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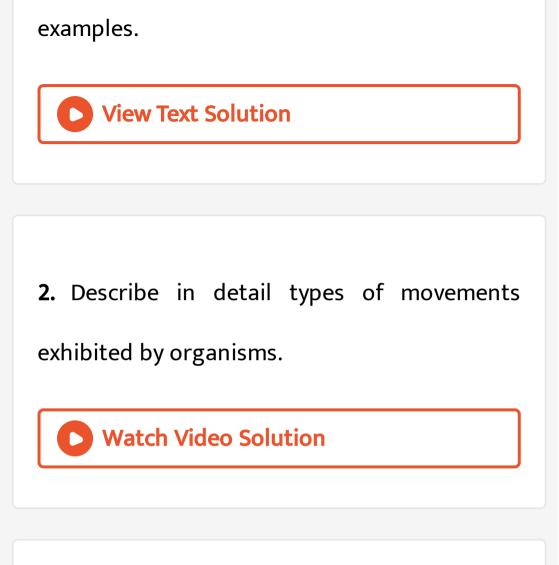
## **BIOLOGY**

# BOOKS - KUMAR PRAKASHAN KENDRA BIOLOGY (GUJRATI ENGLISH)

# LOCOMOTION AND MOVEMENT

#### Section A

**1.** How is locomotion and movement, expressed by living organisms ? Explain, giving



3. Give Information regarding characteristics

of muscles and its types.



**4.** Discuss the microscopic structure of skeletal

muscle tissue.

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#### 5. Decsribe the structure of contractile

proteins with diagram.

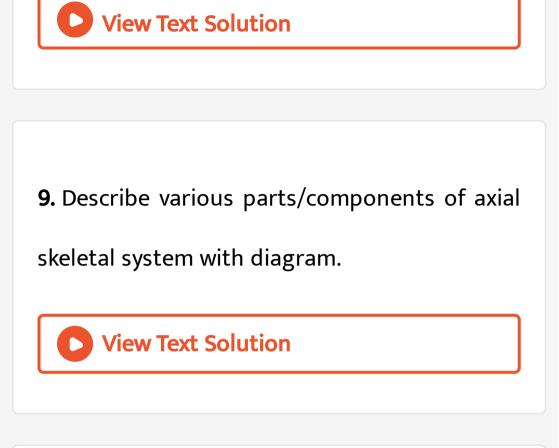
6. Describe the mechanism of muscle contraction with diagram.
• Watch Video Solution

7. Discuss the difference between red muscle

and white muscles.



8. What is skeletal system ? Explain.



**10.** How is appendicular skeleton is formed.

Describe its various parts with diagram.

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**11.** How are the formation of joints occur ?

Discuss in detail, types of joints and its usages.



**12.** Give Information regarding disorders of skeletal system.

13. What is the main difference between locomotion and movement? Watch Video Solution 14. What is the function of cilia in paramoecium? Watch Video Solution

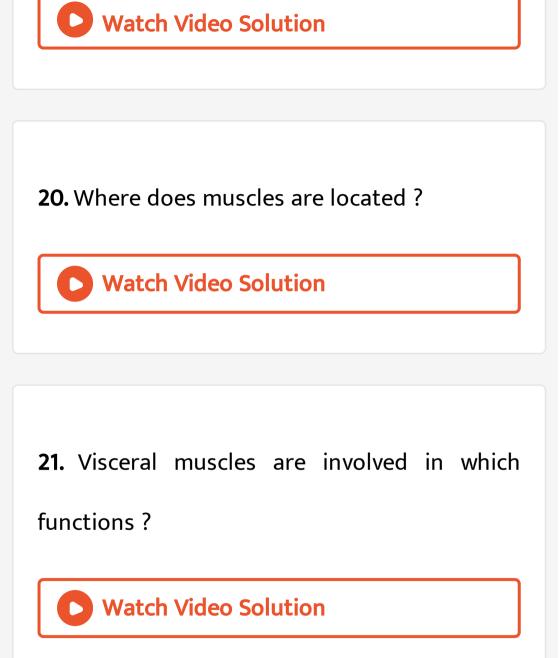
15. Which type of movement exhibited by plants ?

