DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 6

Topic :- Locomotion & Movement

1 **(a)**

Nerve impulse causes
↓
Acetylcholine release reaches to
↓
Synaptic cleft
↓
Sarcolemma have receptor which senses the acetylcholine
↓
Spread of the impulse through out the T-tubules
↓
Release of calcium from sarcoplasmic reticulum
↓
Breakdown of troponin
↓
Thin and thick filaments slides on each other and contraction starts

2 **(c)**

In the centre of each I-band is an elastic fibre called Z-line which bisects it. The thin filaments are firmly attached to the Z-line. The thick filaments in the A-band are also held together in the middle of this band by thin fibrous membrane called M-line. The A and I-band are arranged alternately throughout the length of myofibrils. The portion of the myofibrils between two successive Z-lines is considered as the functional unit of contraction called sarcomere

3 **(c)**

Fibrocartilage possess thick dense bundles of collagen fibres in matrix. White fibrocartilage is the **strongest cartilage**. It occurs in joints **between vertebrae** functioning as shock absorber and also in pubic **symphysis**.

4 **(b)**

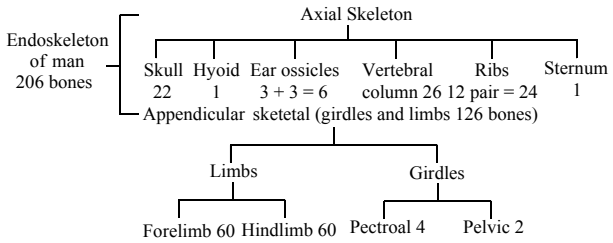
A transverse ligament is found in atlas. It divides the neural foramen of atlas into a smaller anterior (front) odontoid fossa and a posterior, larger vertebral foramen.

5 **(a)**

Sarcomere is the smallest contractile unit of muscle, which extends from one Z-disc to the next.

6 **(d)**

All of the above



7 **(d)**

Clavicle is the wish bone of birds.

8 **(a)**

Specialized cells in human body like macrophages and leucocytes in blood exhibits amoeboid movement. It is affected by pseudopodia formed by the streaming of protoplasm (as in *Amoeba*). Cytoskeletal elements like microfilaments are also involved in amoeboid movement

9 **(d)**

Tarsals, femur, metatarsals and tibia are parts of hind limb bones that mainly take part during chasing a ball in the field by a cricket player.

10 **(a)**

The pelvic girdle of rabbit consists of two halves or innominate bones, each innominate bone consisting of 3 parts; ilium, ischium and pubis.

11 **(c)**

Innominate (mean no name) are called hip bones (coaxae). *Coaxal bone are*

(i) Ischium (ii) Pubis (iii) Ilium

12 **(c)**

Rapid spasm is also called wild contraction of the muscles. It takes place due to the low level of Ca^{2+} ions in the sarcoplasmic reticulum or during the muscular contraction the level of Ca^{2+} lowers ions than the normal concentration

13 **(c)**

Germ Layer	Structure Formed
Ectoderm	Nervous system
Mesoderm	Connective tissue like bones, skeleton muscle
Endoderm	Respiratory system

14 **(a)**

Tendons are the white fibrous connective tissue, which joins muscles to bones.

15 **(d)**

Gliding joint is present between zygapophyses of the successive vertebrae. In this joint, articular ends of two bones are either flat or slightly curved to allow sliding on gliding movement.

16 **(a)**

Each muscle fibre is lined by the plasma membrane called sarcolemma enclosing the sarcoplasm. Muscle fibre is a syncitium as the sarcoplasm contains many nuclei. The

endoplasmic reticulum, *i.e.,* sarcoplasmic reticulum of the muscle fibres is the store house of calcium ions. A characteristic feature of muscle fibre is the presence of large number of parallely arranged filaments in the sarcoplasm called myofilaments or myofibrils

17 **(c)**

A-Relaxed, B-Contracting, C-Maximally contracted

18 **(c)**

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

19 **(c)**

Ligaments are specialized connective tissues, which connect bones together.Hence if they are cut or broken, the bone will become unfixed.

20 **(b)**

Movement of organ occur due to pulling of the bones caused by the force generated by contracting muscles. Movement takes place along the joints. These all function as lever, which are divided into three categories. These levers are aimed at powar and speed. The mandibular joint is for power. It is a joint between the head of mandible and the mandibular fossa and articular fubercle of the temporal bone. It is also called temporomandibular joint.

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