8 LOCOMOTION AND MOVEMENT

Para-20.1
Introduction and Type of Movement

1. Streaming of cytoplasm/cyclosis is seen in – **[Pg-302,E]**
(A) Amoeba (B) Macrophages
(C) Leukocytes (D) All

2. Which of the following statements is correct? **[Pg-303,E]**
(A) Cytoplasmic streaming helps in pseudopodia formation or amoeboid movement
(B) Cytoplasmic streaming is caused by contracting microfilament
(C) Both a and b
(D) Locomotion is not a voluntary movement

3. I. *Paramecium* employs cilia for pushing food in cytopharynx and in locomotion
II. Hydra takes help of tentacles for both food capturing and locomotion
III. All locomotion's are movements and vice-versa
IV. Methods of locomotion vary with habitats and the demands of situation
V. Ciliated epithelium is found in respiratory tract, renal tubules and reproductive tracts
Which of the above statements is false?
(A) I and III (B) III
(C) III and V (D) IV and V
[Pg-302,303,E]

Para-20.2 Muscle

4. Which of the following statements is false? **[Pg-303,E]**
(A) Locomotion and many other movements required coordinated muscular activities
(B) Muscle is a specialised tissues of endodermal in origin
(C) There are about 639 muscles which contribute about 40 - 50 % of adult body weight
(D) Muscles show contractibility, excitability and flexibility

5. Which of the following statements about the skeletal muscles is correct? **[Pg-303,E]**
(A) They are striated muscles
(B) They are voluntary muscles
(C) They are primarily involved in locomotory actions
(D) All

6. Which of the following statements about visceral muscles is correct? **[Pg-303,E]**
(A) They are non-striated muscles (smooth muscles)
(B) They are involuntary muscles
(C) They have various functions
(D) All

7. Cardiac/heart muscles are -**[Pg-304,E]**
(A) Striated and involuntary
(B) Not fatigued
(C) Branched
(D) All

8. Which of the following statements is false? **[Pg-303,304E]**
(A) Smooth muscles are found in urinary bladder, alimentary canal and genital tract
(B) A striated muscle is syncytium (multinucleate)
(C) The cytoplasm of striated muscle is called endoplasm
(D) The plasma membrane and ER of striated muscles are called sarcolemma and sarcoplasmic reticulum respectively

9. The source of Ca^{+2} for the muscle is – **[Pg-304,E]**
(A) T-tubule
(B) Sarcosome
(C) Sarcolemma
(D) Sarcoplasmic reticulum

10. The fascia surrounding a muscle is made up of - **[Pg-304,E]**
(A) Cartilage
(B) Collagenous connective tissues
(C)Adipose tissue
(D) Blood vessels

11. Contractile fibrils of muscles are called – **[Pg-304,E]**
(A) Neurofibrils (B) Collagen fibres
(C) Myofibrils (D) Yellow fibres

12. Myofibrils show alternate dark and light bands in - **[Pg-304,E]**
(A) Cardiac muscles
(B) Smooth muscles
(C) Striped muscles
(D) a and c

13. Select the true statement(s) - **[Pg-305,E]**

(A) A-band is present in the middle of sarcomere
(B) H-zone is present in the middle of A-band
(C) M-line is present in the middle of H-zone
(D) All of the above

14. Which is the smallest one? **[Pg-304,E]**
(A) Muscle fibre (B) Myofibril
(C) Actin (D) Sarcomere

Para-20.2.1
Structure of Contractile Proteins

15. Match Column I with Column II – **[Pg-304,305,M]**

	Column I		Column II
A.	Structural and functional unit of a myofibril	I.	H-zone
B.	Protein of thin filament	II.	Myosin
C.	Protein of thick filament	III.	Sarcomere
D.	The central part of thick filament not overlapped by thin filament	IV.	Actin

(A) A-I, B-II, C-III, D-IV
(B) A-I, B-III, C-II, D-IV
(C) A- I, B - IV, C - III, D - II
(D) A- III, B - IV, C - II, D – I

