

BIOLOGY

BOOKS - CENGAGE BIOLOGY (HINGLISH)

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

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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

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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C. Z line and A band

5. At rest, when mucsle is relaed, 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^{+}

D. M	q^2	+
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Answer: A



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- **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



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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. Creatine phosphate

Answer: B



- 9. Anaerobic work becomes painful due to 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 us finally converted to glycogen 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 Watch Video Solution** 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. Muscle fatigue occurs due to the accumlation of

A. CO_2

B. Lactic acid

C. Creatine phosphate

D. Myosin ATPase

Answer: B



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



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15. Which one of the following ions is essential for muscelar contration?

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

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

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

D. K^+ , Na^+

Answer: B



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

- ${\rm A.}-70mV$
- ${\rm B.}\ 50mV$
- $\mathsf{C.}\ 100mV$
- ${\rm D.}\,50-100mV$

Answer: A



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17. The longest individual muscel in the humen body is

- A. Quadriceps femoris
- B. Gluteus maximus
- C. Sertorius
- D. Latissmus dorsi

Answer: C Watch Video Solution

- **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 Watch Video Solution** 20. Which one of the following is a viral disease that weakens the muscles ? A. Atrophy B. Poliomuyelitis C. Dystrophy D. Muscular hypertrophy **Answer: B Watch Video Solution**

21. To one of the lateral surface of humerus, a muscle is ateached called
A. Biceps brachii
B. Deltoidius
C. Sertorius
D. Messeter
Answer: B Watch Video Solution
22. In birds, which flight muscle is well-developed ?
A. Atary
B. Biceps
C. Gastrocnemius
D. Pectoralis major

Answer: D Watch Video Solution

- 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



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- 24. The longes visceral muscles are found in
 - A. Vas deferens

D. Abdomen **Answer: D Watch Video Solution** 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 Watch Video Solution**

B. Normal uterus

C. Pregnant utrerus

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



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29. Only moveble bone in skull is

A. Mandible B. Vomer C. Maxilla D. Palatine Answer: A **Watch Video Solution** 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**

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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



32. The number of upaired bones in the cranium is

A. 2

B. 4

C. 6

Answer: B



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- **33.** Foramen magnum is associated with which bone?
 - A. Frontal
 - B. Perietal
 - C. Temporal
 - D. Occipital

Answer: D



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34. Tongue bone is

A. Mandible B. Hyoid C. Flat bone D. Coccyx **Answer: B Watch Video Solution** 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 human 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



Answer: B



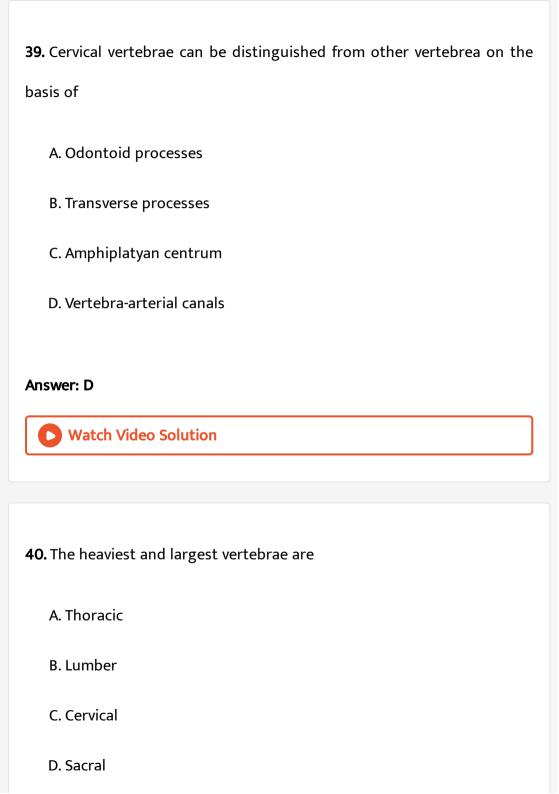
38. Vertabra prominens is present with

- A. First thoracic vetabrae
- B. First lumber vertebrae
- C. Seventh cervical vertebrae
- D. First cervical vertabrae

Answer: C



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Answer: B Watch Video Solution 41. Typical thoracic vertabrane are A. 12 B. 1,9,10,11,12. C. 1,2,7 D. 1 to 8 **Answer: D** Watch Video Solution 42. In birds, vertebrae in the neck region are A. Amphiplatyan

C. Opisthocoelous
D. Amphicoelous
Answer: B
Watch Video Solution
43. The centrum of a vertebra which is concave on both sider is called as
A. Amphicoelous
B. Opisthocoelous
C. Acoelous
D. Procoelaus
Answer: A
Watch Video Solution

