A

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ANNUAL EVALUATION 2022-23

BIOLOGY

E906-BIO

Standard : IX

Time : 1 1/2 Hour
Total Score : 40

Instructions:

1. First 15 minutes is cool off time. This time is to be used for reading and understanding the questions.
2. Read the instructions carefully before writing the answers.
3. While writing the answers, score and time should be considered.

Answer any five from questions 1 to 6. Each question carries 1 score. **(5x1=5)**

1. Identify the word relation and fill in the blank. 1

   Division of cytoplasm : Cytokinesis

   Division of nucleus : .....

2. Select the correct statement related to mitosis from the following. 1

   - Occurs in germinal cells.
   - Mode of cell division in which gametes are formed.
   - Four daughter cells are formed from a single mother cell.
   - Mother cells and daughter cells have same chromosome number.

3. Find out the odd one and write the common feature of others. 1

   Chlorophyll a, Chlorophyll b, Carotene, Xanthophyll

4. Identify the joint indicated in the following figure. 1

5. Correct mistakes if any in the underlined part of the given statements. 1

a) Nephridia are the excretory organs of <u>insects</u>.

b) Contractile vacuoles are the excretory organs of <u>amoeba</u>.

c) Excess water in grasses is eliminated through small pores present at the tip of the leaves called <u>hydathodes</u>.

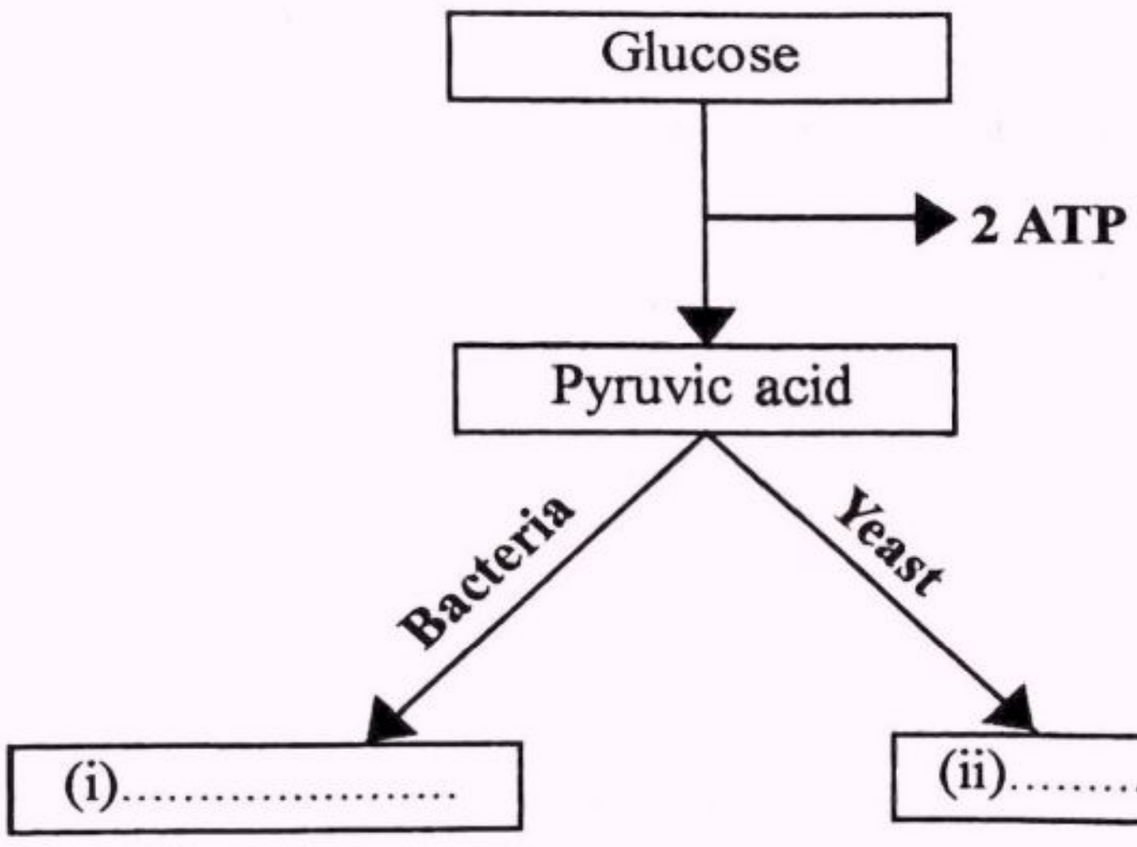
d) <u>Urea</u> is the main excretory product of reptiles and birds.