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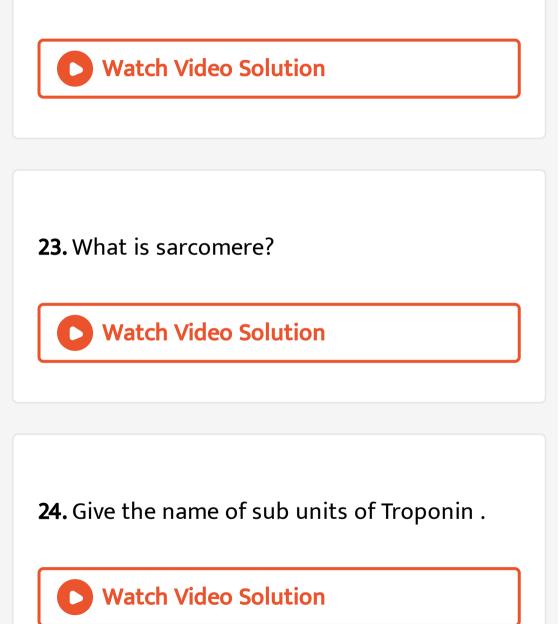
**16.** Which cells in the human being show amoeboid movement ?

17. Ciliary movement is observed in which organs of human? Watch Video Solution 18. What is function ciliated epithelium in trachea? Watch Video Solution

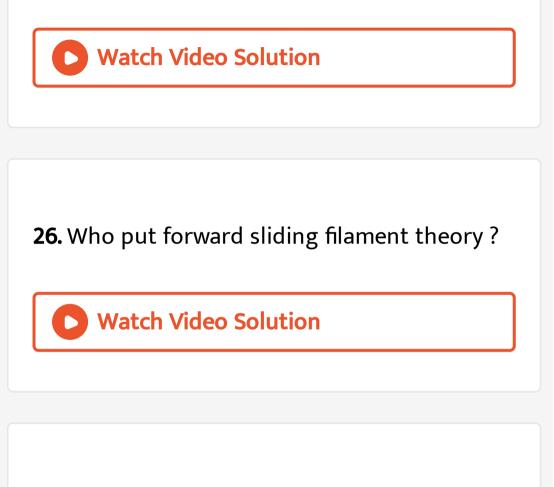
19. What are characteristic skeletal muscles ?



22. Why cardiac muscles never gets fatigued ?



25. What is HMM and LMM?



27. Human skeleton is divisible in which parts

Name it?



#### 28. How many bones are present in cranium

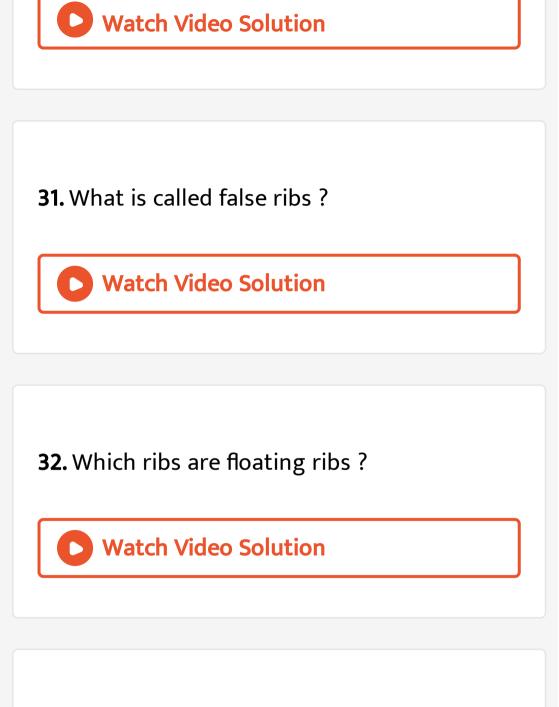
.Name it ?



