DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 3

Topic :- Locomotion & Movement

1 **(c)**
Each arm consists of 30 bones of, which one humerus, one radius, one ulna, eight carpal bones, five metacarpal bones and fourteen are phalanges bones, *i.e.*,
1+1+1+8+5+14=33

2 **(b)**
Presence of seven cervical vertebrae in the neck is common feature in all mammals. These vertebrae are acoelous, covered by cartilaginous pads, *i.e.*, epiphysis.

3 **(a)**
Due to continuous contraction, a muscle exhausts it's stored ATP and glycogen molecules and accumulates lactic acid, which gradually retards and finally stops the contraction activity of muscle cell. The situation is known as fatigue of a muscle.

4 **(d)**
6 ear ossicles are present in human three in each ear.
Each middle ear contains three tiny bones (i) Malleus (ii) Incus (iii) Stapes which are collectively called ear ossicles

5 **(a)**
Joints are the points of contact between the bones or between the bones and cartilages. Force generated by the muscles is used to carry out the movements through joints

6 **(b)**
Locomotion and movements may be linked by stating that all the locomotions are movements but all movements are not locomotions

7 **(c)**
Muscular dystrophy Progressive degradation of skeletal muscle mostly due to genetic disorder

8 **(c)**
I, II, and IV statements are correct, while III and V are incorrect.

9 **(a)**
Bones become fragile in **osteoporosis**, *i.e.*, reduction in bone tissue mass causing weakness of skeletal strength. It is characterized by pain in the bone, specifically in the back and vertebral crush, usually in weight bearing vertebrae.

10 **(a)**
Between carpals and matacarpals

11 **(a)**

Cross-bridge ditachment.

When ATP binds to myosin filament there is a detachment of myosin and actin filament. Due to detachment, the sliding (contraction) takes place and the hydrolysis of ATP to ADP takes place. In that step again, the cross bridge formation between actin and myosin takes place

12 **(c)**

By utilizing the energy from ATP hydrolysis, the myosin head binds to the exposed active sites on actin to form a cross bridge. This pulls the attached actin filaments towards the centre of A-band. The Z-line attached to these actin are also pulled inwards thereby causing the shortening of sarcomere, *i.e.,* contraction

13 **(b)**

The kinesin, myosin and dynein proteins of skeletal muscle involve ATPase activity.

14 **(a)**

Striped muscles are also known as skeleton muscle or voluntary muscle. These muscles are made up of large number of fibres. Skeleton muscle fibres are multinucleated, **syncytial**, asepted.

15 **(a)**

A-Light, B-1, C-dark, D-A

16 **(a)**

Cranium (brain case) is a strong and firm bony box with a helmet like covering over the brain called vault of skull. Its cavity is called cranial cavity. **Eight** bones are articulated with each other to form the cranium.

17 **(a)**

Cardiac muscle as the name suggests, the muscles of heart. Many cardiac muscle cells assemble in a branching pattern to from a cardiac muscle. Based on appearance, they are striated. They are involuntary in nature as the nervous system does not control their activities directly

18 **(b)**

Both proteins, *i.e.,* actin and myosin are arranged as rod-like structure, parallel to each other and also to the longitudinal axis of the myofibrils. Actin filaments are thinner as compared to myosin filaments, hence they are commonly called thin and thick filaments respectively

19 **(d)**

Ligament is tough cord or fibrous band of dense regular connective tissue that contains numerous parallel arrangements of **Collagen fibres**. It connects bone or cartilages and serves to serves to strengthen joints.

20 **(c)**

A-Skeletal, B-Stripped, C-Striated

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