B. Heterocoelous

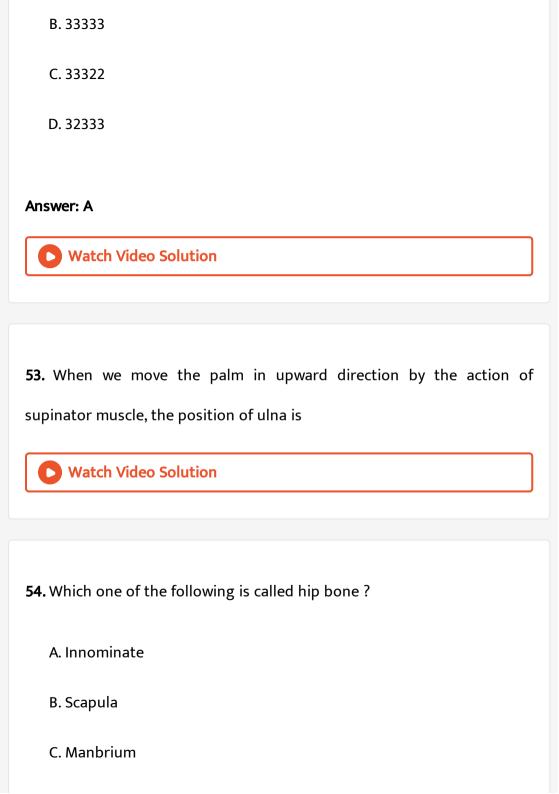
44. The type of vertabrae in the case of humen is
A. Amphiplatyan
B. Procoelous
C. Amphicoelous
D. Heterocoelous
Answer: A
Watch Video Solution
45. How many vertebra-chondral ribs are present in the humen ?
A. 7 pairs
B. 2 pairs
C. 3 pairs
D. 12 pairs

Answer: C Watch Video Solution 46. The number of floating ribs is A. 2 pairs B. 12 pairs C. 7 pairs D. 3 pairs Answer: A **Watch Video Solution** 47. Glenoid ridge is found in which one of the following bones? A. Pelvic girdle

B. Coracoid
C. Clavicle
D. Scapula
Answer: D
Watch Video Solution
48. Deltoid ridge is found in which one of the following bones
A. Radius
B. Tibia
C. Femar
D. Humerus
Answer: D
Watch Video Solution

49. Olecranon fossa is present over
A. Radius
B. Ulna
C. Humerus
D. Femur
Answer: C
Watch Video Solution
50. The sigmoid notch is present in
A. Femur
A. Femur
A. Femur B. Tibio-fibula

Answer: D Watch Video Solution 51. Mark the odd one out. A. Scaphoid B. Lunate C. Pisiform D. Calcaneum **Answer: D** Watch Video Solution 52. Phalangeal formula for the hand is A. 23333



D. Coracoid
nswer: A
Watch Video Solution
5. Obturator formen is enclosed between
A. Ilium, ischium, and pubis
B. Ischium and pubis
C. Ilibum and ischium
D. Ilium and pubis
nswer: B



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B. (b) and (c) only C. (a) and (c) only D. (a), (b) and (c) **Answer: D Watch Video Solution** 57. Saddle joint is present between A. Radius and ulna B. Carpals C. Carpal and metacarpal of thumb D. Ulna and humerus Answer: C **Watch Video Solution**

A. (a) and (b) only

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



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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 **Watch Video Solution** 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

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

- 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, 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 ridge, 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 Watch Video Solution** 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 **Watch Video Solution**

66. "All or none" rule	cannot be implicated on
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- A. Non-striated muscles
- B. Cardiac muscle
- C. Striated muscles
- D. All the above

Answer: D



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67. Each myofibril has a diameter of

- A. 1 2mm
- B. 0.1 0.2mm
- $\mathsf{C.}\ 0.001 0.002mm$

D. None of the above
Answer: C
Watch Video Solution
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. Chemical ions responsible for muscle contraction are

A. Ca^{++} and K^{+} B. Na^+ and K^+ C. Na^+ and Ca^{++} D. Ca^{++} and $Mg^{++}ions$ **Answer: D**



70. Muscles get fatigued due to accumulation of

A. Adenosine triphosphate

C. Lactic acid

 $B.CO_2$

D. Phosphate molecules

Answer: C



71. Basic unit of muscle contraction is
A. Actin
B. Myosin
C. Sarcomere
D. Tropomyosin
Answer: C Watch Video Solution
72. Muscle fibres having rounded ends are
A. Unstriped muscles
B. Smoothe muscles
C. Striated muscles

D. All the above
answer: A
Watch Video Solution
3. Transmitter substance released at the synapse is
A. Secretin
B. Cholecystokinin
C. Cholesterol
D. Acetylcholin
Answer: D
Watch Video Solution

74. Which is part of pectoral girdle?

A. Ileum B. Glenoid cavity C. Acetabulum D. Sternum **Answer: B Watch Video Solution** 75. Cervical vertebra is differentiated from other vertebra by A. presence of odontoid B. presence of transverse process C. Amphiplatyan centrum D. presence of vertebrarterial canal Answer: D **Watch Video Solution**

76. Exoskeleton of rabbit have : —
A. Hair
B. Hair and hoof
C. Hair and claws
D. Hair, claws, and hoof
Answer: C Watch Video Solution
77. Humerus is different from femur due to the presence of
A. Spines

C. Glenoid cavity

D. Vertebra Column
Answer: B
Watch Video Solution
78. Scapula is a part of
A. Skull
B. Pelvic girdle
C. pectoral girdle
D. Vertebral column
Answer: C
Watch Video Solution
79. Obturator foramen present between : —

A. Ilium and ischium B. Ischium and pubis C. Ilium and pubis D. None **Answer: B Watch Video Solution 80.** Long neck of Girraffe or camel 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 **Watch Video Solution**

81. The stoongest bone is
A. Tibia
B. Femur
C. Humerus
D. ulna
Answer: B Watch Video Solution
82. The number of tarsal bones in the ankle of rabbit is
A. 2
B. 7
C. 6