16. Z-line divides the myofibrils into – **[Pg-305,E]**
(A) Sarcomere (B) Sarcolemma
(C) Sarcosome (D) Microtubules

17. Sarcomere is the area between – **[Pg-305,E]**
(A) 2 H-zones (B) 2 Z-lines
(C) 2 M-lines (D) 2A-bands

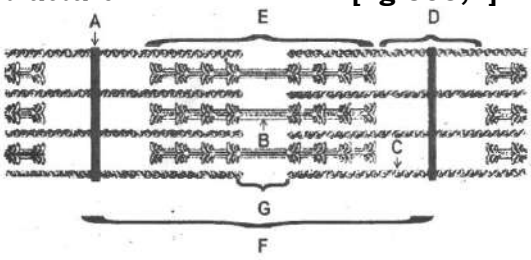
18. Light bands (thin filaments) contain actin and are called - **[Pg-304,E]**
(A) A-bands or Isotropic band
(B) A-bands or Anisotropic bands
(C) I-bands or Isotropic bands
(D) I-bands or Anisotropic bands

19. Dark bands (thick filaments) contain myosin and are called - **[Pg-304,E]**
(A) A-bands or Isotropic band
(B) A-bands or Anisotropic bands
(C) I-bands or Isotropic bands
(D) I-bands or Anisotropic bands

20. Which of the following statements about the striated muscles is false? **[Pg-305,M]**
I. In the centre of each I-band is an elastic fibre (Z-line) which bisects it
II. Thin filaments are firmly attached to the Z-line
III. M-line is a fibrous membrane in the middle of A-bands
IV. A sarcomere comprises one full A-bands and 2 half I-bands
(A) All (B) IV
(C) I and II (D) None

21. The region between the ends of the A-bands of 2-adjoining sarcomeres is called – **[Pg-305,E]**
(A) The Z-band (B) The H-zone
(C) The T-tubule (D) The I-band

22. Choose the letter from the figure that most appropriately corresponds to the structure – **[Pg-305,E]**



I. A-band
II. I-band
III. Sarcomere
IV. H-zone
V. Myosin
VI. Actin, Troponin, Tropomyosin
VII. Z- line
(A) I - E, II - D, III - F, IV - G, V - B, VI - C, VII -A
(B) I - E, II - D, III - C, IV - G, V - B, VI - A, VII - F,
(C) I - E, II - D, III - F, IV - G, V - C, VI - A, VII - B
(D) I - E, II - D, III - F, IV -A, V - B, VI - C, VII – G

23. An individual sarcomere consist of- **[Pg-305,E]**
(A) A stack of actin fibres
(B) A stack of myosin units
(C) Overlapping actin and myosin
(D) Overlapping myosin arid membrane

24. Which of the following statements about the molecular arrangement of actin and myosin in myofibrils is false? **[Pg-306,M]**
I. Each actin (thin filament) is made of 2F (filamentous) actins.
II. F-actin is the polymer of G (globular) actin.
III. 2F- actins are twisted into a helix
IV. Two strands of tropomyosin (protein) lie in the grooves of F-actin

V. Troponin molecules (complex proteins) are distributed at regular intervals on the tropomyosin
VI. Troponin forms the head of the myosin molecule
VII. The myosin is a polymerised protein

(a) I, II, III (B) Only VII
(C) Only VI (D) Only III

25. One myosin filament in the myofibril of skeletal muscle fibres is surrounded by how many actin filaments - **[Pg-306,E]**
(A) 8 (B) 2
(C) 6 (D) 4

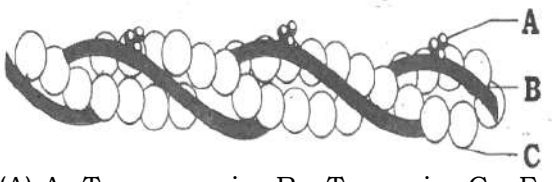
26. The cross bridges of the sarcomere in skeletal muscle are made up of – **[Pg-306,E]**
(A) Actin (B) Myosin
(C) Troponin (D) Myelin

27. The functions of tropomyosin in skeletal muscle include - **[Pg-306,E]**
(A) Sliding on actin to produce shortening.
(B) Release Ca+2 after initiation of contraction
(C) Acting as "relaxing protein" at rest by covering up the sites where myosin binds to actin
(D) Generates ATP

28. Tropomyosin is moved by which of following proteins - **[Pg-306,E]**
(A) Calmodulin (B) Actin
(C) Troponin (D)Acetylcholine

