



BIOLOGY

BOOKS - CENGAGE BIOLOGY (ENGLISH)

LOCOMOTION AND MOVEMENT

Exercises

1. Cyclosis is a characteristic of plant cells such as Amoeba

and vertebrate WBCs. This movement is due to

A. Sliding microtubule

B. Cytoplasmic streaming

C. Beating of cilia

D. Podia formation

Answer: B



2. Sheet or broad band of fibrous connective tissue that is

deep to the skin and surrounds muscles and other organs of body are

A. Epimysium

B. Pasicule

C. Endomysium

D. Fascia

Answer: D

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3. The contractile unit of muscle is a part of myofibril be- tween

A. Z 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

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

A. Outside A band

B. Outside H band

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^{2+}

B. Na^+

 $\mathsf{C}.K^+$

D. $Mg^{2\,+}$

Answer: A



7. In which category of muscle fibers, contraction can be

regulated by acetylcholine neurotransmitter ?

A. Skeletal muscle fibers

B. Cardiac muscle fibers

C. Smooth muscle fibers

D. all of these

Answer: D

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. Creatine phosphate

Answer: B

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9. Anaerobic work becomes painful because of the accumulation of

A. Ca^{2+} ions

B. Myosin

C. Lactic acid

D. Creatine phosphate

Answer: C



10. The lactic acid generated during muscle contraction in coverted to glycogen mainly in

A. Muscle

B. Kidney

C. Liver

D. Pancreas

Answer: C

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

A. Jaws

B. Eyelids

C. Heart

D. Intestine

Answer: B

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12. The time period between the beginning of electrical response

and the peak of tension recorded is called

A. Contraction time

B. Latent Period

C. Refractory

D. Relaxation time

Answer: A

13. The muscle fatigue occurs due to the accumulation of:

A. CO_2

B. Lactic acid

C. Creatine phosphate

D. Myosin ATPase

Answer: B

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14. 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



15. Which element is essential for muscle con - traction ?

- A. $Na^+, Ca^{+\,+}$
- B. Mg^{++}, Ca^{++}
- C. $Mg^{+\,+}, K^+$
- D. K^+, Na^+

Answer: B



16. The potential difference across the membrane of a relaxed muscle fiber is called resting potential. It amounts to about

A. -70mV

 ${\rm B.}\,50mV$

 $\mathsf{C}.\,100mV$

 $\mathsf{D.}\,50-100mV$

Answer: A

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17. The longest individual muscle in the human body is

A. Quadriceps femoris

B. Gluteus maximus

C. Sartorius

D. Latissmus dorsi

Answer: C

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

A. Moving of eye balls

B. Fast and strenous 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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19. cori cycle involves

A. Liver

B. Muscles

C. Liver and muscles both

D. None the these

Answer: C

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20. Which one of the following is a viral disease that weakens the

muscles ?

A. Atrophy

B. Poliomyelitis

C. Dystrophy

D. Muscular hypertrophy

Answer: B

21. To one of the lateral surface of humerus, a muscle is attached called

A. Biceps brachii

B. Deltoidius

C. Sertorius

D. Messeter

Answer: B

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22. In birds, which flight muscle is well-developed ?

A. Atary

B. Biceps

C. Gastrocnemius

D. Pectoralis major

Answer: D



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

A. Gluteus maximus

B. Quadriceps femoris muscles

C. Adductor group of muscles

D. Gastrocnmus and hamstrings

Answer: D



24. The longes visceral muscles are found in

A. Vas deferens

B. Normal uterus

C. Pregnant utrerus

D. Abdomen

Answer: D

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

A. Smaller diameter

B. More mitochondria

C. More sarcoplasmic reticulum

D. More blood capillaries

Answer: C

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

A. Smooth muscle with blood vessels

B. Smooth muscle with intestine

C. Masseter muscles of the jaw

D. Arrector pili muscle of skin

Answer: D

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27. Only moveble bone in skull is

A. Mandible

B. Vomer

C. Maxilla

D. Palatine

Answer: A

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28. The part of skull that includes the cranium, olfactory capsules,

and optic capsulers is known as

A. Splanchnocranium

B. Dermocranium

C. Neurocranium

D. Cranium

Answer: C



29. Only moveble bone in skull is

A. Mandible

B. Vomer

C. Maxilla

D. Palatine

Answer: A

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30. Which one of the followoing is the bone enclosing the tympanum is

mammals ?

A. Tympanic membrane

B. Tympanic membrane

C. Masloid

D. Periodic and tympanic bulla

Answer: B

31. 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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32. The number of upaired bones in the cranium is

A. 2

B.4

C. 6

Answer: B



33. Foramen magnum is associated with which bone ?

A. Frontal

B. Perietal

C. Temporal

D. Occipital

Answer: D



34. Tongue bone is

A. Mandible

B. Hyoid

C. Flat bone

D. Coccyx

Answer: B

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35. Odontoid process is present with which vertebrae of vertabral column

?

A. Atlas vertebrae

B. Axis vertebrae

C. Vertebra prominens

D. Lumber vertebrae

Answer: B

36. The number of anterior curves present with humen vertebral column

is

A. 2 B. 4

C. 6

D. 1

Answer: A

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37. The total number of movable vertabrae in our body are

A. 26

B. 24

C. 31

D. 30

Answer: B

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38. Vertabra prominens is present with

A. First thoracic vetabrae

B. First lumber vertebrae

C. Seventh cervical vertebrae

D. First cervical vertabrae

Answer: C

39. Cervical vertebrae can be distinguished from other vertebrea on the

basis of

A. Odontoid processes

B. Transverse processes

C. Amphiplatyan centrum

D. Vertebra-arterial canals

Answer: D

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40. The heaviest and largest vertebrae are

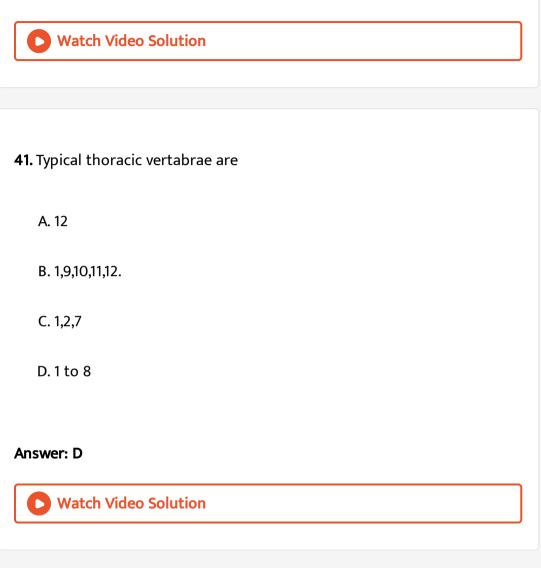
A. Thoracic

B. Lumber

C. Cervical

D. Sacral

Answer: B



42. In birds, the vertebrae are

A. Amphiplatyan

B. Heterocoelous

C. Opisthocoelous

D. Amphicoelous

Answer: B

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43. The centrum of a vertebra which is concave on both sides is called

as

A. Amphicoelous

B. Opisthocoelous

C. Acoelous

D. Procoelous

Answer: A

44. The type of vertabrae in the case of human is

A. Acoelous

B. Procoelous

C. Amphicoelous

D. Heterocoelous

Answer: A

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45. How many vertebra-chondral ribs are present in the humen ?