D.	5
	_

Answer: C



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- 83. The heel bone or rabbit is
 - A. Central
 - B. Mesocuneiform
 - C. Ectocuneiform
 - D. Calcaneal process

Answer: D



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84. The sesamoid bone of knee is

B. Patella and two fabellae C. Fabellae D. Pisiform **Answer: B** Watch Video Solution 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** Watch Video Solution

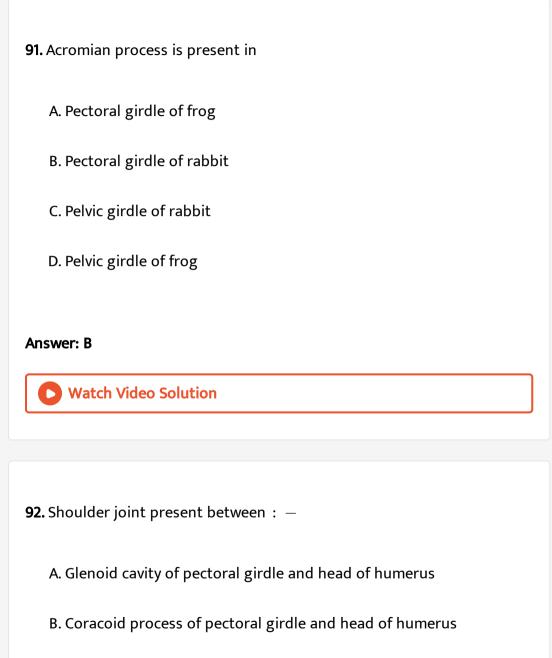
A. Patella and three fabellae

86. Sacro-iliac joint is : —
A. Mavable
B. Immovable
C. Imperfect
D. None
Answer: B Watch Video Solution
87. Which bone does not participate in the formation of acetabulum?
A. Pubis
B. Ilium
C. Ischium

D. None
Answer: A
Watch Video Solution
88. In rabbit, the bone present between the pubis and acetabeulum is
A. Cytyloid
B. Scapula
C. Astragalus
D. Cuboid
Answer: A
Watch Video Solution

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
Watch Video Solution
90. Trochlea of which bone fits in the sigmoid notch of ulna?
A. Humerus
B. Radius
C. Femur
D. Scaphid
Answer: A
Watch Video Solution



C. Both

D. None
Answer: A
Watch Video Solution
3. A typical vertebra of rabbit is
A. Acoelous
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

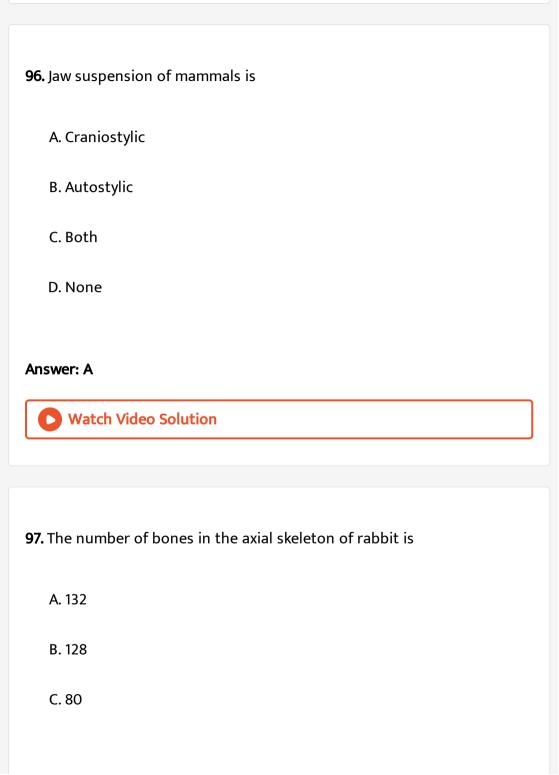


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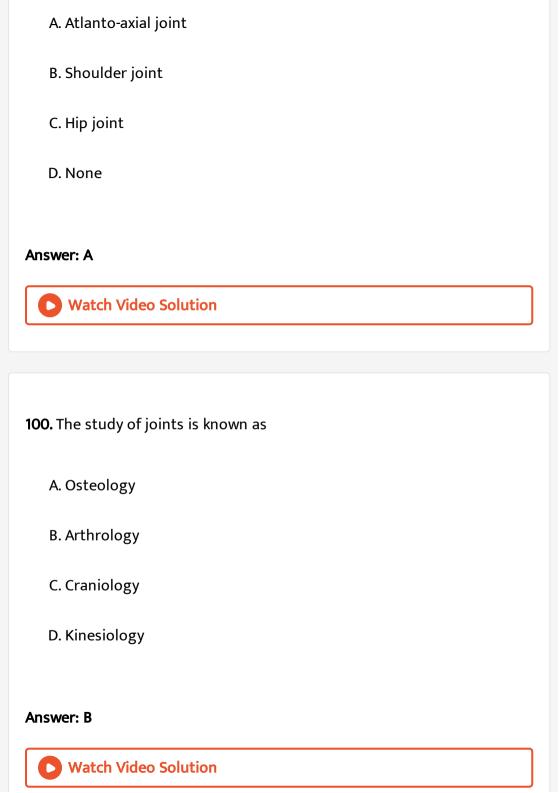
- 95. False rib in humen is
 - A. 8th, 9th, and 10th rib
 - B.7th, 8th, and 9th rib
 - C.9th, 10th, and 11th rib
 - D.6th, 7th, and 8th rib