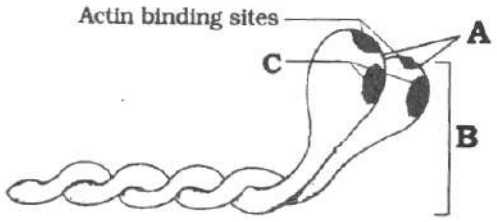
29. Ca^{+2} bind _____ in the skeletal muscles and leads to exposure of the binding site for _____ on the filament _____. **[Pg-306,E]**
(A) Troponin, myosin, actin
(B) Troponin, actin, relaxin
(C) Actin, myosin, troponin
(D) Tropomyosin, myosin, actin

30. Following is the figure of actin (thin) filaments. Identify A, Band C. **[Pg-306,E]**



(A) A- Tropomyosin, B - Troponin, C - F-actin
(B) A- Troponin, B - Tropomyosin, C - Myosin
(C) A- Troponin, B - Myosin, C - Tropomyosin
(D) A- Troponin, B - Tropomyosin, C - F-actin

31. **[Pg-306,E]**



The above figure is related with myosin monomer (meromyosin). Identify A to C -
(A) A- head, B - cross arm, C - GTP binding sites
(B) A- head, B - cross arm, C - Ca+2 binding sites
(C) A- head, B - cross arm, C -ATP binding sites
(D) A- cross arm, B - head, C -ATP binding sites

32. Which of the following statements is false? **[Pg-306,M]**
(A) Each myosin is a polymerised protein
(B) Many meromyosin constitute one thick filament (myosin)
(C) Each meromyosin's tail is called heavy meromyosin (HMM) and head is called light meromyosin (LMM)
(D) The globular head is an active ATPase enzyme and has binding sites for ATP and active sites for actin

Para-20.2.2
Mechanism of Muscle Contraction

33. The action potential that triggers a muscle contraction travels deep within the muscle cell by means of _____. **[Pg-307,E]**
(A) Sarcoplasmic reticulum
(B) Transverse tubules
(C) Synapse
(D) Motor end plates

34. ATP provides energy for muscle contraction by allowing for- **[Pg-307,E]**
(A) An action potential formation in the muscle cell
(B) Cross-bridge detachment of myosin from actin
(C) Cross-bridge attachment of myosin to actin
(D) Release of ca+2 from sarcoplasmic reticulum

35. A motor unit is best described as – **[Pg-307,E]**
(A) All the nerve fibres and muscle fibres in a single muscle bundle
(B) One muscle fibre and its single nerve fibre
(C) A single motor neuron and all the muscle fibres that it innervates

(D) It is the neuron which carries the message from muscle to CNS

36. Motor end plate is a - **[Pg-307,E]**
(A) Neuromuscular junction
(B) Dendron of motor neuron
(C) Plate of motor neuron
(D) Gradient of proton motive force

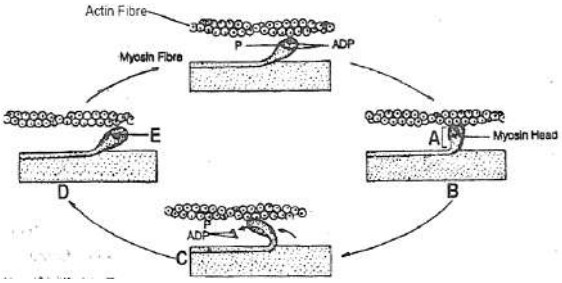
37. Electrical excitation in a muscle fibre most directly causes - **[Pg-307,E]**
(A) Movement of tropomyosin
(B) Attachment of the cross bridges to actin
(C) Release of Ca^{+2} from sarcoplasmic reticulum
(D) Splitting of ATP

38. The energy for muscle contraction is most directly obtained from - **[Pg-307,E]**
(A) Phosphocreatine
(B) ATP
(C) Anaerobic respiration
(D) Aerobic respiration

39. According to the sliding filament theory – **[Pg-306,E]**
(A) Actin (thin filament) moves past myosin (thick filament)
(B) Myosin moves past actin
(C) Both myosin and actin move past each other
(D) None of these is correct