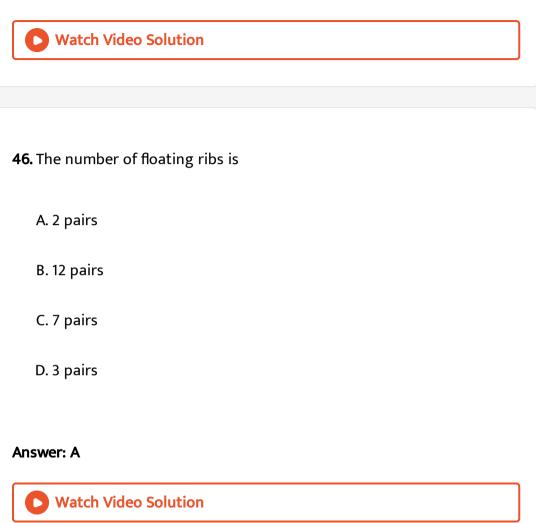
A. 7 pairs

B. 2 pairs

C. 3 pairs

D. 12 pairs

Answer: C



47. Glenoid ridge is found in which one of the following bones ?

A. Pelvic girdle

B. Coracoid

C. Clavicle

D. Scapula

Answer: D

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

A. Radius

B. Tibia

C. Femar

D. Humerus

Answer: D

49. Olecranon fossa is present over

A. Radius

B. Ulna

C. Humerus

D. Femur

Answer: C

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50. The sigmoid notch is present in

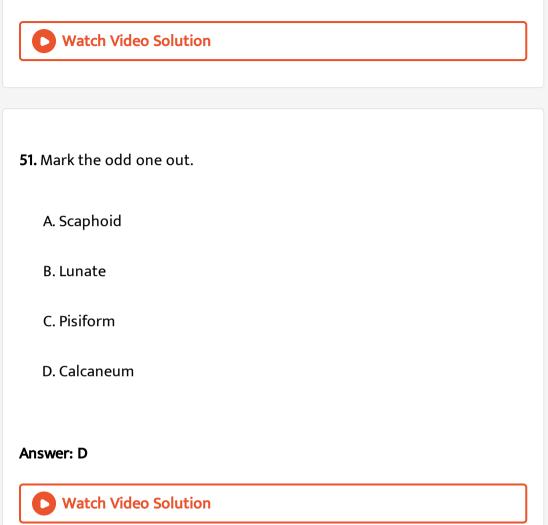
A. Femur

B. Tibio-fibula

C. Humerus

D. Radio-ulna

Answer: D



52. Phalangeal formula for the hand is

A. 23333

B. 33333

C. 33322

D. 32333

Answer: A

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53. When we move the palm in upward direction by the action of supinator muscle, the position of ulna is

D Watch Video Solution

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

A. Innominate

B. Scapula

C. Manbrium

D. Coracoid

Answer: A



55. Obturator formen is enclosed between

A. Ilium, ischium, and pubis

B. Ischium and pubis

C. Ilibum and ischium

D. Ilium and pubis

Answer: B



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

a. Ilium

b. ischium

c. pubis

A. (a) and (b) only

B. (b) and (c) only

C. (a) and (c) only

D. (a), (b) and (c)

Answer: D

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57. Saddle joint occurs between

A. Radius and ulna

B. Carpals

- C. Carpal and metacarpal of thumb
- D. Ulna and humerus

Answer: C

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58. Hinge joint is present between

- A. Humerus and radio-ulna
- B. Femur and pelvic gitdle
- C. Femer and acetabulum
- D. Humerus and pectoral girdle

Answer: A

59. 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 the weight of body on toes

D. Movement of the heac of femur in the acetabulum of pelvic girdle

Answer: A

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

A. Osteoarthritis

B. Rheumatoid arthritis

C. Gout

D. Osteoporosis

Answer: B

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61. Which of the following cells are responsible

for dissolving the bone matrix ?

A. Osteoblasts

B. Ostecclasts

C. Chondroblasts

D. Chondroclasts

Answer: B

62. Find the odd one out .

(a) Humerus, thigh, tibia and fibula, radius and ulna

(b) Metacarpals and metatarsals, phalanges of fingers and toes

(c) Scapula of shoulder bone, sternum, cranial bones, vertebrae

(d) Carpals of wrist and tarsals of ankle

A. Humerus, thigh, tibia and fibula, radius and ulna

B. Metacarpals and metatarsals, phalanges of fingers and toes

C. Scapula of shoulder bone, sternum, cranial bones, vetebrae

D. Carpals of wrist and tarsals of ankle

Answer: C

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63. Find the odd one out .

A. Ilium, ischium, and pubis

B. Deltoid rige, olecranon process, trochanter

C. Suprascapula, coracoid, scapula, trochlea

D. Epiphysis, xiphisternum, olecranon notch

Answer: A

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64. 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

65. Bone formed by ossification of tendon is

A. Sesamoid

- B. Cartilage or repliacing bone
- C. Investing or dermal bone
- D. Membranous bone

Answer: A

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66. "All or none" rule cannot be implicated on

A. Non-striated muscles

B. Cardiac muscle

C. Striated muscles

D. All the above

Answer: D



67. Each myofibril has a diameter of

A. 1-2mm

 $\mathrm{B.}\,0.1-0.2mm$

 $C.\,0.001-0.002mm$

D. None of the above

Answer: C

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68. Myosin filaments are localized in

A. Z band

B. H band

C. A band

D. None of the above

Answer: C

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69. Which element is essential for muscle con - traction ?