Answer: A





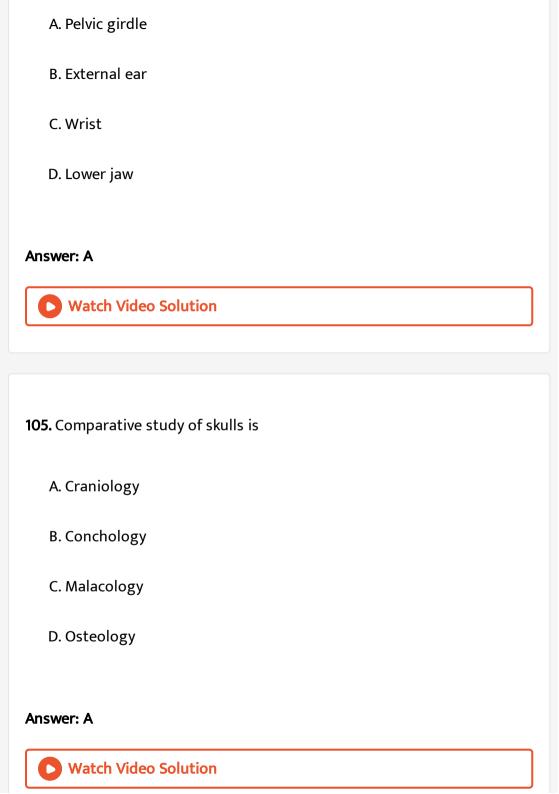
D. 126	
Answer: A	
Watch Video Solution	
98. Hinge joint is :	
A. Elbow joint	
B. Ankle joint	
C. Interphalangeal joint	
D. All	
Answer: D	
Watch Video Solution	
99. Pivot joint is	



101. A vertebra having flat surface both in front and behind is
A. Acoelous
B. Procoelous
C. Amphicoelous
D. Amphiplatyon
Answer: D
Watch Video Solution
Watch Video Solution
Watch Video Solution 102. Long bones function in

C. Support and erythrocyte synthesis

D. Erythrocyte formation
Answer: B
Watch Video Solution
103. Acromion process is part of
A. Vertebral column
B. Pelvic girdle
C. Femur
D. Pectoral girdle
Answer: D
Watch Video Solution
104. Part of the body having a single pair of bones is



106. Longest bone of frog is
A. Humerus
B. Tibia-fibula
C. Femur
D. Radio-ulna
Answer: B Watch Video Solution
Watch video Soldtion
107. Haversian system is diagnostic feature of
A. Avian bones

B. Reptilian bones

C. Mammalian bones

D. Bones of all animals
Answer: C
Watch Video Solution
108. The lower jaw in mammals is made up of
A. Mexilla
B. Dentary
C. Mendible
D. Ethmoid
Answer: C
Watch Video Solution
109. Muscles are connected to Bone by means of : -

A. Cartilage
B. Areolar tissue
C. Tendon
D. Ligament
Answer: C
Watch Video Solution
110. Which one has the maximum glycogen?
A. Liver
B. Muscles
C. Nerves
D. Kidneys
Answer: B
Watch Video Solution

111. Ankle joint is

- A. Pivot joint
- B. Ball and socket joint
- C. Hinge joint
- D. Gliding joint

Answer: C



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112. Epiphysial plate is involved in

- A. Formation of bone
- B. Elongation of bone
- C. Thickness of bone

D. All the above
nswer: B
Watch Video Solution
13. Inter-articular disc occurs in
A. Wall of heart
B. Wall of liver
C. Pubic symphysis
D. In between two vertebrae





114. The total number of bones in your right arm is
""Or
Total number of bones in the hind limb of a man is
A. 21
B. 24
C. 30
D. 14
Answer: C
Answer: C Watch Video Solution
Watch Video Solution
Watch Video Solution 115. Biceps are attached with

D. Humerus

Answer: D



Watch Video Solution

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

Answer: C



117. The lower jaw of rabbit articulates with
A. Jugal
B. Alisphenoid
C. Squamosal
D. Perietal
Answer: C
View Text Solution
118. Which is not an odd digitate pentadactylous ?
A. Donkey
B. Camel
C. Zebra

Answer: A Watch Video Solution 119. Joint between atlas and odontoid process of axis is A. Pivot joint B. Saddle joint

C. Angular joint

D. Hinge joint

A. Fore limb

Watch Video Solution

120. Astragalus and calcaneum are present in

Answer: A

B. Hind limb C. Scapula D. Clavicle **Answer: B Watch Video Solution** 121. Coracoid is component of A. Fore limb B. Skull C. pectoral girdle D. Pelvic girdle **Answer: C Watch Video Solution**

122. Olecranon process occurs in
A. Femur
B. Radius
C. Humerus
D. ulna
Answer: D
Watch Video Solution
123. Two halves of pelvic girdle are joined together by
A. Pubic symphysis
B. Ischiac symphysis
C. Ischiopubic symphysis
D. By fusion

