

Topic :-Locomotion & Movement

- 1 **(b)**
Gastrocnemius muscle of leg have slow muscle fibres. Slow fibres are specialized to enable them to continue contraction for extending periods, long after a fast muscle would have become fatigued.
- 2 **(c)**
Osteoporosis.
Osteoporosis Age-related disorder characterized by decreased bone mass and increased changes of fractures. Decreased level of oestrogen is a common cause of this disease
- 3 **(a)**
Functional unit of contraction is called sarcomere. It is present between the two Z-lines
- 4 **(c)**
I-band or anisotropic band contains the actin filaments that's why they are thinner than myosin filament. They are bisected by Z-line into two
- 5 **(a)**
Growth occurs in body parts or cells through four different phases, as growth in cartilage occurs by secretion of extracellular matrix. Striated muscles grow through increase in volume. Nerve fibres grow by extension and growth of axons and dendrites, while lens of eye grow by multiplication of cells.
- 6 **(b)**
The first vertebra is the atlas and it articulates with the occipital condyles. It is articulated to the skull
- 7 **(c)**
Osteoporosis is a disease, in which bones lose minerals and fibres from its matrix. Imbalances of hormones like calcitonin, parathyroid and sex hormones, deficiencies of calcium and vitamin-D are the main causes of osteoporosis.
- 8 **(a)**
Appendicular skeleton lies laterally and is attached to axial skeleton. It is made up of girdles (pectoral and pelvic) and limb bones (forelimb and hindlimb). Pectoral girdle and pelvic girdle supports forelimb and hindlimb respectively. The appendicular skeleton consists of 126 bones
- 9 **(d)**
Both (a) and (b).
Locomotory structures need not to be different from those affecting the other types of

movements. For example, in *Paramecium*, cilia helps in the movement of food through cytopharynx and in locomotion as well. *Hydra* can use its tentacles for capturing its prey and also use them for locomotion. We use limbs for changes in body postures and locomotion as well

10 **(c)**

Troponin is a component of thin filaments (along with actin and tropomyosin) and is the protein (globular) to which calcium binds to accomplish the regulation of muscle (cardiac and skeletal) contraction.

11 **(a)**

Hinge joint is a perfect joint or synovial joint. Movement takes place only in one direction or one plane, *e.g.*, joint between humerus and ulna (*e.g.*, elbow joint), knee joint.

12 **(a)**

The bone in the body is surrounded by **periosteum**. The periosteum comprises two distinct layer, a thin outer layer of fibrous connective tissue and a layer of osteoblasts.

13 **(d)**

Pectoral girdle or shoulder girdle is composed of two separate halves. Each half consists of the scapula of shoulder bone, coracoid process and clavicle or collar bone. At the junction of scapula and clavicle, is a concave depression, called glenoid cavity, which articulates with the head of the humerus to form a ball and socket joint.

15 **(d)**

Troponin is globular protein not fibrous protein is tropomyocin

16 **(a)**

Hyaluronic acid lubricate the ligaments and tendons and is an important constituent of synovial fluid of the bone joints, vitreous humor of eyes. etc.

17 **(b)**

Cytoplasmic streaming movement is also called cyclosis. Cyclosis helps in the circulation of material in the cells (inside eukaryotic cells)

18 **(d)**

Humerus is the bone of upper arm. It articulates with ulna of lower arm. Two depressions just above trochlea-the olecranon fossa upon posterior and coracoids fossa upon anterior surfaces respectively receive olecranon process of ulna, when our arm extends and coronoid process of ulna when our arm relaxes.

19 **(b)**

Muscular dystrophy.

Muscular dystrophy Progressive degradation of skeletal muscle mostly due to genetic disorder

20 **(b)**

Gout is generally a old age disorder in which inflammation of joints occurs due to the line accumulation of uric acid crystals

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

PE