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

- $\mathsf{B.}\, Na^+ \; \text{ and } \; K^+$
- C. Na^+ and Ca^{++}
- D. Ca^{++} and $Mg^{++}ions$

Answer: D

70. Muscles get fatigued due to accumulation of

- A. Adenosine triphosphate
- $\mathsf{B.}\,CO_2$
- C. Lactic acid
- D. Phosphate molecules

Answer: C

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71. Name the functional contractile unit of the muscle.

A. Actin

B. Myosin

- C. Sarcomere
- D. Tropomyosin

Answer: C



72. Muscle fibres having rounded ends are

A. Unstriped muscles

B. Smoothe muscles

C. Striated muscles

D. All the above

Answer: A



73. Chemical substance secreted at the synapse and helpful in passing

impulse from

neuron through a gap is

A. Secretin

B. Cholecystokinin

C. Cholesterol

D. Acetylcholin

Answer: D

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74. Which one is a part of pectorall girdle?

A. Ileum

B. Glenoid cavity

C. Acetabulum

D. Sternum

Answer: B

75. Cervical vertebrae can be distinguished from other vertebrea on the

basis of

A. presence of odontoid

B. presence of transverse process

C. Amphiplatyan centrum

D. presence of vertebrarterial canal

Answer: D

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76. Exoskeleton of rabbit have : –

A. Hair

B. Hair and hoof

C. Hair and claws

D. Hair, claws, and hoof

Answer: C



77. Humerus differs from femur in having a

A. Spines

B. Deltoid ridge

C. Glenoid cavity

D. Vertebra column

Answer: B



78. Scapula is a part of

A. Skull

B. Pelvic girdle

C. pectoral girdle

D. Vertebral column

Answer: C

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79. Obturator formen is enclosed between

A. Ilium and ischium

B. Ischium and pubis

C. Ilium and pubis

D. None

Answer: B



80. Neck of camel is long due to

A. More number of cervical vertebra

B. More length of carvical vertabra

C. Presence of muscular pads between carvical vertebrae

D. Presence of extra bony plates

Answer: B

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81. The longest and strongest bone of human body:

A. Tibia

B. Femur

C. Humerus

D. ulna

Answer: B



82. The number of tarsal bones in the ankle of rabbit is

A. 2

B. 7

C. 6

D. 5

Answer: C



83. The heel bone of rabbit is

A. Central

B. Mesocuneiform

C. Ectocuneiform

D. Calcaneal process

Answer: D

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84. Which is a sesamoid bone?

A. Patella and three fabellae

B. Patella and two fabellae

C. Fabellae

D. Pisiform

Answer: B



85. The number of bones present in the 1st, 2nd, and 3rd rows of trasals is

A. 2,2,1

B. 2,3,1

C. 2,1,3

D. 1,2,3

Answer: C

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86. Sacro-iliac joint is : –

A. Mavable

B. Immovable

C. Imperfect

D. None

Answer: B



87. Which bone does not participate in the formation of acetabulum?

A. Pubis

B. Ilium

C. Ischium

D. None

Answer: A



88. In rabbit, the bone present between the pubis and acetabeulum is

A. Cotyloid

B. Scapula

C. Astragalus

D. Cuboid

Answer: A

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89. Supratrochlear fossa is present in the

A. Humerus of frog

B. Humerus of rabbit

C. Radius of rabbit

D. Radius of frog

Answer: B



90. Trochlea of which bone fits in the sigmoid notch of ulna?

A. Humerus

B. Radius

C. Femur

D. Scaphid

Answer: A

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91. An acromian process is characteristically found in the

A. Pectoral girdle of frog

B. Pectoral girdle of rabbit

C. Pelvic girdle of rabbit

D. Pelvic girdle of frog

Answer: B



92. Shoulder joint present between : –

A. Glenoid cavity of pectoral girdle and head of humerus

B. Coracoid process of pectoral girdle and head of humerus

C. Both

D. None

Answer: A



93. A typical vertebra of rabbit is

A. Opisthocoelous

B. Procoelous

C. Amphicoelous

D. Amphiplatyan

Answer: D

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94. A feature of the vertebra of mammals is

A. Centrum is amphiplatyan

B. Epiphysis is present

C. Inter vertebral disc present between two bones

D. All the above

Answer: D



95. False rib in humen is

A. 8th, 9th, and 10th rib

B.7th, 8th, and 9th rib

C.9th, 10th, and 11th rib

D.6th, 7th, and 8th rib

Answer: A

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96. Jaw suspension of mammals is

- (a) Craniostylic
- (b) Autostylic
- (c) Both
- (d) None

A. Craniostylic

B. Autostylic

C. Both

D. None

Answer: A

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97. The number of bones in the axial skeleton of rabbit is

A. 132

B. 128

C. 80

D. 126

Answer: A

98. Hinge joint is :

A. Elbow joint

B. Ankle joint

C. Interphalangeal joint

D. All

Answer: D

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99. Pivot joint is

(a) Atlanto-axial joint

(b) Shoulder joint

(c) Hip joint

(d) None

A. Atlanto-axial joint

B. Shoulder joint

C. Hip joint

D. None

Answer: A

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100. The study of joints is known as

- (a) Osteology
- (b) Arthrology
- (c) Craniology
- (d) Kinesiology

A. Osteology

B. Arthrology

C. Craniology

D. Kinesiology

Answer: B



101. A vertebra having flat surface both in front and behind is

- (a) Acoelous
- (b) Procoelous
- (c) Amphicoelous
- (d) Amphiplatyon
 - A. Acoelous
 - **B.** Procoelous
 - C. Amphicoelous
 - D. Amphiplatyon

Answer: D

- 102. Long bones function in
- (a) Support
- (b) Support, erythrocyte and leucocyte synthesis
- (c) Support and erythrocyte synthesis
- (d) Erythrocyte formation
 - A. Support
 - B. Support, erythrocyte and leucocyte synthesis
 - C. Support and erythrocyte synthesis
 - D. Erythrocyte formation

Answer: B



103. Acromion process is part of

(a) Vertebral column

- (b) Pelvic girdle
- (c) Femur
- (d) Pectoral girdle
 - A. Vertebral column
 - B. Pelvic girdle
 - C. Femur
 - D. Pectoral girdle

Answer: D

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104. Part of the body having a single pair of bones is

- (a) Pelvic girdle
- (b) External ear
- (c) Wrist
- (d) Lower jaw

A. Pelvic girdle

B. External ear

C. Wrist

D. Lower jaw

Answer: A

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105. Comparative study of skulls is

