

Time : 1 hour 15 Minute

**STD 11 Science Biology**  
**chapter Based Test**

Total Marks : 40

**SECTION A**

\* Choose The Right Answer From The Given Options.[1 Marks Each] [6]

1. Match the columns.

A.	Hinge Joint	1.	Carpals
B.	Saddle Joint	2.	Knee
C.	Pivot Joint	3.	Thumb
D.	Gliding Joint	4.	Vertebra

(A) A-4, B-3, C-1, D-2

(B) A-3, B-1, C-2, D-4

(C) A-2, B-3, C-4, D-1

(D) A-3, B-1, C-4, D-2

2. In actomyosin complex, for one unit of actin the number of units of myosin is:

(A) 1

(B) Variable

(C) 3

(D) 4

3. Extremities of long bones possess cartilage.

(A) Hyaline

(B) Calcified

(C) Fibrous

(D) Elastic

4. A deltoid ridge occurs in:

(A) Radius

(B) Ulna

(C) Femur

(D) Humerus

5. Which type of joints is present between atlas and axis?

(A) Hinge joint.

(B) Sliding joint.

(C) Ball and socket joint.

(D) Pivot joint.

6. Which one of the following is not a disorder of bone?

(A) Arthritis.

(B) Osteoporosis.

(C) Rickets.

(D) Atherosclerosis.

\* Answer The Following Questions In One Sentence.[1 Marks Each] [5]

7. Why are muscles rigidly locked in whatever position they are after death? What is the phenomenon known as?

8. Why are skeletal muscles also known as striated muscles?

9. Which type of movable joint makes the hip joint?

10. What is a neuromuscular junction?

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

**SECTION B**

\* Given Section consists of questions of 2 marks each. [10]

1. Write a few lines about Gout.
2. The skull bones are the strongest bones in the body and thus the brain gets the best protection in the body. In the light of this statement, which of these is true? How will you raise awareness about wearing helmet?
  - a. We do not need a helmet because skull is enough to take care of the brain.
  - b. We can manage with a poor quality helmet so that the police does not catch us.
  - c. Helmets are very important because they help in saving the most important organ; the brain.
3. The vertebral column has four articulation points for the four limbs. This is similar to which of the following? What do you understand by 'spineless' in the literal sense?
  - a. A four wheeler has four articulation points for the four wheels.
  - b. A two wheeler has two articulation points for the two wheels.
  - c. A snake's vertebral column has no articulation point because it has no limb.
4. Why are skeletal muscles also called (a) striated muscles and (b) voluntary muscles?
5. Rahul exercises regularly by visiting a gymnasium. Of late he is gaining weight. What could be the reason? Choose the correct answer and elaborate.
  - a. Rahul has gained weight due to accumulation of fats in body.
  - b. Rahul has gained weight due to increased muscle and less of fat.
  - c. Rahul has gained weight because his muscle shape has improved.
  - d. Rahul has gained weight because he is accumulating water in the body.

### SECTION C

\* **Given Section consists of questions of 3 marks each.** **[9]**

1. Explain anaerobic breakdown of glycogen in muscles and its effect.
2. Abhay, a police officer, discovered a human pelvis from the jungle. After checking the reports of missing people, he found that a couple had been missing from that area since a month. Abhay was confused as to whom the pelvis belonged to and therefore, took it to the forensic investigator. The forensic expert reported it to be a female pelvis. Afterwards, the DNA from the missing female's mother and pelvis was matched. Since, both the DNA matched. It confirmed that out of the couple, the lady had died.
  - i. How did the investigator opened it to be a female pelvis?
  - ii. What other bones of human can be used for sex identification?
  - iii. Give a possible reason for the change in female pelvis.
  - iv. What values are shown by Abhay?
3. What is osteoporosis? Why are women at a greater risk of suffering from osteoporosis? Suggest some precautionary means to avoid osteoporosis.

### SECTION E

\* **Given Section consists of questions of 5 marks each.** **[10]**

1. Calcium ion concentration in blood affects muscle contraction. Does it lead to tetany in certain cases? How will you correlate fluctuation in blood calcium with tetany?
2. Describe different types of joints in the human skeleton.

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