Answer: A Watch Video Solution 124. Deltoid groove is present in A. Radio-ulna B. Femur C. Tibio-fibula D. Humerus **Answer: D** Watch Video Solution 125. Sutural joints are found between A. Thumb and metatarsal

C. Perital of skull D. Glenoid cavity and pectoral girdle **Answer: C Watch Video Solution** 126. Which one is a bone of skull? A. Atlas B. Femur C. Tibia D. Pterygoid Answer: D **Watch Video Solution**

B. Humerus and radio-ulna

A. Cartilagionus B. Fibrous joint C. Angular joint D. Hinge joint Answer: A **Watch Video Solution** 128. Myoglobin is present in A. White muscle fibers B. Red muscle fibers C. Involuntary muscles D. All the above

127. Joint of sternum and ribs is

Answer: B Watch Video Solution 129. Immediate source of energy for muscle contraction is A. Glucose B. GTP C. Creatine phosphate D. ATP **Answer: C** Watch Video Solution 130. Synovial fluid is present in A. Spinal cavity

B. Cranial cavity

C. Freely moveble joints

D. Fixed joints

Answer: C

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

- A. Stops contraction
- B. Causes contraction
- C. Slows down contraction
- D. None of the above

Answer: A

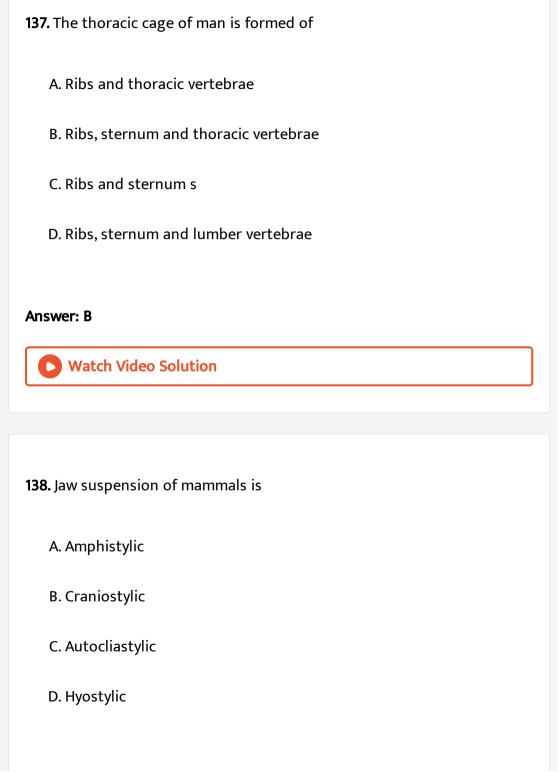


132. Mentomeckelian is specially a characteristic bone of
A. Rane tigrina
B. Aquas
C. Bos indicus
D. Felis domestics
Answer: A
View Text Solution
133. Haversian canals are found in the :
A. Bones of birds
B. Bones of mammals
C. Bones of frog
D. Cartilage

Answer: B Watch Video Solution 134. Largest ear ossicle is A. Incus B. Malleus C. Stapes D. Cochlea **Answer: B** Watch Video Solution 135. Bone formed by ossification of tendon is A. Membrane bone

C. Sesamoid bone D. Cartilage **Answer: C Watch Video Solution** 136. Fabellae bones are associated with A. Elbow joint B. Knee joint C. Neck joint D. Angular joint **Answer: B Watch Video Solution**

B. Dermal bone



Watch Video Solution 139. Joint between humerus and radio-ulna is A. Saddle joint B. Hinge joint C. Fibrous joint D. Ball and socket **Answer: B** Watch Video Solution 140. Ear ossicle, incus is modified A. Jugal

Answer: B

C. Quadrate D. Hyomandibular **Answer: C Watch Video Solution** 141. The parasphenoid bone in frog forms A. Base of cranium B. Floor of cranium C. Dorsal side of cranium D. Dorsolateral side of cranium Answer: B **Watch Video Solution**

B. Articular

142. Smallest bone in Rabbit and Man is
A. Femur
B. Carpals
C. Stepes
D. Nasal
Answer: C
Watch Video Solution
143. Metabolic arthritis is commonly called as
A. Rheumatism
A. Rheumatism B. Gout
B. Gout

Answer: B



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144. Match Column I with Column II.



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

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

 $\mathsf{C.}\,a-iii,\,b-iv,\,c-ii,\,d-i$

 $\mathsf{D}.\,a-i,b-ii,c-iii,d-iv$

Answer: C



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145. 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 iiiD. i and iiAnswer: D **Watch Video Solution** 146. 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



Watch Video Solution

147. Match Column I with column II.

. Column I		Column
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$$(c)$$
 Face (iii) 14

$$(d)$$
 Hind limb (iv) 12 pairs

$$(e)$$
 Ribs (v) 30

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

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

$$\mathsf{C}.\,a-ii,\,b-i,\,c-iii,\,d-v,\,e-iv$$

$$\mathsf{D}.\,a-v,b-iv,c-iii,d-ii,e-i$$

Answer: C



148. 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.
$$a-iv, b-iii, c-ii, d-i$$

$$\mathsf{B.}\,a-i,b-ii,c-iii,d-iv$$

$$\mathsf{C}.\ a-i,b-iii,c-iii,c-ii,d-iv$$

$$\mathsf{D}.\,a-iii,\,b-i,\,c-ii,\,d-iv$$

Answer: D



- 149. Which of the following is/are not correctly matched pairs?
- (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.
$$a-v,b-iv,c-iii,d-ii,e-i$$

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

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

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

Answer: A



150. Three of the following pairs 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

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

C.