- (a) Craniology
- (b) Conchology
- (c) Malacology
- (d) Osteology

A. Craniology

- B. Conchology
- C. Malacology

D. Osteology

Answer: A



106. Longest bone of frog is

A. Humerus

B. Tibia-fibula

C. Femur

D. Radio-ulna

Answer: B

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107. Haversian system is a diagnostic feature of

A. Avian bones

- B. Reptilian bones
- C. Mammalian bones
- D. Bones of all animals

Answer: C

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108. The lower jaw in mammals is made up of

- (a) Maxilla
- (b) Dentary
- (c) Mandible
- (d) Ethmoid
 - A. Mexilla
 - **B.** Dentary
 - C. Mendible

D. Ethmoid

Answer: C



109. Muscles are connected to Bone by means of :-

- (a) Cartilage
- (b) Areolar tissue
- (c) Tendon
- (d) Ligament
 - A. Cartilage
 - B. Areolar tissue
 - C. Tendon
 - D. Ligament

Answer: C

110. Which one has the maximum glycogen?

(a) Liver

(b) Muscles

(c) Nerves

(d) Kidneys

A. Liver

B. Muscles

C. Nerves

D. Kidneys

Answer: B

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111. Ankle joint is

(a) Pivot joint

- (b) Ball and socket joint
- (c) Hinge joint
- (d) Gliding joint
 - A. Pivot joint
 - B. Ball and socket joint
 - C. Hinge joint
 - D. Gliding joint

Answer: C

- 112. Epiphysial plate is involved in
- (a) Formation of bone
- (b) Elongation of bone
- (c) Thickness of bone
- (d) All the above

A. Formation of bone

- B. Elongation of bone
- C. Thickness of bone
- D. All the above

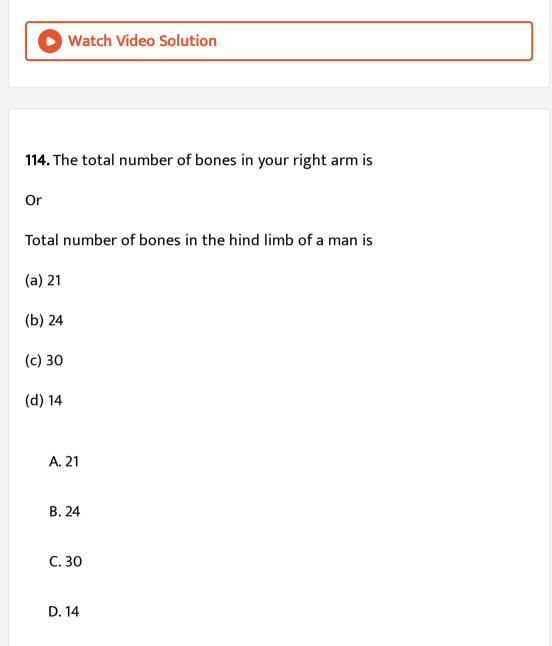
Answer: B



- 113. Interarticular disc occurs in
- (a) Wall of heart
- (b) Wall of liver
- (c) Pubic symphysis
- (d) In between two vertebrae
 - A. Wall of heart
 - B. Wall of liver
 - C. Pubic symphysis

D. In between two vertebrae

Answer: D



Answer: C



115. Biceps are attached with

(a) Radius

(b) Ulna

(c) Femur

(d) Humerus

A. Radius

B. Ulna

C. Femur

D. Humerus

Answer: D

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116. Bones of pelvic girdle forms a cavity in which head of the femur is

fitted are

- (a) Ilium only
- (b) Ilium and ischium
- (c) Ilium, ischium, and pubis
- (d) Ischium and pubis
 - A. Ilium only
 - B. Ilium and ischium
 - C. Ilium, ischium, and pubis
 - D. Ischium and pubis

Answer: C

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117. The lower jaw of rabbit articulates with

(a) Jugal

(b) Alisphenoid

(c) Squamosal

(d) Parietal

A. Jugal

B. Alisphenoid

C. Squamosal

D. Perietal

Answer: C

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118. Which is not an odd digitate pentadactylous ?

A. Donkey

B. Camel

C. Zebra

D. Rhinoceros

Answer: A



119. Joint between atlas and odontoid process of axis is

- (a) Pivot joint
- (b) Saddle joint
- (c) Angular joint
- (d) Hinge joint
 - A. Pivot joint
 - B. Saddle joint
 - C. Angular joint
 - D. Hinge joint

Answer: A



120. Astragalus and calcaneum are present in

(a) Fore limb

(b) Hind limb

(c) Scapula

(d) Clavicle

A. Fore limb

B. Hind limb

C. Scapula

D. Clavicle

Answer: B

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121. Coracoid is component of

(a) Fore limb

(b) Skull

(c) pectoral girdle

(d) Pelvic girdle

A. Fore limb

B. Skull

C. pectoral girdle

D. Pelvic girdle

Answer: C

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122. Two halves of pelvic girdle are joined together by

- (a) Pubic symphysis
- (b) Ischiac symphysis
- (c) Ischiopubic symphysis
- (d) By fusion

A. Pubic symphysis

B. Ischiac symphysis

C. Ischiopubic symphysis

D. By fusion

Answer: A

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123. Deltoid groove is present in

(a) Radio-ulna

(b) Femur

(c) Tibia-fibula

(d) Humerus

A. Radio-ulna

B. Femur

C. Tibio-fibula

D. Humerus

Answer: D



124. Sutural joints are found between

A. Thumb and metatarsal

B. Humerus and radio-ulna

C. Perital of skull

D. Glenoid cavity and pectoral girdle

Answer: C



125. Which one is a bone of skull?

A. Atlas

B. Femur

C. Tibia

D. Pterygoid

Answer: D

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126. What is the joint between sternum and ribs in humans

A. Cartilagionus

B. Fibrous joint

C. Angular joint

D. Hinge joint

Answer: A



127. Myoglobin is present in

A. White muscle fibers

B. Red muscle fibers

C. Involuntary muscles

D. All the above

Answer: B

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128. Which of the following is a direct source of energy for muscle contraction?