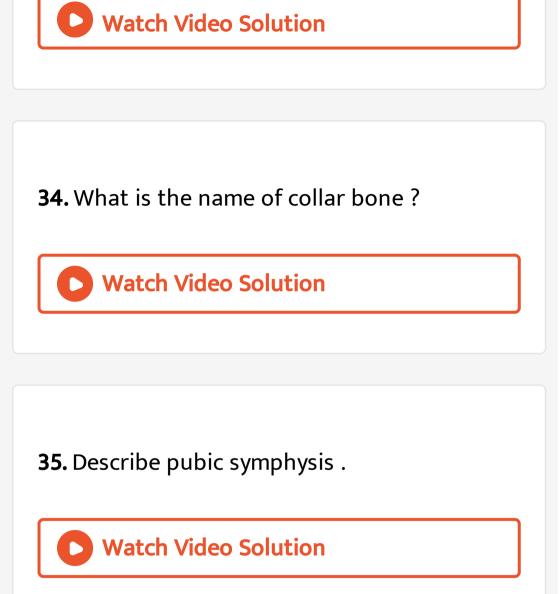
#### 29. Give the name of cranial bones .



**30.** Name the first vertebrae.



**33.** What is acromion process?



#### Section B Difference Scientific Reasons

### 1. Pectoral girdle and pelvic girdle

A.

C.

D.

#### **Answer:**



#### 2. Bones of fore limb and Bones of hind limbs

A.

Β.

#### Answer:

View Text Solution

#### 3. Non-striated muscle and striated muscle

A.

Β.

C.

D.





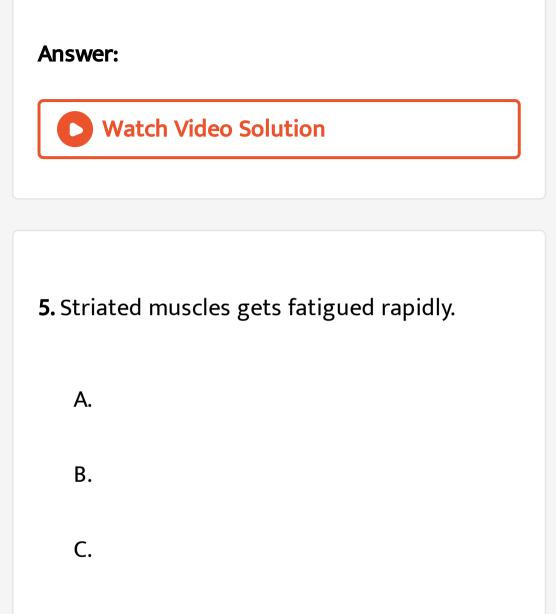
# **4.** Discuss the difference between red muscle and white muscles.

A.

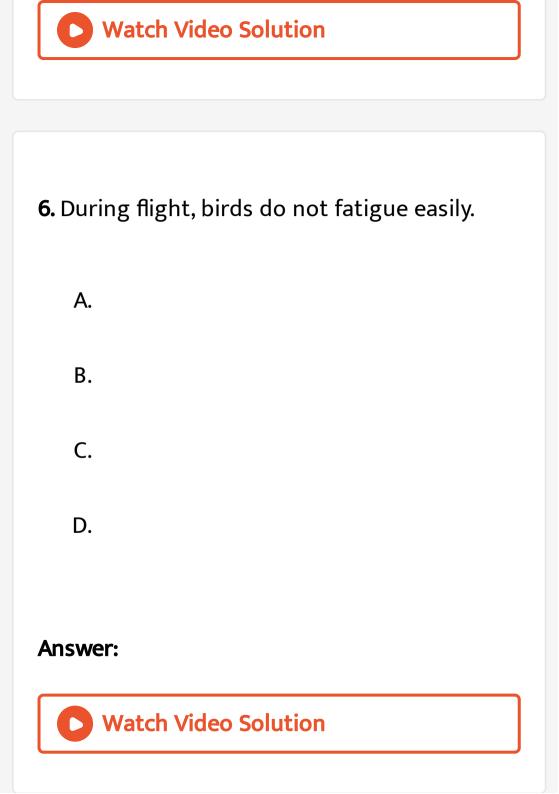
Β.