- . Pairs of skeletal parts
- (1) Humenerus and ulna
- Pairs of skeletal parts
 - (1) Malleus and stapes

- . Category
 - Appendicular skeleton
 - . Category

Ear ossicles

Answer: B



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151. Read the following statements (i-iv) and accordingly mark the option that has both statements .

The Cardiac fiber are brandhed with one or more nuclei.

The Striated muscles can be branched or unbranched

The Involuntary muscles are non-striated

The Smooth muscles are unbranched and cylindrical

A. i and iii

B. ii and iv

C. ii and iii

D. i	and	ii
--------	-----	----

Answer: A



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- **152.** Which one of the following option is incorrect?
 - 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



153. 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 (think) filament is also a polymerized protine.
- (iii) Many monomeric proteins celled Meromyosins canstitute one thick filament.
- (iv) Each meromyosin has two important parts, a globular head with a short arm and a til, 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 myosis filament and is

A. 5

B. 4

known as cross arm

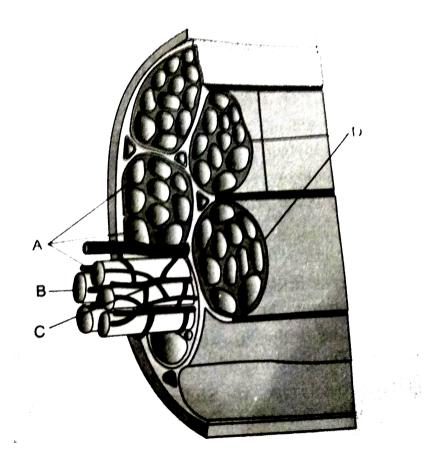
C. 2

Answer: D



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154. Ideentify A to D in given figure 20. 32



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

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

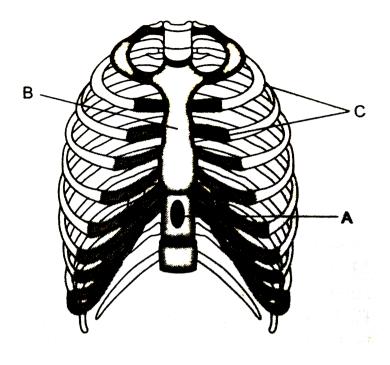
 $\hbox{C. A-Muscle fiber, C-Sarcolema, B-Blood capillary, D-Muscle bundle}\\$

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

Answer: A



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



A. A and C

B. A and B

C. C and B

D. C and A

Answer: B



156. An action (thin) filament figure is given below. Classify A and D.



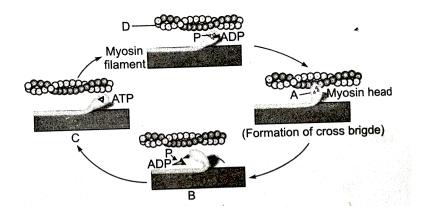
- A. Troponin and Tropomyosin.
- B. Tropomyosin and F Actin
- C. Troponin and F Actin
- D. F Actin and Tropomyosis

Answer: C



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157. The following diagram (Figure 20, 35) describes the muscle contraction . Identify A to D



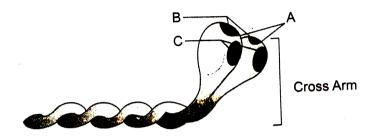
A. A - Cross bridge, B-Silding/Rotation , C - Breaking of cross bridge, D-Actin filament

- 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



158. In given figure 20, 36, 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



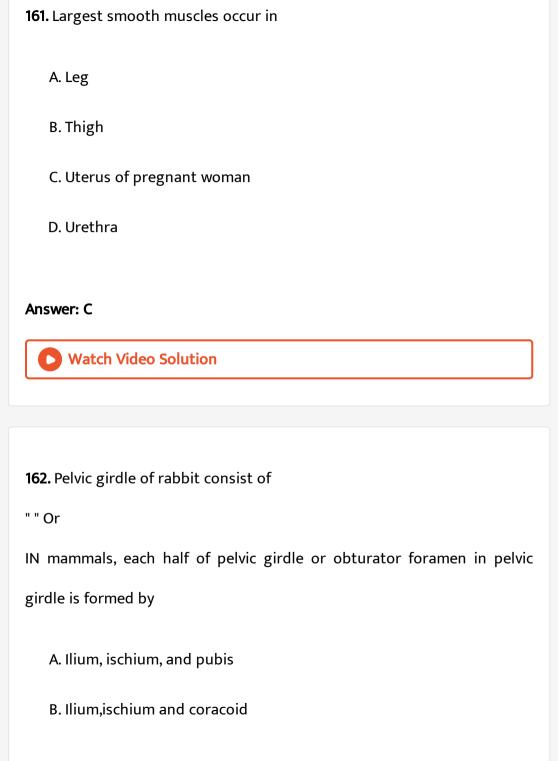
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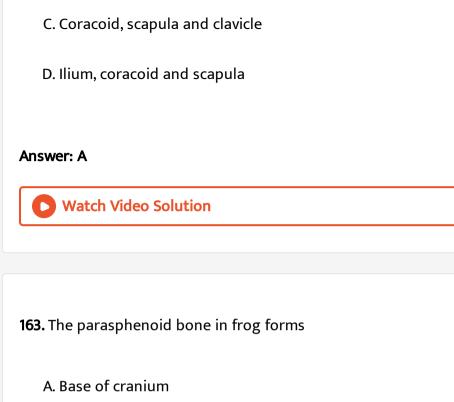
159. In frog, the verteba with an anterior convex surface is