A. Glucose

B. GTP

C. Creatine phosphate

D. ATP

Answer: C



129. Synovial fluid is present in

A. Spinal cavity

B. Cranial cavity

C. Freely moveble joints

D. Fixed joints

Answer: C



130. EDTA injected into muscles combines with ${\it Ca}^{2\,+}$ and

- (a) Stops contraction
- (b) Causes contraction
- (c) Slows down contraction
- (d) None of the above
 - A. Stops contraction
 - **B.** Causes contraction
 - C. Slows down contraction
 - D. None of the above

Answer: A



131. Mentomeckelian is specially a characteristic bone of

A. Rane tigrina

B. Aquas

C. Bos indicus

D. Felis domestics

Answer: A

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132. Haversian canals are found in the

A. Bones of birds

B. Bones of mammals

C. Bones of frog

D. Cartilage

Answer: B

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133. Largest ear ossicle is

- (a) Incus
- (b) Malleus
- (c) Stapes
- (d) Cochlea

A. Incus

B. Malleus

- C. Stapes
- D. Cochlea

Answer: B

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134. Bone formed by the ossification of a tendon is called

A. Membrane bone

B. Dermal bone

C. Sesamoid bone

D. Cartilage

Answer: C

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135. Fabellae bones are associated with

- (a) Elbow joint
- (b) Knee joint
- (c) Neck joint
- (d) Angular joint
 - A. Elbow joint
 - B. Knee joint
 - C. Neck joint
 - D. Angular joint

Answer: B

Watch	Video	Solution
Watch	VIGCO	Jointion

136. Thoracic cage of man is formed of

A. Ribs and thoracic vertebrae

B. Ribs, sternum and thoracic vertebrae

C. Ribs and sternum s

D. Ribs, sternum and lumber vertebrae

Answer: B

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137. Jaw suspension of mammals is

- (a) Craniostylic
- (b) Autostylic

(c) Both

(d) None

A. Amphistylic

B. Craniostylic

C. Autocliastylic

D. Hyostylic

Answer: B

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138. Joint between humerus and radio-ulna is

- (a) Saddle joint
- (b) Hinge joint
- (c) Fibrous joint
- (d) Ball and socket

A. Saddle joint

B. Hinge joint

C. Fibrous joint

D. Ball and socket

Answer: B

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139. Ear ossicle, incus is modified

- (a) Jugal
- (b) Articular
- (c) Quadrate
- (d) Hyomandibular
 - A. Jugal
 - **B.** Articular
 - C. Quadrate
 - D. Hyomandibular

Answer: C



140. The parasphenoid bone in frog forms

- (a) Base of cranium
- (b) Floor of cranium
- (c) Dorsal side of cranium
- (d) Dorsolateral side of cranium
 - A. Base of cranium
 - B. Floor of cranium
 - C. Dorsal side of cranium
 - D. Dorsolateral side of cranium

Answer: B

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141. Smallest bone in Rabbit and Man is

(a) Femur

(b) Carpals

(c) Stapes

(d) Nasal

A. Femur

B. Carpals

C. Stepes

D. Nasal

Answer: C

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142. Metabolic arthritis is commonly called as

(a) Rheumatism

(b) Gout

(c) Tuberculosis

(d) Cancer

A. Rheumatism

B. Gout

C. Tuberculosis

D. Cancer

Answer: B

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143. Which of the following statements about the striated muscles is ture

?

In the centre of each I-Band is an elastic fiber(Z-line) which bisects it

M-line is a fibrous memebrane in the middle of A bonds

Thin filament are firmly attached to the M-line

A sarcomere comprises one full A - bonds

A. ii

B. iv

C.i and iii

D.i and ii

Answer: D

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144. ATP provides energy of muscle contraction by allowing for

A. Cross-bridge attachment of myosin to actin

B. Cross-bridge datachment of myosin from actin

C. An actin potential formation in the muscle cell

D. Release of Ca^+ from sarcoplasmic reticulum

Answer: B

145. Match Column I with column II.

. Column I	•	Column
(a) Cranium/Brainbox	(i)	22
(b) Skull (Cranlal and facial bones)	(ii)	8
(c) Face	(iii)	14
$(d) { m Hind limb}$	(iv)	12 pairs
(e) Ribs	(v)	30

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

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

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

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

Answer: C

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146. Pick up the correct match .

(a) False ribs $(i)1^{st}$ to 7^{th} pair(b) Ture ribs $(ii)11^{th}$ and 12^{th} pair(c) Floating rib $(iii)8^{th}$ to 10^{th} pair(d) Sternum(iv) One

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

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

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

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

Answer: D

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147. Which of the following is/are not correctly matched pairs?

(i) Ball and socket joint- (a)Between humerus and pectoral girdle

(ii) Pivot joint - (b)Between carpal and metacarpal

(iii) Saddle joint - (c)Between atlas and axis

(iv) Gliding joint - (d)Between the carpals

(v) Fibrous joint - (e)In flat skull bones

A. (a)
$$a-v,b-iv,c-iii,d-ii,e-i$$

B. (b)
$$a-i, b-ii, c-iii, d-v, e-iv$$

C. (c) a - v, b - iii, c - ii, d - i, e - ii

D. (d)
$$a-i, b-iii, c-ii, d-v, e-iv$$

Answer: A

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148. Three of the following paris of the human skeletal parts are correctly matched with their respective inclusive skeletal category and one pair is not matched. Identify the non matching pair

Pairs of skeletal parts Category

- A.Pairs of skeletal parts(1)Sternum and ribsB.Pairs of skeletal parts(1)Calvical and Glenoid cavity
- Category Axial skeleton Category Pelvic girdle

.Pairs of skeletal parts.Category(1)Humenerus and ulnaAppendicular skeleton.Pairs of skeletal parts.Category(1)Malleus and stapesEar ossicles

Answer: B

С.

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149. Read the following stetements (i - iv) and accordingly

mark the option that has both statements .

- (i) The Cardiac fiber are branched with one or more nuclei.
- (ii) The Striated muscles can be branched or unbranched
- (iii) The involuntary muscles are non-striated
- (iv) The Smooth muscles are unbranched and cylindrical
- (a) i and iii
- (b) ii and iv
- (c) ii and iii
- (d) i and ii

A. i and iii

B.ii and iv

C.ii and iii

D.i and ii

Answer: A

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150. Which one of the following option is incorrcet?

A. Pivot joint - between atlas, axis and occipital condyle

B. Gliding joint - between the carpals

C. Saddle joint - between carpals and metacarpals of thumb

D. Hinge joint - between Humerus and pectoral girdle

Answer: D

151. Select the total number of false statement from the following(i) The globular head is an active ATPase enzyme and has binding sites for ATP and active sites for Myosin.

(ii) Each Myosin filament is also a polymerized protein

(iii) Many monomeric proteins celled Meromyosins constitute one thick filament.

(iv) Each meromyosin has two important parts, a globular head with a short arm and a tail, the former being called the heavy meromyosin (HMA) and the latter, the light meromysin (LMN).