40. Put the following phrases in proper order to describe what occurs at the neuromuscular junction to trigger muscle contraction. **[Pg-307,M]**
I. Receptor sites on sarcolemma.
II. Nerve impulse.
III. Release of Ca+2 from sarcoplasmic reticulum
IV. The neurotransmitter acetylcholine is released
V. Sarcomere shorten
VI. Synaptic cleft
VII. Spread of impulses over sarcolemma on T-tubules
(A) II, IV, I, VI, VII, III, V
(B) II, IV, VI, I, VII, III, V
(C) I, II, III, IV, V, VI, VII
(D) VII, VI, V, IV, III, II, I

41. Go through the following diagram describing muscle contraction. **[Pg-307,E]**

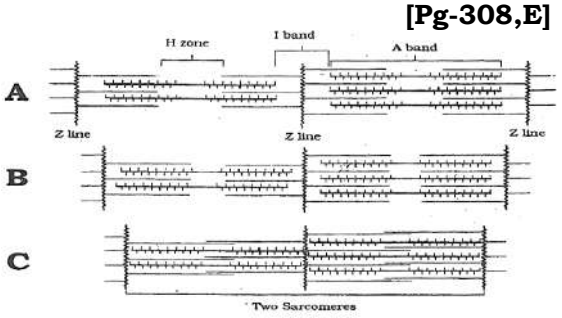


Now identify A to E.
(A) A- Cross bridge, B - Cross bridge formation, C-Breaking of cross bridge, D –Sliding (rotation), E -ATP
(B) A- Cross bridge, B - Cross bridge formation, C – Sliding/rotation, D – Breaking of cross bridge, E -ATP
(C) A- Cross bridge, B - Breaking of Cross bridge, C – Sliding/rotation, D - Cross bridge formation, E -AMP
(D) A- Cross bridge, B - Cross bridge formation, C – Sliding/rotation, D - ADP, E - Breaking of cross bridge

42. How does the troponin-tropomyosin complex affect cross-bridge cycling? **[Pg-307,E]**
(A) When $[Ca^{2+}]$ is low, the troponin-tropomyosin complex blocks actin's binding site for myosin. When $[Ca^{2+}]$ is high, the complex rolls out of the way, allowing myosin to bind to actin and initiate the cross-bridge cycle.
(B) The troponin-tropomyosin complex regenerates ATP for the myosin ATPase.
(C) The troponin-tropomyosin complex regulates calcium release from the terminal cisternae.
(D) The troponin-tropomyosin complex binds to the myosin head, facilitating contact with the actin filaments

43. Relaxation of muscle is due to – **[Pg-307,E]**
(A) Pumping of Ca+2 into sarcoplasmic cisternae
(B) Presence of ATP
(C) Conformational change in troponin and masking of actin filaments
(D) A and C

44. **[Pg-308,E]**



The diagrams given above show 3 different condition of sarcomeres. Identify these conditions -

(A) A– contracting, B - relaxed, C – maximally contracted
(B) A – relaxed, B - contracting, C – maximally contracted
(C) A- maximally contracted, B – contracting, C - relaxed
(D) A- relaxed, B - maximally contracted, C–contracting

45. When a skeletal muscle shortens during contraction which of these statements is false? **[Pg-307,E]**
(A) The I-band shortens
(B) The A-band shortens
(C) The H-zone becomes narrow
(D) The sarcomeres shorten

46. The muscle band that remains unchanged during muscle contraction and relaxation of the skeletal muscle is – **[Pg-308,E]**
(A) I (B)A
(C) H (D) Z line

47. Which of the following statements is correct? **[Pg-307,E]**
(A) During muscle contraction chemical energy changes into mechanical energy
(B) Muscle fatigue is due to lactic acid formation due to anaerobic respiration
(C) The reaction time of the fibres can vary in different muscles
(D) All

48. The compound or pigment acting as an oxygen store in skeletal muscles is – **[Pg-308,E]**
(A) Myoglobin
(B) Haemoglobin
(C) Myokinase or ATP
(D) Cytochrome

49. I. Number of mitochondria less.
II. Number of mitochondria more
III. Sarcoplasmic reticulum is abundant
IV. Myoglobin content high
V. Sarcoplasmic reticulum moderate
VI. Aerobic muscles
VII. Depend on anaerobic respiration for energy
VIII. Less myoglobin content
A. Red muscles
B. White muscles
Identify above (I to VIII) traits as characteristic of A and B types of muscles- **[Pg-307,308,M]**
(A) A- I, III, VII, VIII; B -II, IV, V, VI
(B) A-II, IV, V, VI; B-I, III, VII, VIII
(C) A-I, III, IV, VII; B – II, V, VI, VIII
(D) A- II, V, VI, VIII; B - I, III, IV, VII

