reason : All muscles contract either fully or do not contract at all depending upon the threshold stimulus availability.

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: D

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5. Assertion : Tibia is stronger and inner whereas fibula is the slander and outer bone of lower leg or shank.

Reason : Tibia has a sharp crest in the shaft and a projection on the inner side of ankle of ankle called lateral malleolus .

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: C

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6. A: In case of gout , inflammation of a skeletal joint may immobilize the movement of the joint

R: Uric acid crystals in the joint cavity and ossicification of articular cartilage lead to this .

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: A

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7. A: Sella tursica is located in the skull which lodes the pituitary gland .

R: IT is a depression present in sphenoid bone .

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. If Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then mark

Answer: B

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8. A: Muscle tetanus is the phenomenon of sustained contraction of a muscle due to succession of nerve impulse/stimuli being received by it

R: Many of our daily activities are due to tetanic contraction of muscles like holding the book.

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: B

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9. A: Application of stimuli repeatedly just at the start of relaxation of a muscle fibre shows an increase in the extent of contraction initially and results in treppe or stair case phenomenon .

R: It can be attributed to the summation effect of the sub threshold stimuli being given again and again .

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: C

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10. A: Latent period is the interval between the application of appropriate stimulus and intitiation of contraction .

R: Latent period is minmum in cardiac muscle fibres .

A. IF both Assertion & Reason are true and the reason is the correct explanation of the assertion , then mark

B. If Both Assertion & Reason are true but the reason is not the correct exlanation of the assertion then mark

C. IF Assertion is true statement but Reason is false then mark

D. If both Assertion and Reason are false statements then joint

Answer: B

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