Chapter – 9

Locomotion and Movement

Textbook Evaluation Solved

Question 1.
Muscles are derived from ……..
(a) Ectoderm
(b) Mesoderm
(c) Endoderm
(d) Neuro ectoderm

Answer:
(b) Mesoderm

Question 2.
Muscles are formed by ……
(a) Myocytes
(b) Leucocytes
(c) Osteocytes
(d) Lymphocytes

Answer:
(a) Myocytes

Question 3.
The muscles attached to the bones are called ……
(a) Skeletal muscle
(b) Cardiac muscle
(c) Involuntary muscle
(d) Smooth muscles

Answer:
(a) Skeletal muscle

Question 4.
Skeletal muscles are attached to the bones by ……..

(a) Tendon
(b) Ligament
(c) Pectin
(d) Fibrin

Answer:
(a) Tendon

Question 5.
The bundle of muscle fibres is called ……..
(a) Myofibrils
(b) Fascicle
(c) Sarcomere
(d) Sarcoplasm

Answer:
(b) Fascicle

Question 6.
The pigment present in the muscle fibre to store oxygen is ……
(a) Myoglobin
(b) Troponin
(c) Myosin
(d) Actin

Answer:
(a) Myoglobin

Question 7.
The functional unit of a muscle fibre is ……..
(a) Sarcomere
(b) Sarcoplasm
(c) Myosin
(d) Actin

Answer:
(a) Sarcomere

Question 8.
The protein present in the thick filament is ……
(a) Myosin
(b) Actin
(c) Pectin
(d) Leucin

Answer:
(a) Myosin

Question 9.
The protein present in the thin filament is ……..
(a) Myosin
(b) Actin
(c) Pectin
(d) Leucin

Answer:
(b) Actin

Question 10.
The region between two successive Z-discs is called a ……
(a) Sarcomere
(b) Microtubule
(c) Myoglobin
(d) Actin

Answer:
(a) Sarcomere

Question 11.
Each skeletal muscle is covered by ……
(a) Epimysium
(b) Perimysium
(c) Endomysium
(d) Hypomysium

Answer:
(a) Epimysium

Question 12.
Knee joint is an example of ……..
(a) Saddle joint
(b) Hinge joint
(c) Pivot joint
(d) Gliding joint

Answer:
(b) Hinge joint

Question 13.
Name of the joint present between the atlas and axis is ……..
(a) Synovial joint
(b) Pivot joint
(c) Saddle joint
(d) Hinge joint

Answer:
(b) Pivot joint

Question 14.
ATPase enzyme needed for muscle contraction is located in ……
(a) Actinin
(b) Troponin
(c) Myosin
(d) Actin

Answer:
(c) Myosin

Question 15.
Synovial fluid is found in ……..
(a) Ventricles of the brain
(b) Spinal cord
(c) Immovable joint

(d) Freely movable joints

Answer:
(d) Freely movable joints

Question 16.
Inflammation of joints due to accumulation of uric acid crystals is called as ……..
(a) Gout
(b) Myasthenia gravis
(c) Osteoporosis
(d) Osteomalacia

Answer:
(a) Gout

Question 17.
Acetabulum is located in ……..
(a) Collar bone
(b) Hip bone
(c) Shoulder bone
(d) Thigh bone

Answer:
(b) Hip bone

Question 18.
Appendicular skeleton is ……..
(a) Girdles and their limbs
(b) Vertebrae
(c) Skull and vertebral column
(d) Ribs and sternum

Answer:
(a) Girdles and their limbs

Question 19.
The type of movement exhibited by the macrophages are ……

(a) Flagellar
(b) Ciliary
(c) Muscular
(d) Amoeboid

Answer:
(d) Amoeboid

Question 20.
The pointed portion of the elbow is ……..
(a) Acromion process
(b) Glenoid cavity
(c) Olecranon process
(d) Symphysis

Answer:
(c) Olecranon process

Question 21.
Name the different types of movement?

Answer:

1. Amoeboid movement
2. Ciliary movement
3. Flagellar movement
4. Muscular movement

Question 22.
Name the filaments present in the sarcomere?

Answer:

- Thick filament
- Thin filaments

Question 23.
Name the contractile proteins present in the skeletal muscle?

Answer:
Actin and myosin are contractile proteins present in the skeletal muscle.

Question 24.
When describing a skeletal muscle, what does “striated” mean?

Answer:
The striations in the skeletal muscle mean the dark a band s and the light I band.

Question 25.
How does an isotonic contraction take place?

Answer:
In isometric contraction, the length of the muscle does not change but the tension of the muscle changes.
(eg) Pushing against a wall holding a heavy bag.

Question 26.
How does an isometric contraction take place?

Answer:
In isometric contraction, the length of the muscle does not change but the tension of the muscle changes. The force produced is changed, e.g., pushing against a wall, holding a heavy bag.

Question 27.
Name the bones of the skull?

Answer:
The skull is composed of two sets of bones – cranial and facial bones. It consists of 22 bones of which 8 are cranial bones and 14 are facial bones.

Question 28.
Which is the only jointless bone in the human body?

Answer:
The jointless bone is the hyoid bone in our throat. The hyoid bone (lingual bone) is a horseshoe.

Question 29.
List the three main parts of the axial skeleton?

Answer:
The skull, the vertebral column and the ribcage are the three main parts of the axial skeleton.

Question 30.
How is tetany caused?

Answer:
Tetany is caused when rapid muscle spasms occur in the muscles due to deficiency of parathyroid hormone resulting in reduced calcium levels in the body.

Question 31.
How does rigor mortis happen?

Answer:
After the death of an individual, the muscle is in a contractile position due to the depletion of ATP that is digested by a lysosomal enzyme called rigor mortis.

Question 32.
What are the different types of rib bones that form the rib cage?

Answer:
Thoracic vertebrae ribs and sternum together constitute the ribcage.

Question 33.
What are the bones that make the pelvic girdle?

Answer:
Ilium, ischium and pubis make the pelvic girdle.

Question 34.
List the disorders of the muscular system?

Answer:

1. Myasthenia gravis
2. Tetany
3. Muscle fatigue
4. Atrophy
5. Muscle pull
6. Muscular dystrophy

Question 35.
Explain the sliding-filament theory of muscle contraction?

Answer:
Andrew F.Huxley and Rolf Niedergerke proposed the sliding filament theory to explain muscle contraction. According to this theory, overlapping actin and myosin filaments of fixed length slide past one another in an energy-requiring process, resulting in muscle contraction.

Question 36.
What are the benefits of regular exercise?

Answer:

- The muscles used in exercise grow larger and stronger.
- The resting heart rate goes down.
- More enzymes are synthesized in the muscle fibre.
- Ligaments and tendons become stronger.
- Joints become more flexible.
- Protection from a heart attack.
- Influences hormonal activity.
- Improves cognitive functions.
- Prevents Obesity.

- Promotes confidence, esteem.
- Aesthetically better with a good physique.
- Overall well-being with good quality of life.
- Prevents depression, stress, and anxiety