C.

D.



D.



#### 7. Birds can fly for long distance continuously.

A.

Β.

С.

D.

#### **Answer:**

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1. Skletal muscles

A.

Β.

C.

D.



#### 2. Visceral muscles

Α.

Β.

C.

D.

#### **Answer:**

View Text Solution

#### 3. Inter calated disc

A.

Β.

C.

D.



#### 4. Neuro-Muscular Junction

A.

В.

C.

D.



#### 5. What is sarcomere?

Α.

В.

C.

D.

**Answer:** 

### 6. What is acromion process?

A.

В.

C.

D.

**Answer:** 

#### 7. Acetabulum

A.

Β.

C.

D.



#### 8. Red muscles

A.

Β.

C.

D.



#### 9. Explain Synovial joint.

A.

В.

C.

D.

**Answer:** 

#### **10.** Troponin

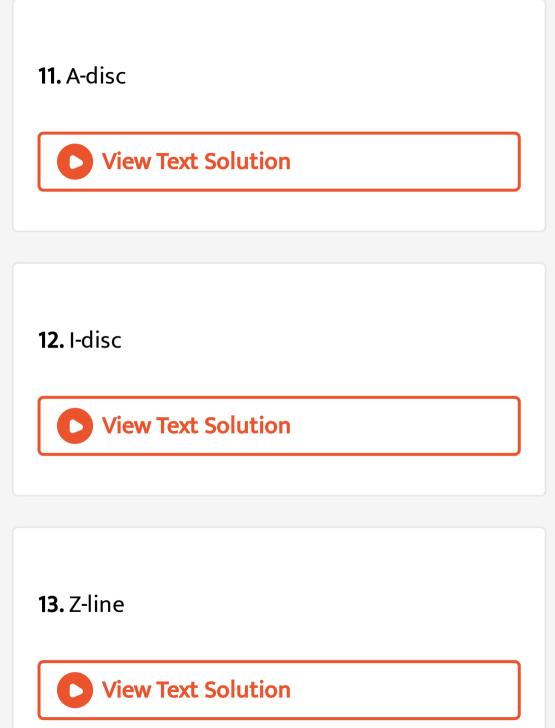
A.

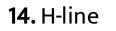
Β.

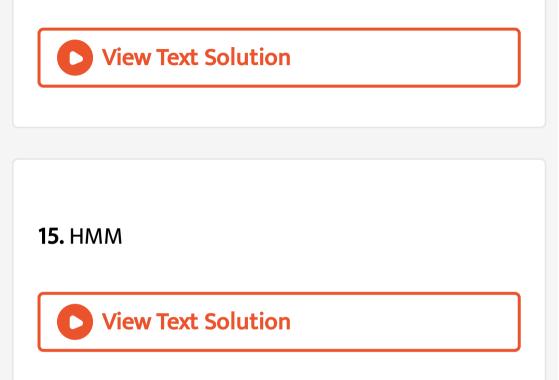
C.

D.



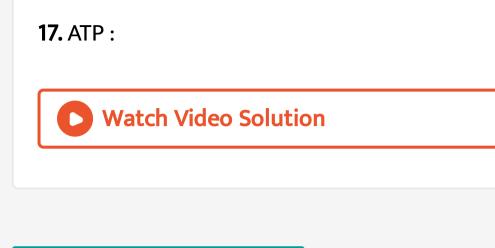






#### **16.** LMM

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#### **Section D Textual Exercise**

1. Draw the diagram of a sarcomere of skeletal

muscle showing different regions .