(v) The HMM component, i.e., the head and short arm projects outwards at regular distance and angle from each other from the surface of a polymerized myosin filament and is known as cross arm

(a) 5

(b) 4

(c) 2

(d)1

A. 5

Β.	4
----	---

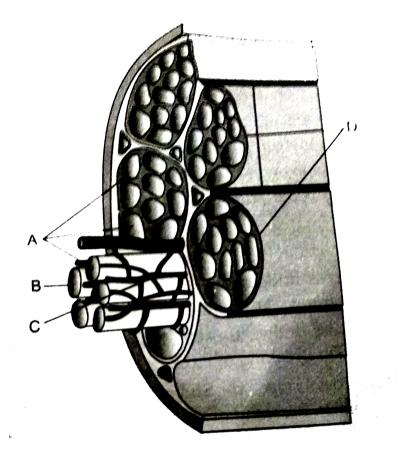
C. 2

D. 1

Answer: D

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152. Identify A to D in given figure



(a) A-Muscle fiber, B-Sarcolemma, C-Blood capillary, D-Muscle bundle
(b) A-Muscle fiber, B-Sarcolemma, C-Muscle bundle, D -Blood capillary
(c) A-Muscle fiber, C-Sarcolemma, B-Blood capillary, D-Muscle bundle
(d) C-Muscle fiber, D-Sarcolemma, A-Blood capillary, B-Muscle bundle

A. A-Muscle fiber, B-Sarcolema, C-Blood capillary, D-Muscle bundle

B. A-Muscle fiber, B-Sarcolema, C-Muscle bundle, D -Blood capillary

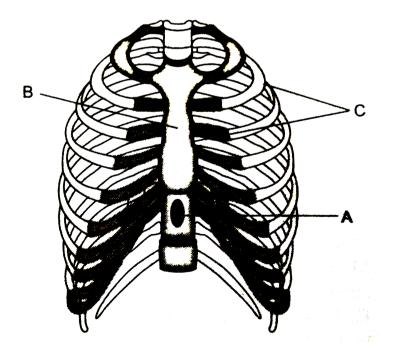
C. A-Muscle fiber, C-Sarcolema, B-Blood capillary, D-Muscle bundle

D. C-Muscle fiber, D-Sarcolema, A-Blood capillary, B-Muscle bundle

Answer: A

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153. In the given figure, identify vertebral column and sternum



A. (a) A and C

B. (b) A and B

C. (c) C and B

D. (d) C and A

Answer: B

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154. An action (thin) filament figure is given below . Classify A and C.



A. Troponin and Tropomyosin.

- B. Tropomyosin and F Actin
- C. Troponin and F Actin

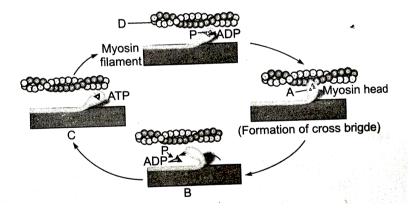
D. F - Actin and Tropomyosin

Answer: C



155. The following diagram describes the muscle contraction . Identify A

to D



A. A - Cross bridge, B-Silding/Rotation, C - Breaking of cross bridge, D-

Actin filament

B. A - Cross bridge, B-Actin filament, C-Sliding /Rotation, D-Breaking of

cross bridge.

C. A - Cross bridge, B-Silding/Rotation , C - Actin filament , D-Breaking

of cross bridge

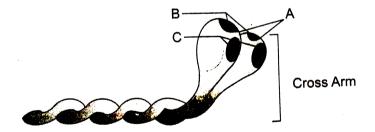
D. A - Breaking of cross bridge, B- Actin filament, C-Silding/Rotation , D-

Cross bridge,

Answer: A

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156. In given figure, identify A to C



A. A-Actin binding sites, B-Head, C- ATP binding sites

B. A-Head, B-Actin binding sites, C- ATP binding sites

C. A- ATP binding sites, B-Actin binding sites, C-Head

D. A-ATP binding site, B-Head, C- Actin binding sites

Answer: B



157. In frog, the vertebrae with an anterior convex surface is

A. (a) Atlas

B. (b) Urostyle

C. (c) 8th vertebra

D. (d) 9th vertebra

Answer: D



158. Obturator foramen is found in :

- (a) Frog's pelvic girdle
- (b) Frog's pectoral girdle
- (c) Rabbit's pelvic girdle
- (d) Rabbit's pectoral girdle
 - A. Frog's pelvic girdle
 - B. Frog's pectoral girdle
 - C. Rabbit's pelvic girdle
 - D. Rabbit's pectoral girdle

Answer: C



159. Largest smooth muscles occur in

(a) Leg

(b) Thigh

- (c) Uterus of pregnant woman
- (d) Urethra

A. Leg

B. Thigh

C. Uterus of pregnant woman

D. Urethra

Answer: C

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160. Pelvic girdle of rabbit consist of

Or

in mammals, each half of pelvic girdle or obturator foramen in pelvic girdle is formed by

A. (a) Ilium, ischium, and pubis

B. (b) Ilium, ischium and coracoid

- C. (c) Coracoid, scapula and clavicle
- D. (d) Ilium, coracoid and scapula

Answer: A

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161. The parasphenoid bone in frog forms

- (a) Base of cranium
- (b) Floor of cranium
- (c) Dorsal side of cranium
- (d) Dorsolateral side of cranium
 - A. Base of cranium
 - B. Floor of cranium
 - C. Dorsal side of cranium
 - D. Dorsolateral side of cranium

Answer: B



162. Ear ossicle, incus is modified

- (a) Jugal
- (b) Articular
- (c) Quadrate
- (d) Hyomandibular
 - A. Jugal
 - B. Articular
 - C. Quadrate
 - D. Hyomandibular

Answer: C

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163. Which of the following is/are not carrectly mathched pairs ?