Para-20.3
Skeletal System

50. Skeletal system consists of - **[Pg-309,E]**
(A) Only bones
(B) Only cartilage
(C) A framework of bones and a few cartilage
(D) A framework of cartilage. and a few bones

51. Bone has a very hard matrix due to presence of- **[Pg-309,E]**
(A) NaCl (B) Ca-salts
(C) K-salts (D) Fe-salts

52. Cartilage has slightly pliable matrix due to - **[Pg-309,E]**
(A) Chondroitin salts
(B) Osteoblast
(C) Chondroblasts
(D) Osteoclast

53. How many bones make up the human skeleton? **[Pg-309,E]**
(A) 948 (B) 96
(C) 796 (D) 206

54. Number of bones in human axial skeleton is - **[Pg-309,E]**
(A) 80 (B) 106
(C) 206 (D) None

55. Match Column I with Column II – **[Pg-309,M]**

	Column I		**Column II (Number of bones)**
A.	Cranium/Brainbox	**I.**	29
B.	Skull (Cranial and facial bones)	**II.**	8
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- II, B - I, C - III, D - V, E - IV
(C) A - I, B - II, C- III, D - IV, E - V
(D) A- V, B - IV, C - III, D - II, A- I

56. Hyoid/Tongue bone is - **[Pg-309,E]**
(A) T-shaped (B) J-shaped
(C) U-shaped (D) L-shaped

57. A normal human being has how many ear ossicle? **[Pg-309,E]**
(A) 3 (B) 6
(C) 9 (D) None

58. Which one of the following is not included under ear ossicles - **[Pg-309,E]**
(A) Malleus (B) Ileum
(C) Incus (D) Stapes

59. Human Cranium has small protuberance(s) at the posterior end called _____ and ____ in number. **[Pg-309,310,E]**
that articulates with first vertebra (atlas vertebra)-
(A) occipital condyle, 6
(B) occipital condyle, 2
(C) occipital condyle, 4
(D) occipital condyle, 3

60. Human skull is - **[Pg-310,E]**
(A) Dicondylic (B) Monocondylic
(C) Procoelous (D) Hetercoelous

61. Which of the following statements about human vertebral column is false? **[Pg-310,M]**
(A) Vertebral column consists of 26 vertebrae
(B) It is ventrally placed
(C) It extends from the base of skull and constitutes the main framework of the trunk
(D) Neural canal in vertebra is the passage for spinal cord

62. Human adult vertebral formula is- **[Pg-310,E]**
(A) $C_4\ T_8\ L_4\ S_8\ C_8$ (B) $C_7\ T_8\ L_5\ S_6\ C_7$
(C) $C_7\ T_{12}\ L_2\ S_1\ C_2$ (D) $C_7\ T_{12}\ L_5\ S_1\ C_1$

63. Which of the following vertebra in adult human are fused ones? **[Pg-310,E]**
(A) Thoracic and lumber
(B) Thoracic and cervical
(C) Sacral and coccygeal
(D) Cervical and coccygeal

64. Which of the following is not the function of vertebral column? **[Pg-310,M]**
(A) Protects spinal cord and supports the head
(B) Serves as the point of attachment for ribs and musculature of the back
(C) Both
(D) Supports Tarsals and Metacarpals

65. Which of the following is not correct about sternum? **[Pg-310,E]**
(A) It is commonly called breast bone
(B) It is flat bone
(C) It is 2 in number
(D) It is located on the ventral mid line of thorax

66. Each typical rib is a thin flat bone connected ____ to the vertebral column and _____ to the sternum- **[Pg-310,E]**
(A) Dorsally, ventrally
(B) Ventrally, dorsally
(C) Dorsally, dorsally
(D) Ventrally, Ventrally

67. Typical ribs are - **[Pg-310,E]**
(A) Monocephalic (B) Dicephalic
(C) Tricephalic (D) Tetracephalic

68. Match Column I with Column II – **[Pg-310,M]**

	Column I		Column II
A.	True ribs	**I.**	3 pairs
B.	False ribs	**II.**	2 pairs
C.	Floating ribs	**III.**	7 pairs

