



HEAD OFFICE

208, CD, LOCAL SHOPPING CENTER
AGGARWAL SHOPPING PLAZA,

BRANCH -1

AYODHYA CHOWK SEC -3
ROHINI

BRANCH -2

DC CHOWK SEC- 9, ROHINI

9TH & 10TH MATHS / SCIENCE
11TH & 12TH – PHYSICS / CHEMISTRY / MATHS / BIOLOGY
EXCLUSIVE BATCH FOR NEET / JEE ASPIRANTS
Ph no. 9696 500 500 / 9696 400 400

Ch- 20 Locomotion and Movement

(1 marks)

1. Locomotion requires a perfect coordinated activity of muscular,andsystems.

2. Why are red muscles called aerobic muscles?

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3. Give reason why white muscle fibres get fatigued soon?

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4. Why is human skull called dicondylic?

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5. Why are the ribs described as bicephalic?

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6. Why are skeletal muscles also called

(a) striated muscles and (b) voluntary muscles?

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7. How do you distinguish between a skeletal muscle and a cardiac muscle?

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8. Bring out the role of calcium ions and ATP in muscle contraction.

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9. Name the connective tissue layer forming the covering of muscle bundles.

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10. Name the storehouse of calcium ions in skeletal muscles.

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(2 marks)

11. How is amoeboid movement brought about, in our body cells like leucocytes.

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12. Name the four properties of muscle tissue.

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13. Write the difference between actin and myosin.

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14. Sarcolemma, sarcoplasm and sarcoplasmic reticulum refer to a particular type of cell in our body. What is this cell and to what parts of that cell do these names refer to?

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15. Match column I with column II:

Column I	Column II
A. Smooth muscle	(i) Myoglobin
B. Tropomyosin	(ii) Thin filament
C. Red muscle	(iii) Sutures
D. Skull	(iv) Involuntary

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16. Write the differences between pectoral and pelvic girdles.

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17. write true or false. If false change the statement so that it is true

- (i) Actin is present in thin filament.
- (ii) H-zone of striated muscle fibre represents both thick and thin filaments.
- (iii) Human skeleton has 206 bones.
- (iv) There are 11 pairs of ribs in man.
- (v) Sternum is present on the ventral side of the body

18. Name the type of joint between the following:

- (i) atlas/axis.....
- (ii) carpal/metacarpal of thumb
- (iii) between phalanges.....
- (iv) femur/acetabulum.....
- (v) between cranial bones.....
- (vi) between pubic bones in the pelvic girdle.....

19. Fill in the blanks:

- (i) All mammals (except a few) have.....cervical vertebra.
- (ii) The number of phalanges in each limb of human is.....

- (iii) Thin filament of myofibril contains 2 'F' actins and two other proteins namely.....and.....
- (iv) In a muscle fibre Ca^{++} is stored in
- (v)and.....pairs of ribs are called floating ribs.
- (vi) The human cranium is made ofbones.

(3 marks)

20. What is locomotion? Mention any four forms of locomotory movements.

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21. How are muscles classified based on their location? Mention their important functions. What is the role of calcium ions, troponin and F-actin during contraction in striated muscles of humans?

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22. What is the role of sarcoplasmic reticulum, myosin head and F-actin during contraction of striated muscles of humans?

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23. Represent diagrammatically a sarcomere and label its parts. Which of these parts shorten during muscle contraction?

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24. Draw a diagram to show the arrangement of bones in a rib cage. Label three parts, that include all different types of bones in it.

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25. Represent diagrammatically the stages in the cross bridge formation.

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VALUE BASED QUESTIONS

26. Movement is one of the significant features of living things. Certain voluntary movements that result in a change of place or location, is called locomotion. Movements and locomotion can not be studied separately.

- (a) Why do animals exhibit locomotion?
- (b) Name the simplest form of movement shown by living organisms.
- (c) What value is shown by this?

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27. Movement and locomotion involve the coordinated activities of muscular, skeletal and neural systems.

- (a) Describe the interaction among these three systems to bring about movement.

(b) What value is exhibited by these systems?

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28. Muscle is a specialised tissue of mesodermal origin and shows specific features responsible for movement. The muscles are of three types, based on their location, appearance and nature of regulation of their activities.

- (a) Name the three types of muscles based on their location.
- (b) Why are visceral muscles called smooth muscles as well as involuntary muscles?
- (c) What value is imparted to you by the muscle functioning?

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29. Sachin and Ramana have come across red muscle fibres and white muscle fibres in their lesson; they have already studied about striated, smooth and cardiac muscles and are not sure of which of the three types of muscles will have these red and white fibres. But Sachin's mother, doctor by profession helps them with the necessary information.

- (a) What kind of muscle do the red and white fibres belong to?

(b) Why are they called red muscle fibres?

(c) Why can red muscle fibres work for long without getting fatigued but white muscle fibres get fatigued faster?

(d) What value is shown by Sachin's mother in clearing the doubts?

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30. When Anish read that the number of bones in the body of a new born or infants is about 300, while an adult human has only 206, he was surprised to know the new born has more bones; his neighbour explains the reason to him.

(a) What is the reason for the above observation/statement?

(b) An infant or very young child does not get a fracture of bones even if he/she falls a number of times; but an adult gets it easily. Give reason.

(c) How many bones are present in the ribcage of a human adult?

(d) What values are promoted by Anish's neighbour?

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