2. Define Sliding Filament Theory of muscle

contraction.

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3. State True or false

H zone in striated muscle consists of thick and

thin filament.

## 4. 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

A.

Β.

C.

D.

#### Answer:

**5.** What are the different types of movements exhibited by the cells of human body ?

Β.

A.

C.

D.

Answer:

6. Distinguish between

Cardiac muscle and striated muscle

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7. Name the type of joint between the followings :

(a) atlas/axis

(b) carpal/metacarpal of thumb

(C) between phalanges

(d) femur/acetabulum

### (e) between cranial bones

(f) between public bones in the pelvic girdle

В.

D.

A.

#### Answer:

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Section D Textual Exercise Fill In The Blanks

**1.** All mammals (except a few) have ......

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2. The number of phalanges in each limb of

human is . . . . . .

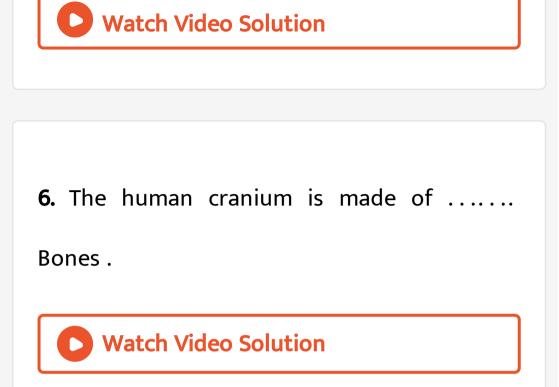
**3.** Thin filaments of myofibril contains 2 'F' actins and two other proteins namely ......



**4.** In a muscle fibre Ca ++ is stored in . . . . .

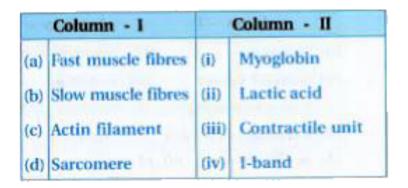


5. Which ribs are floating ribs ?



## Section E Solution Of Ncert Exemplar

1. Match the following columns .



A. (a-i),(b-ii),(c-iv),(d-iii)

B. (a-ii),(b-i),(c-iii),(d-iv)

C. (a-ii),(b-i),(c-iv),(d-iii)

D. (a-iii),(b-ii),(c-iv),(d-i)

#### Answer: C





2. Ribs are attached to

A. Scapula

B. Sternum

C. Clavicle

D. lleum

**Answer: B** 

3. What is the type of movable joint present

between the atlas and axis ?

A. Pivot

B. Saddle

C. Hinge

D. Gliding

Answer: A

### 4. ATPase of the muscle is located in

A. Actinin

B. troponin

C. Myosin

D. Actin

Answer: C



5. Intervertebral disc is found in the vertebal

column of

A. Birds

**B.** Reptiles

C. Mammals

D. Amphibians

Answer: C

**6.** Which of the following is showing the correct sequential order of vertebrae in the vertebrae column of human body ?