A. Atlas

C. 8th vertebra
D. 9th vertebra
Answer: D
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160. 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
Answer: C
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B. Urostyle





B. Floor of cranium

Answer: B

C. Dorsal side of cranium

D. Dorsolateral side of cranium

164. Ear ossicle, incus is modified

- A. Jugal
- B. Articular
- C. Quadrate
- D. Hyomandibular

Answer: C



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165. 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

Answer: A



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parts labelled as A, B, C and D

۸.	A	В	\mathbf{C}	D
A.	Clavicle	Humerus	Radius	$\operatorname{Carpals}$
ь.	A	В	\mathbf{C}	D
D.	A Scapula	Femur	Ulna	Tarsals
<i>.</i> .	A	В	\mathbf{C}	D
С.	Clavicle	${\bf Femur}$	Radius	Carpals

166. Examine the figure of pectoral girdle and forelimb, and identify the

 \mathbf{C} \mathbf{B} D Humerus Ulna

Tarsals Scapula

Answer: A

167. Identify the parts labelled as A to E in the given figure of a vertabral column and select the correct option .

(##CEN_BIO_P1_C20_E01_167_Q01.png" width="80%">

\mathbf{A}	В	\mathbf{C}	D	${f E}$
Thoracic	Carvical	Lumber	Sacrum	Coccyx
vertabra	vertabra	vertabra		

В.

. A	${f B}$	\mathbf{C}	D	${f E}$
Thoracic	Carvical	Lumber	Coccyx	Sacrum
vertabra	vertabra	vertabra		

C.

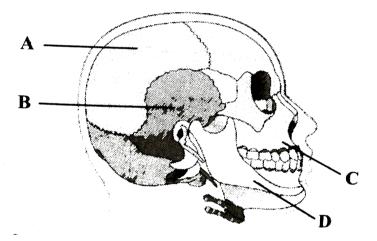
. A	В	C	D	E
Thoracic	Thoracic	Carvical	Coccyx	Sacrum
vertabra	vertabra	vertabra		

D.

. A	В	\mathbf{C}	D	${f E}$
Thoracic	Thoracic	Lumber	Sacrum	Coccyx
vertabra	vertabra	vertabra		



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



Α. ΄	. A	В	\mathbf{C}	D
	Frontal	Temporal	Maxilla	Mandible
	. A	В	\mathbf{C}	D
	. A Occopital	Frontal	Mandible	Maxilla
c. ·	A Parietal	В	\mathbf{C}	D
	Parietal	Temporal	Maxilla	${\bf Mandible}$
D. ·	. A	В	\mathbf{C}	D
	Temporal	Parietal	Mandible	Maxilla



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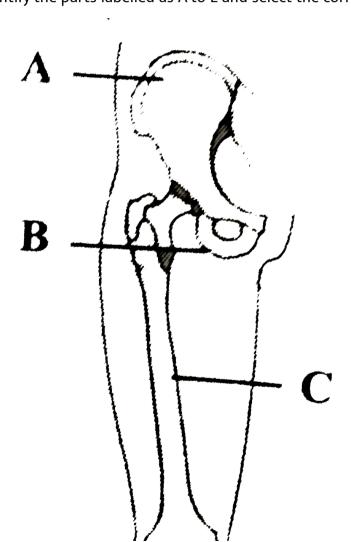
169. Match column I with column II and select the correct option from the codes given below.

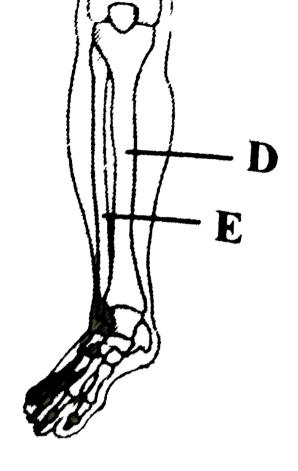
	Column I (Skeletal part)	Column II (Number of bones)		
Α.	Cranium	(i)	29	
В.	Skull (Cranial and	(ii)	8	
	facial bones)			
C.	Face	(iii)	14	
D.	Hind limb	(iv)	24	
Ε.	Ribs	(v)	30	



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170. 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.





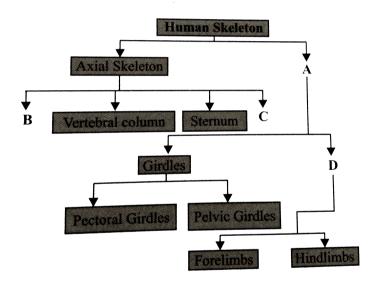
A.

. A		В	\mathbf{C}	D	${f E}$
	secrum	Pubis	Patella	Metatarsal	Fibula
В.	. A	В	\mathbf{C}	D	${f E}$
	Ilium	$\operatorname{Ischium}$	Femar	Tibia	Fibula
c. ·	. A	В	\mathbf{C}	D	${f E}$
	Ilium	$\operatorname{Ischium}$	Femar	Fibula	Tibia
D. ·	. A	В	\mathbf{C}	D	${f E}$
	$\operatorname{Ischium}$	Ilium	$\operatorname{Petella}$	Tibia	Tarsal

Answer: B



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



A.