(A) A-I, B-II, C-III
(B) A-III, B-I, C-II
(C) A- III, B - II, C - I
(D) A-ll, B-l, C-III

69. Match Column I with Column II – **[Pg-310,M]**

	Column I		Column II
A.	False ribs	**I.**	1st to 7th pair
B.	True ribs	**II.**	11th and 12th pair
C.	Floating ribs	**III.**	8th to 10th pair
D.	Sternum	**IV.**	One

(A) A-I, B-II, C-III, D- IV
(B) A-IV, B-III, C-II, D- I
(C) A- I, B - III, C - II, D- IV
(D) A-III, B-I, C-II, D- IV

70. Identify the ribs - **[Pg-310,E]**
a. Ribs are attached to the sternum ventrally and to the vertebrae dorsally.
b. Ribs are attached to sternum through costal cartilage (hyaline) of 7th rib
c. Ribs are not attached to sternum
I. True ribs
II. False ribs
III. Floating ribs
(A) a-I, b-II, c-III (B) a-I, b-III, c-II
(C) a-II, b-I, c-III (D) a-III, b -II, c-I

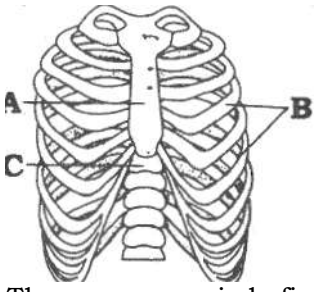
71. Which of the following ribs are called vertebrochondral ribs? **[Pg-310,E]**
(A) True ribs (B) False ribs
(C) GorIIIa ribs (D) Floating ribs

72. Rib cage is formed by all except – **[Pg-310,E]**
(A) Thoracic vertebrae
(B) Lumbar vertebrae
(C) Ribs
(D) Sternum

73. Each limb (upper or lower) consists of how many bones – **[Pg-310,E]**
(A) 30 (B) 60

(C) 101 (D) 8

74. **[Pg-310,E]**



The accompanied figure is rib cage. Identify A, Band C respectively-
(A) Coccyx, ribs, vertebral column
(B) Sternum, ribs, vertebral column
(C) Scapula, ribs, vertebral column
(D) Tarsal, ribs, vertebral column

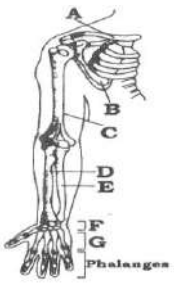
75. Number of bones in human appendicular skeleton is - **[Pg-310,E]**
(A) 80 (B) 120
(C) 126 (D) 206

76. Number of bone in each upper limb is – **[Pg-310,311,E]**
(A) 1, 1, 1
(B) 8, 5, 14
(C) 2, 2, 2, 16, 10, 28
(D) 1, 1, 1, 8, 5, 14

77. Phalangeal/digital formula for human hand/foot is- **[Pg-311,E]**
(A) 0, 2, 2, 3 (B) 0, 2, 3, 3 ,3
(C) 2, 2, 3, 3, 3 (D) 2, 3, 3, 3, 3

78. The hand contains ____ carpals (wrist bones), ____ metacarpals (palm bones), and ___ phalanges. **[Pg-311,E]**
(A) 14, 5, 8 (B) 5, 8, 14
(C) 8, 5, 14 (D) 1, 5, 5

79. **[Pg-311,E]**



The accompanied diagram shows right pectoral girdle and upper arm (frontal view). Identify A to G
(A) A- 1st Vertebra, B - Scapula, C - Humerus,
D - Radius, E - Ulna, F - Carpals,
G - Metacarpals
(B) A- Scapula, B - Clavicle, C - Humerus,
D – Radius, E - Ulna, F - Carpals,
G - Metacarpal
(C) A- Ilium, B - Scapula, C - Humerus,
D - Radius, E - Ulna, F - Carpals, G – Metacarpals
(D) A- Clavicle, B - Scapula, C - Humerus, D - Radius, E - Ulna, F - Carpals, G –Metacarpals

80. An acromion process is characteristically found in - **[Pg-311,E]**
(A) Pelvic girdle of mammals
(B) Pectoral girdle of mammals
(C) Skull bone
(D) Vertebrae of mammals