A. Cervical-lumbar-thoracic-sacral-coccygeal

B. Cervical-thoracic-sacral-lumbar-coccygeal

C. Cervical-sacral-thoracic-lumbar-coccygeal

D. Cervical-thoracic-lumbar-sacral-coccygeal

Answer: D

**7.** Which one of the following option is incorrect ?

A. Hinge joint - between Humerus andPectoral girdleB. Pivot joint - between atlas, axis and

occipital condyle

C. Gliding joint - between the carpals

D. Saddle joint -between carpel and metacarpals of thumb



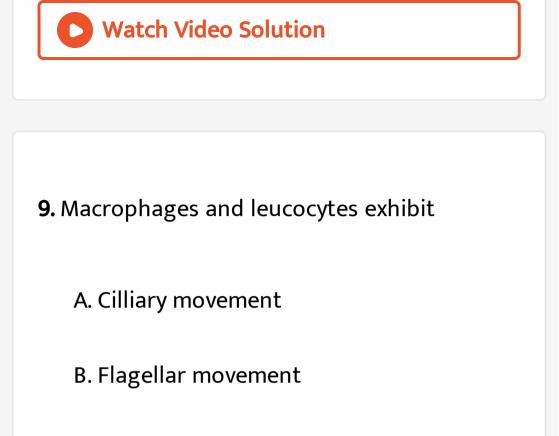


8. Knee joint and elbow joints are example of

A. Saddle joint

- B. Ball and socket joint
- C. Pivot joint
- D. Hinge joint

Answer: D



- C. Amoeboid movement
- D. Gliding movement

### Answer: C



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

A. Arthritis

B. Osteoporosis

C. Rickets

D. Atherosclerosis

Answer: D

**11.** Which one of the following statement is incorrect ?

A. Heart muscles are striated and involuntary

B. The muscles of the hands and legs are

striated and voluntary

C. The muscles located in the inner walls of

alimentary canal are striated and

voluntary

D. Muscles located in reproductive tracts

are unstriated and voluntary

Answer: C



12. Which one of the statement is true :

A. Head of humerus bone articulates with

acetabulum of pectoral girdle.

B. Head of humerus bone articulates with

glenoid cavity of pectoral gridle.

C. Head of humerus bone articulates with a

cavity called acetabulum of pelvic girdle.

D. Head of humerus bone articulates with

glenoid cavity of pelvic girdle.

Answer: B

**13.** Muscles with characteristics striations and involuntary are

A. Muscles in the wall of alimentary canal

B. Muscles of the heart

C. Muscles assisting locomotion

D. Muscles of the eyelids

Answer: B

14. Match the following columns .

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A. (a-ii),(b-i),(c-iii),(d-iv)

B. (a-iv),(b-iii),(c-i),(d-ii)

C. (a-ii),(b-i),(c-iv),(d-iii)

D. (a-iv),(b-i),(c-ii),(d-iii)

#### Answer: B

 Which cells in the human being show amoeboid movement ?

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# 2. Name the cells/tissue in human body which

exhibit ciliary movement

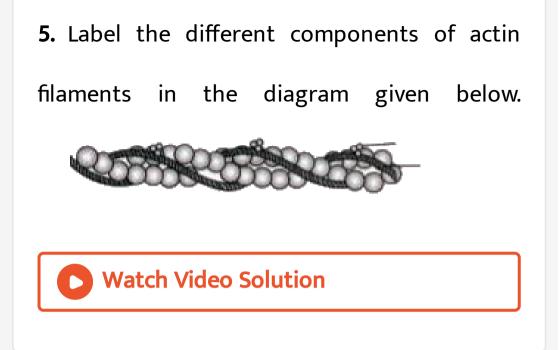
3. Locomotion requires a perfect coordinated

activity of muscular, . . . . . . systems.

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**4.** Sarcolemma, sacrcoplasm 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 ?





6. The three tiny bones present in middle ear

are called ear ossicles. Write them in correct

sequence beginning from ear drum.



7. What is the difference between the matrix of

bones and cartilage?



8. Which tissue is afflicted by Myasthenia

gravis ? What is the underlying cause ?

9. How do our bone joints function without

grinding noise and pain?

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10. Give the location of a ball and socket joint

in a human body.



**11.** Our fore arm is made of three different bones. Comment.

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Section E Solution Of Ncert Exemplar Short Answer Type Question

1. With respect to rib cage, explain the

following

2. In old age, people often suffer from stiff and inflamed joints. What is this condition called ? What are the possible reasons for these symptons ?

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**3.** Exchange of calcium between bone and extracellular fluid takes place under the influence of certain hormones

What will happen If more of  $Ca^{++}$  is in

extracellular fluid ?



**4.** Exchange of calcium between bone and extracellular fluid takes place under the influence of certain hormones What will happen if very less amount of  $Ca^{++}$  is in the extracellular fluid ?