	Column-I	Column-II
(i)	Ball and socket joint	Between humerus and pectoral girdle
(ii)	Pivot joint	Between carpal and metacarpal
(iii)	Saddle joint	Between atlas and axis
(iv)	Gliding joint	Between the carpals
(v)	Fibrous joint	In flat skull bones

- (a) (ii) and (iii)
- (b) (i) and (iv)
- (c) (v) only
- (d) (ii) only

A. (ii) and (iii)

B. (i) and (iv)

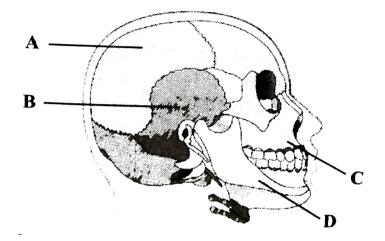
C. (v) only

D. (ii) only

Answer: A



164. Examine the given diagrammatic view of human skull given below and identify the skull bones labelled from A-D.



A. (a)

. A	L	В	С	D
\mathbf{Fr}	ontal	Temporal	Maxilla	Mandible
р (b) ·	Α	В	\mathbf{C}	D
в. (в)	Occopital	B Frontal	Mandible	Maxilla
C(a)	Α	В	\mathbf{C}	D
C. (C)	A Parietal	Temporal	Maxilla	Mandible
Р (Ч) .	Α	В	\mathbf{C}	D
D. (a)	Temporal	B l Parietal	Mandible	Maxilla

165. Match column I with column II and select the correct option from the codes given below.

	Column I (Skeletal part)	Column II (Number of bone	s)
А.	Cranium	(i) 29	
В.	Skull (Cranial and	(ii) 8	
	facial bones)		
C.	Face	(iii) 14	
D.	Hind limb	(iv) 24	
Ε.	Ribs	(v) 30	

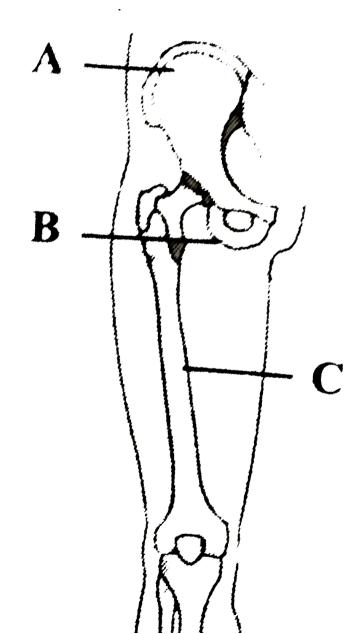
A. A - (i), B - (ii), C - (iii), D - (v), E - (iv)

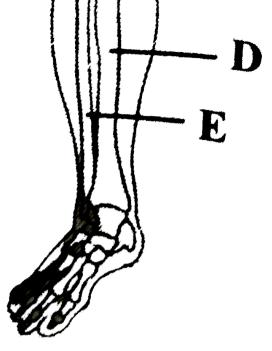
B. A - (ii), B - (i), C - (iii), D - (v), E - (iv)

Answer: B

166. The figure Is showing part of right pelvic girdle and lower limb nones.

Identify the parts labelled as A to E and select the correct option.



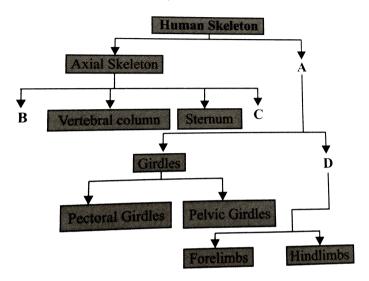


A.

	. A	В	\mathbf{C}	D	${f E}$
	secrum	Pubis	Patella	Metatarsal	\mathbf{Fibula}
в.	. A	В	\mathbf{C}	D	${f E}$
	Ilium	Ischium	Femar	Tibia	Fibula
с. [.]	. A	В	\mathbf{C}	D	${f E}$
	Ilium	Ischium	Femar	\mathbf{Fibula}	Tibia
<u> </u>	. A	В	\mathbf{C}	D	${f E}$
D.	Ischium	Ilium	Petella	Tibia	Tarsal

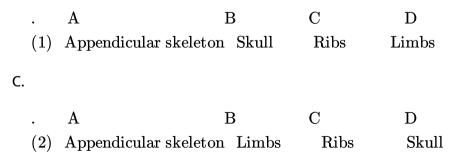
Answer: B

167. Study the following flowchart and fill up the blanks by selecting the correct option.



A.

Β.



D.

•	А	В	\mathbf{C}	D
(3)	Lumber skeleton	Limb	\mathbf{Skull}	Ribs

Answer: B

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168. Trochanters occur in

- (a) Humerus
- (b) Femur
- (c) Radio-ulna
- (d) Tibia-fibula
 - A. Humerus
 - B. Femur
 - C. Radio-ulna
 - D. Tibia-fibula

Answer: B



169. Feeling of fatigue after running fast for some time is due to

- (a) Loss of energy
- (b) Accumulation of lactic acid is muscle
- (c) Formation of scuccinic acid
- (d) Formation of biuret crystals
 - A. Loss of energy
 - B. Accumulation of lactic acid is muscle
 - C. Formation of scuccinic acid
 - D. Formation of biuret crystals

Answer: B



170. Acetabulum is part of

- (a) Pelvic girdle
- (b) Pectoral girdle
- (c) Forearm
- (d) Upper arm
 - A. Pelvic girdle
 - B. Pectoral girdle
 - C. Fore arm
 - D. Upper arm

Answer: A



171. Number of vertebrae in axial skeletal of frog urostyle is

(a) 10

(b) 12

(c) 15			
(d) 9			
A. 10			
B. 12			
C. 15			
D. 9			

Answer: D

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172. Coccygeal bone occurs in

A. (a) Skull

B. (b) pectoral girdle

C. (c) Vertebra column

D. (d) Pelvic girdle

Answer: B

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173. From outer to inner side, the sequence of three bones present in the

middle ear of mammals is

A. (a) Incus, malleus, stapes

B. (b) Stapes, incus, malleus

C. (c) Malleus, incus, stapes

D. (d) Malleus, stapes, incus

Answer: C



174. An acromian process is characteristically found in the

- A. Pelvic girdle of mammals
- B. Pectoral girdle of mammals
- C. Skull of frog
- D. Sperm of mammals

Answer: B



175. 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 and Reason are true and the Reason is the correct explanation of the Assertion.

(b (b) If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

- (c) If Assertion is true, but Reason is false .
- (d) If both Assertion and Reason are false.
 - A. If both Assertion and Reason are ture and the Reason is the correct

explanation of the Assertion.

B. If both Assertion and Reason are ture, but the Reason is not the

correct explanation of the Assertion.

- C. If Asserion is ture, but Reason is false .
- D. If both Assertion and Reason are false.

Answer: D



176. Assertion : Ca^{2+} plays important role in the muscle 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 and Reason are true and the Reason is the correct explanation of the Assertion.

(b (b) If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

(c) If Assertion is true, but Reason is false .

(d) If both Assertion and Reason are false.

A. If both Assertion and Reason are ture and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are ture, but the Reason is not the

correct explanation of the Assertion.