81. The shoulder blade is large triangular bone situated in the dorsal part of the thorax between the 2nd and the 7th ribs. **[Pg-311,E]**
It is called -
(A) Clavicle (B) Ilium
(C) Scapula (D) Carpals

82. For articulation of head of humerus a depression found in scapula is called – **[Pg-311,E]**
(A) Acetabulum
(B) Manubrium
(C) Occipital condyle
(D) Glenoid cavity

83. Which of the following statement is correct? **[Pg-311,M]**
(A) Pectoral and pelvic girdle bones help in the articulation of the upper and lower limbs respectively with the axial skeleton
(B) Each girdle is formed of 2 halves
(C) Each half of pectoral girdle consists of a clavicle (collar bone) and Scapula
(D) All

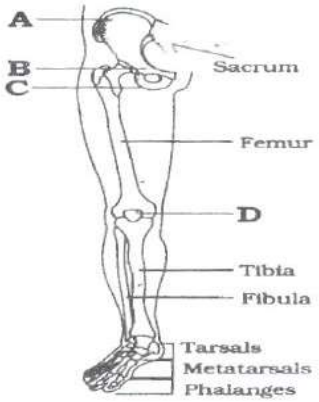
84. Which of the following statements is false? **[Pg-311,M]**
(A) Scapula has the spine which projects as acromion process
(B) Below acromion process is a glenoid cavity
(C) Each clavicle (collar bone) articulates with acromion
(D) Clavicle is long S-shaped bone with 4 curvatures

85. Which one of the following is the longest bone in human? **[Pg-311,E]**
(A) Radius
(B) Tibia
(C) Femur (Thigh bone)
(D) Clavicle (Collar bone)

86. Human foot consists of 26 bones. What are the number of tarsals (ankle bones), metatarsals and phalanges? **[Pg-311,E]**
(A) 7, 5, 14 (B) 5, 7, 14
(C) 1, 1, 5 (D) 5, 5, 5

87. A cup shaped bone covering knee ventrally is called - **[Pg-311,E]**
(A) Cuneiform (B) Tarsal
(C) Patella (D) Carpal

88. Study the accompanying figure. Identify A, B, C and D – **[Pg-311,E]**



(A) A- Pubis, B - ilium, C - Ischium, D - Patella
(B) A- Ischium, B - Pubis, C - ileum, D– Patella
(C) A- ileum, B - Pubis, C - Ischium, D– Patella
(D) A- ilium, B - Pubis, C - Ischium, D– Patella

89. Acetabulum occurs in - **[Pg-311,E]**
(A) Cranium (B) Pectoral girdle
(C) Pelvic girdle (D) Vertebrae

90. Pelvic girdle (hip girdle) is composed ____ coxal (hip) bones- **[Pg-311,E]**
(A) 3 (B) 2
(C) 4 (D) 5

91. Pelvic girdle consists of-
(A) Ileum, ischium and pubis
(B) Ilium, ischium and pubis
(C) Ilium, ischium and clavicle
(D) Coracoid, ischium and pubis

92. Two halves of pelvic girdle articulate ventrally at a fibrocartilaginous joint called - **[Pg-311,E]**
(A) Pubic symphysis
(B) Synchodroses
(C) Gomphoses
(D) Sutures

93. Each coxal bone is formed by the fusion of 3 bones named as - **[Pg-311,E]**
(A) Ileum, ischium and pubis
(B) Ilium, ischium and pubis
(C) Ilium, ischium and clavicle
(D) Coracoid, ischium and pubis

Para - 20.4 Joints

94. Which of the following statements about the joints is false? **[Pg-311,312,M]**
(A) Joints are essential for all types of movements involving bony parts
(B) Joints are contact between bones or between bones and cartilages
(C) Fibrous joints are immovable
(D) Cartilaginous joint permit great movement

95. Match Column I with Column II – **[Pg-312,M]**

	Column I		Column II
A.	Hinge joint	**I.**	Between humerus and pectoral girdle
B.	Pivot joint	**II.**	Between carpals and Metacarpals of thumb
C.	Gliding joint	**III.**	Between the carpals
D.	Saddle joint	**IV.**	Between atlas and axis
E.	Saddle joint	**V.**	Knee joint

(A) A- V, B - IV, C - III, D - II, E - I
(B) A- I, B - II, C - II, D - V, E - IV
(C) A- I, B - III, C - II, D - V, E - IV
(D)A-V, B-III, C-II, D-I, E-II