. A B C D

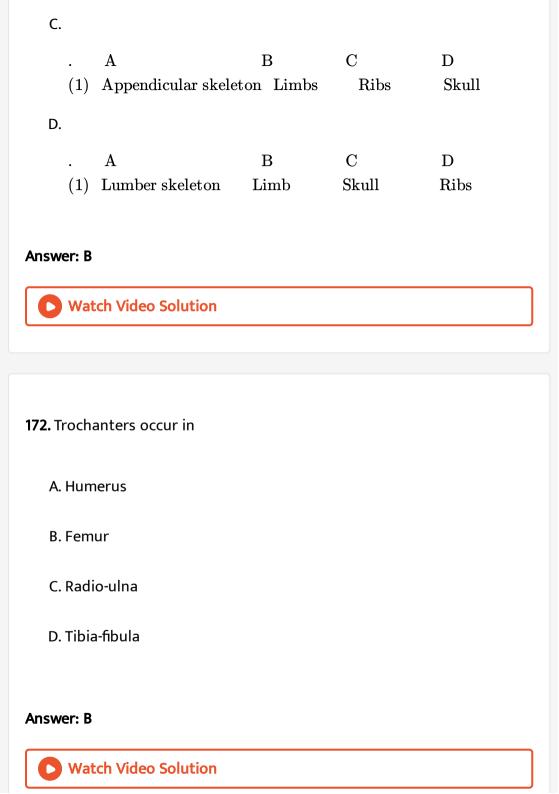
(1) There is abole to a Limbs Shull Bib

(1) Thoracic skeleton Limbs Skull Ribs

В.

. A B C D

(1) Appendicular skeleton Skull Ribs Limbs





- A. Loss of energy
- B. Accumulation of lactic acid is muscle
- C. Formation of scuccinic acid
- D. Formation of biuret crystals

Answer: B



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174. Acetabulum is part of

- A. Pelvic girdle
- B. Pectoral girdle
- C. Fore arm

D. Upper arm
Answer: A
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175. Number of vertebrae in axial skeletal of frog urostyle is
A. 10
B. 12
C. 15
D. 9
Answer: D
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176. Coccygeal bone occurs in

A. Skull B. pectoral girdle C. Vertebra column D. Pelvic girdle **Answer: B Watch Video Solution** 177. From ourter to inner side, the squence of three bones present in the middle ear of mammals is A. Incus, malleus, stapes B. Stapes, incus, malleus C. Malleus, incus, stapes D. Malleus, stapes, incus Answer: C



178. 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



179. Which of the following is correct

- A. Axial skeletal system of human consist 80 bones
- B. Human have 12 pairs of Ribs
- C. 6 ear ossicle present in human

D. All are Correct

Answer: B



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180. 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 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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181. 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 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



182. 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 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.

Answer: D



183. 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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184. 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



185. 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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186. Assertion: Skeleton serves as a storage 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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187. 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



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

Reason: Some toxic substances are deposited at the joint

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



189. 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



1. Which one 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 **Watch Video Solution** 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 - 3

D. Amino acids found in proteins - 16

Answer: C



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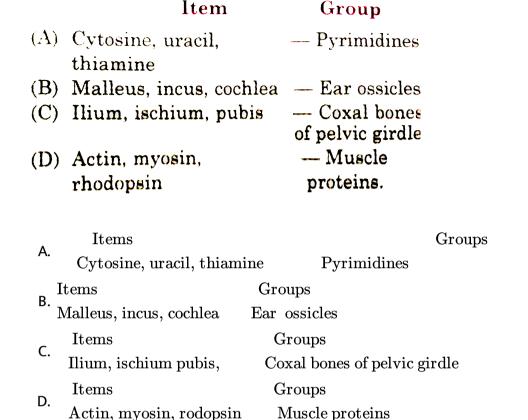
- 3. Elbow joint is an example of
 - A. Ball and socket joint
 - B. Pivot joint
 - C. Hinge joint
 - D. Gliding joint

Answer: C



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4. Which one is a correct match of three items and their grouping category?



Answer: C



5. Select the correct statement regarding the specific disorder of musclular or 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



Characteristics

6. 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

(c) Fluid filled between two joints, provides cushion Skull bones

Knee joint

(d) Fluid filled synovial cavity between two bones Joint between

Examples

A. Fluid-filled between, two skull bones

joints, provides cushion

Examples Characteristics Fluid-filled synovial cavity joint between atlas and axis B. between two bones Characteristics Examples Lymph-filled between two joint between carpals **C**. bones, limited movement gliding Characteristics Examples Fluid cartilage between knee joint D. two bones, limited movements

Answer: B



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



9. Which of the following joints would allow no movement

A. Ball and socket joint

B. Fibrous joint

C. Cartilaginous joint

D. Synovial joint

Answer: B



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- 10. The H-zone in the skeletal muscle fibre is due to
 - A. the absence of myofibrils in the central portion of A-band
 - B. the central gap between myosin filaments in the A-band
 - C. the central gap between actin filaments extending through myosin

filaments in the A band

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

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



- **12.** Osteoporosis, an age related disease of 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