C. If Asserion is ture, but Reason is false .

D. If both Assertion and Reason are false.

Answer: A

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177. 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 and Reason are true and the Reason is the correct explanation of the Assertion.

(b (b) If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

(c) If Assertion is true, but Reason is false .

(d) If both Assertion and Reason are false.

A. If both Assertion and Reason are ture and the Reason is the correct

explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the

correct explanation of the Assertion.

C. If Assetrion is true, but Reason is false .

D. If both Assertion and Reason are false.

178. 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 and Reason are ture and the Reason is the correct

explanation of the Assertion.

B. If both Assertion and Reason are ture, but the Reason is not the

correct explanation of the Assertion.

C. If Asserion is ture, but Reason is false .

D. If both Assertion and Reason are false.

Answer: D

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179. 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 and Reason are ture and the Reason is the correct

explanation of the Assertion.

B. If both Assertion and Reason are ture, but the Reason is not the

correct explanation of the Assertion.

C. If Asserion is ture, but Reason is false .

D. If both Assertion and Reason are false.

Answer: C



180. Assertion : Skeleton helps in blood cell formation.

Reason : Blood flows through skeleton.

A. If both Assertion and Reason are ture and the Reason is the correct

explanation of the Assertion.

B. If both Assertion and Reason are ture, but the Reason is not the

correct explanation of the Assertion.

C. If Asserion is ture, but Reason is false .

D. If both Assertion and Reason are false.

Answer: C

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181. Assertion : Skeleton serves as a stroage depot.

Reason : Skeleton stores carbohydrate and protein.

A. If both Assertion and Reason are ture and the Reason is the correct

explanation of the Assertion.

B. If both Assertion and Reason are ture, but the Reason is not the

correct explanation of the Assertion.

C. If Asserion is ture, but Reason is false .

D. If both Assertion and Reason are false.

Answer: C

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182. Assertion : Ball and socket joints are the most mobile joints.

Reason: Synovial fluid is present here.

A. If both Assertion and Reason are ture and the Reason is the correct

explanation of the Assertion.

B. If both Assertion and Reason are ture, but the Reason is not the

correct explanation of the Assertion.

C. If Asserion is ture, but Reason is false .

D. If both Assertion and Reason are false.

Answer: B



183. Assertion : Arthritis or inflammation of a joint makes the joint painful.

Reason : Some toxic substances are deposited at the joint

A. (a) If both Assertion and Reason are true and the Reason is the

correct explanation of the Assertion.

B. (b) If both Assertion and Reason are true, but the Reason is not the

correct explanation of the Assertion.

C. (c) If Assertion is true, but Reason is false .

D. (d) If both Assertion and Reason are false.

Answer: C



184. Assertion : The contraction and relaxation of muscle fiber are controlled by nerve impulses.

Reason : The threshold stimulus is the minimum stimulus required for the beginning of contraction.

A. If both Assertion and Reason are ture and the Reason is the correct

explanation of the Assertion.

B. If both Assertion and Reason are ture, but the Reason is not the

correct explanation of the Assertion.

C. If Asserion is ture, but Reason is false .

D. If both Assertion and Reason are false.

Answer: B
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Archives
1. In human body, which one of the following is anatomically correct ?
A. Collar bones-3 pairs
B. Salivary glands -1 pairs
C. Cranuak nerves -10 pairs
D. If both Assertion and Reason are false.
Answer: D
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2. Which one of the following items gives its correct total number

A. Types of diabetes - 3

B. Cervical vertebrae in humans- 8

C. Floating ribs in humans - 4

D. Amino acids found in proteins - 16

Answer: C

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3. Elbow joint is an example of

A. Ball and socket joint

B. Pivot joint

C. Hinge joint

D. Gliding joint

Answer: C

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4. Wich one of the following is the correct matching of three items and their grouping category?

٨	Items		Groups
A.	$\operatorname{Cytosine}, \operatorname{uracil}, \operatorname{thiami}$	ne Pyrimidines	
	Items	Groups	
B. Malleus, incus, cochlea		Ear ossicles	
C.	Items	Groups	
	Ilium, ischium pubis,	Coxal bones of pelvic gi	\mathbf{rdle}
D.	Items	Groups	
	Actin , myosin, rodopsin	Muscle proteins	

Answer: C



5. Select the correct statement regarding the specific disorder of muscular of skeletal system

A. Myasthenia gravis-Auto innnune disorder which inhibits sliding of

myosin filaments

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

C. Muscular dystrophy-age rlated shorting of muscles

D. Osteoporosis- decrease in bone mass and higher chances of

fractures with advacing age

Answer: D



6. The characterstics and an example of a synovial joint in humans

Characterstics Examples

	Characteristics	Examples
A.	Fluid-filled between,	two skull bones
	joints, provides cushion Characteristics	Examples
B.	Fluid-filled synovial cavity	joint between atlas and axis
	between two bones Characteristics	Examples
C.	${ m Lymph-filled\ between\ two}$	joint between carpals
	bones, limited movement gl Characteristics	iding Examples
D.	Fluid cartilage between	${f knee}\ {f joint}$
	two bones, limited movemen	nts

Answer: B

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

A. The accumulation of uric acid crystals in joints causes their

inflammation.

B. The vertebral column has 10 thoracic vertebrae.

C. The joint between abjacent vertebrae is a fibrous joint.

D. A decreased level of progsterone causes osteoporosis in old people.

Answer: A



8. Which of the following is not a function of the skeletal system

A. Locomotion

- B. production of erythrocytes
- C. Storage of minerals
- D. Production of body heat

Answer: D

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9. Which of the following joints would allow to movement?

A. Ball and socket joint

B. Fibrous joint

C. Cartilaginous joint

D. Synovial joint

Answer: B



10. The H-zone in the skeletal muscle fibre is dueto

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

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

C. the central gap between actin filaments extending through myosin

filaments in the A band

D. extension of myosin filaments in the central portion of the A-band.

Answer: C



11. Smooth muscles are

A. Involuntary, cylindrical, striated

B. Voluntary, spindle-shaped, uninucleate

C. Involuntary, spindle-shaped, non-striated

D. Voluntary, multinucleate, cylindrical

Answer: C

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12. Osteoporsis, an age-related disease fo skeletal system, may occur due

to

- A. Decreased level of estrogen
- B. Acccumulation of uric acid leading to inflammation of joints.
- C. Immune disorder affecting neuro-muscular junction leading to

fatigue.

D. Hingh con centration of Ca^{++} and Na^{+}

Answer: A