96. Which of the following statements is correct? **[Pg-312,M]**
(A) Synovial joints are characterised by synovial cavity with fluid between the articulating surface of two· bones
(B) Synovial joints are freely movable
(C) Ball and socket, hinge joint, gliding joints, pivot joints and saddle joints are the types of synovial joints
(D) All

97. Joint between bones in the form of sutures of human skull is -**[Pg-312,E]**
(A) Hinge joint
(B) Synovial joint
(C) Cartilaginous joint
(D) Fibrous joint

98. Which of the following statements is correct? **[Pg-312,M]**
(A) Movable skull bone is mandible
(B) We move our hands while walking for balancing
(C) Cartilaginous joints have little mobility due to fibrocartilage disc between its articular ends e.g. intervertebral disc between centre of vertebrae
(D) All

Para-20.5 Disorders of Muscular and Skeletal System

99. A disease associated with joint is – **[Pg-312,E]**

(A) Glaucoma
(B) Arthritis
(C) Paget's disease
(D) Homer's syndrome

100. Gout is the inflammation of joints due to accumulation of - **[Pg-312,E]**
(A) Urea crystal
(B) NH_3
(C) Uric acid crystal
(D) $CaCO_3$ crystals

101. I. Age-related disorder characterised by decreased bone mass and increased chances of fracture
II. Causative factor deficiency of estrogen is common.
The above characters are associated with – **[Pg-312,M]**
(A) Gout (B) Osteoporosis
(C) Arthritis (D) Polio

102. Myasthenia is an ____ disorder affecting neuromuscular junction leading to fatigue, weakening and paralysis of skeletal muscles - **[Pg-312,E]**
(A) Arthritis (B) Autoimmune
(C) Agnosic (D) Amnesic

103. Tetany is the rapid spasm in muscles due to – **[Pg-312,E]**
(A) High Ca^{+2} in body fluid
(B) Low Ca^{+2} in body fluid
(C) High uric acid in body fluid
(D) High urea in blood

104. Progressive degeneration of skeletal muscles due to genetic disorder is called – **[Pg-312,E]**
(A) Myasthenia gravis
(B) Tetany
(C) Muscular dystrophy
(D) Myopia

105. Arthritis is - **[Pg-312,E]**
(A) Inflammation of muscles
(B) Inflammation of bone
(C) Inflammation of joints
(D) Inflammation of tongue

Answer Key

LOCOMOTION AND MOVEMENT

Q	01	02	03	04	05	06	07	08	09	10
Ans	**A**	**C**	**D**	**B**	**D**	**D**	**D**	**C**	**D**	**B**
Q	11	12	13	14	15	16	17	18	19	20
Ans	**C**	**D**	**D**	**D**	**D**	**A**	**B**	**C**	**B**	**D**
Q	21	22	23	24	25	26	27	28	29	30
Ans	**D**	**A**	**C**	**A**	**C**	**B**	**C**	**C**	**A**	**D**
Q	31	32	33	34	35	36	37	38	39	40
Ans	**C**	**C**	**B**	**B**	**C**	**A**	**C**	**B**	**C**	**B**
Q	41	42	43	44	45	46	47	48	49	50
Ans	**B**	**A**	**A**	**B**	**D**	**B**	**D**	**A**	**B**	**C**
Q	51	52	53	54	55	56	57	58	59	60
Ans	**B**	**A**	**D**	**A**	**B**	**C**	**B**	**B**	**B**	**A**
Q	61	62	63	64	65	66	67	68	69	70
Ans	**B**	**D**	**C**	**C**	**C**	**A**	**B**	**B**	**D**	**C**
Q	71	72	73	74	75	76	77	78	79	80
Ans	**B**	**B**	**A**	**B**	**C**	**B**	**D**	**C**	**D**	**B**
Q	81	82	83	84	85	86	87	88	89	90
Ans	**C**	**D**	**D**	**D**	**C**	**A**	**C**	**D**	**C**	**B**
Q	91	92	93	94	95	96	97	98	99	100
Ans	**B**	**A**	**B**	**D**	**D**	**D**	**D**	**D**	**B**	**C**
Q	101	102	103	104	105					
Ans	**B**	**B**	**B**	**C**	**C**					

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