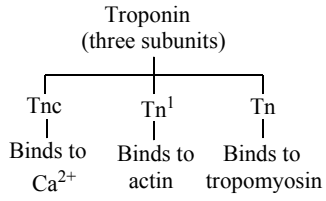


Topic :- Locomotion & Movement

- 1 (d)
The reduction in force of contraction of a muscle after prolonged stimulation is called muscle fatigue. The accumulation of lactic acid leads to muscle fatigue. Lactic acid is produced by glycolysis in the absence of O₂
- 2 (a)
A-Resting, B-Partially, C-Thick, D-H
- 3 (b)
When muscles contract, they have squeezing effect on veins running through them, this is called muscle pump.
- 4 (d)
Most mammal have 7 cervical vertebrae. *There are four exceptions as follows*
2-toed sloth = 6 Cervical vertebrae
Manatee = 6 Cervical vertebrae
Anthear = 8 Cervical vertebrae
3-toed sloth = 9 Cervical vertebrae
- 5 (d)
Ciliary movements
(i) Swimming (*e.g.*, *Paramecium* and other ciliates)
(ii) Takes part in the propulsion of excretory products in urinary tubules and flame cells (flatworms)
(iii) Cilia present in trachea, vasa efferentia and oviducts helps in pushing out dust particles, sperms and eggs respectively
- 6 (b)
Synovial Joints Those joints are the perfect joints which allows free movements in one or more directions. Synovial joints are of different types depending upon the nature of articulation and degree of movement. Bones end bear synovial membranes and enclose a cushion of synovial fluid.
Synovial fluid lubricates the joints to allow nearly frictionless movement of bones on each other and nourishes the structures participating in the joints. It also serves to keep the bones held together like a film of water between the two glass plates does
- 7 (d)
Human body has some 639 separate muscles, which make up about 50-60% of the body weight

- 8 **(b)**
12 pairs.
Most mammal have 7 cervical vertebrae. *There are four exceptions as follows*
2-toed sloth = 6 Cervical vertebrae
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- 10 **(c)**
Meromyosin
- 11 **(a)**
Each myosin (thick filament) is a polymerized protein. Many monomeric proteins called meromyosin constitutes one thick filament. Each meromyosin has two important parts, a globular head with a short arm and a tail, the former being called heavy meromyosin and the later is called light meromyosin.
The HMM component, *i.e.*, the head and short arm projects outwards at regular distance and angle from each other from the surface of polymerized myosin filament and is called cross arm. The globular head is an active ATPase enzyme and has binding sites for ATP and active sites for actin
- 12 **(a)**
Hing joint produces an angular opening and closing motion like that of a hinged door, e.g., knee, elbow and interphalangeal joints.
- 13 **(a)**
Sutures are the dense fibrous connective tissues through which the skull bones fuses with each other to form cranium
- 14 **(a)**
Skeletal system constitutes hard internal or external living or non-living parts that forms the supporting frame work of the body. It consists of bones and cartilage
- 15 **(b)**
Parasphenoid bone is a flattened and inverted T-shaped bone, which forms floor of cranium.
- 16 **(d)**
Accumulation of lactic acid from glucose by the process by anaerobic respiration in white muscle causes muscle fatigue. The conversion of lactic acid to blood glucose takes place in liver by Cori cycle
- 17 **(d)**
Chondroitin sulphate is a jelly like substance that provides support and adhesiveness in cartilage, bone, skin and blood vessels.
- 18 **(c)**
Myofibrils are parallely arranged contractile muscle fibres in the sarcoplasm of fascicle
- 19 **(b)**
I → III → II → IV
- 20 **(c)**
The proteins troponin and tropomyosin are closely associated



ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	D	A	B	D	D	B	D	B	D	C
Q.	11	12	13	14	15	16	17	18	19	20
A.	A	A	A	A	B	D	D	C	B	C

P

E