5. Name atleast two hormones which result in

fluctuation of  $Ca^{++}$  level.



6. Rahul exercises regularly by visiting a gymnasium. Of late he is gaining weight.
What could be the reason ? Choose the correct answer and elsborate.
(a) Rahul has gained weight due to accumulation of fats in body.
(b) Rahul has gained weight due to increased

muscle and loss 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.

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7. Radha was running on a treadmill at a great speed for 15 minutes continuously. She stopped the treadmill and abruptly came out. For the next few minutes, she was breathing heavily fast. Answer the following question.

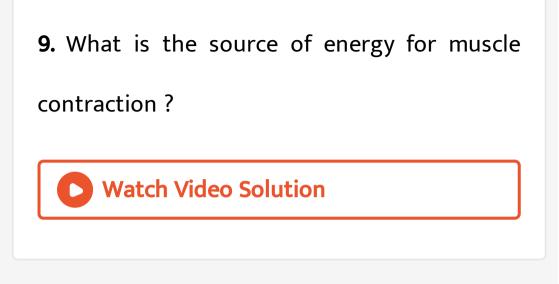
(a)What happened to her muscles when she

strenuously exercised ?

(b) How did her breathing rate changed ?



8. Write a few lines about Gout .



**10.** What are the points for articulation of pelvic and pectoral girdles ?



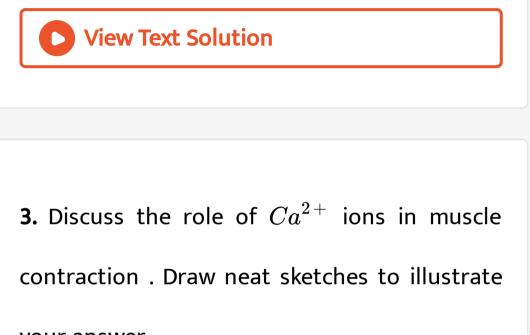
Section E Solution Of Ncert Exemplar Long Answer Type Question 1. Calcium ion concentration in blood affects muscle contraction .Does it lead to tetany in certain cases ? How will you correlate fluctuation in blood calcium with tetany ?

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2. An elderly woman slipped in the bathroom
and had severe pain in her lower back . After X
ray examintion doctors told her it is due to a

slipped disc . What does that mean ? How

does it affect our health ?



your answer.



**4.** Pectoral girdle and pelvic girdle

# Questions From Module Give Answer Of The Following Briefly

1. What are the different types of movements

exhibited by the cells of human body?

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2. What is HMM and LMM?





3. State the number of bones of cranium and

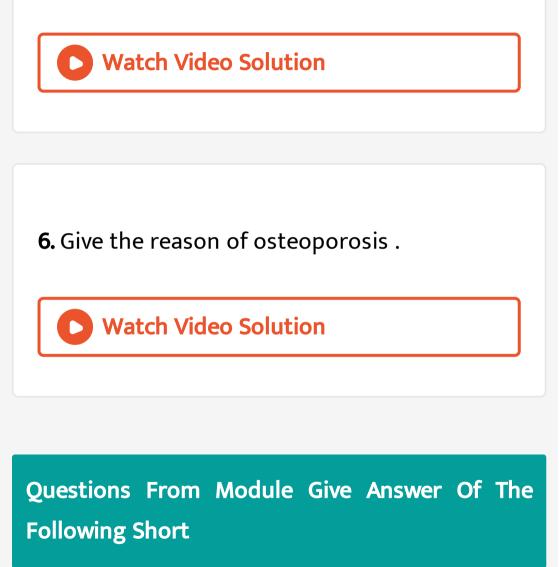
face .



4. What is sarcolemma ?



5. State the location of visceral muscles .



1. Write short note - Pectoral girdle .



# Questions From Module Give Answer As Per Instructions

1. Write short note - Ribs.