6. Select the correct pairs related to axial skeleton from the following options. 1

- Skull : 29
- Sternum : 2
- Ribs : 24
- Vertebral column : 30

Answer any six from questions 7 to 13. Each carries 2 score. **(6x2=12)**

7. Analyse the illustration of anaerobic respiration and answer the following questions.



a) Identify (i) and (ii). 1

b) In which circumstance, formation of (i) takes place in human body? 1

8. Give reason for each of the following.

a) Glucose and amino acids are not present in urine. 1

b) Difference in the diameters of afferent vessel and efferent vessel help in ultrafiltration. 1

9. Analyse the situations given below and answer the questions.

(i) The leaves of touch-me-not plant fold when touched.

(ii) Climbers grow around a support.

a) Identify the type of movement in situations (i) and (ii). 1

b) How do these movements differ from each other? 1

10. Hints related to certain disorders related to bones are given below. Analyse them and answer the questions

A	◆ Degenerative changes due to old age. ◆ Damage to cartilage.
B	◆ Bones become brittle and cause fracture. ◆ Severely affects the hip bone, wrist and vertebral column.

a) Identify the disorders mentioned in A and B. 1

b) What is the cause of the disorder mentioned in B. 1

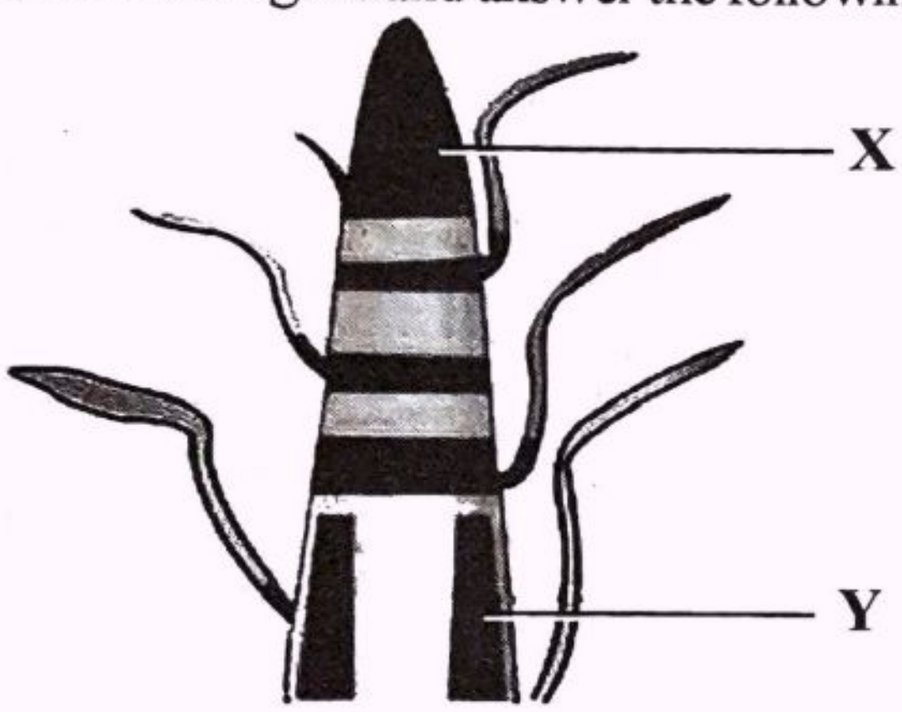
11. Analyse the statement and answer the following.

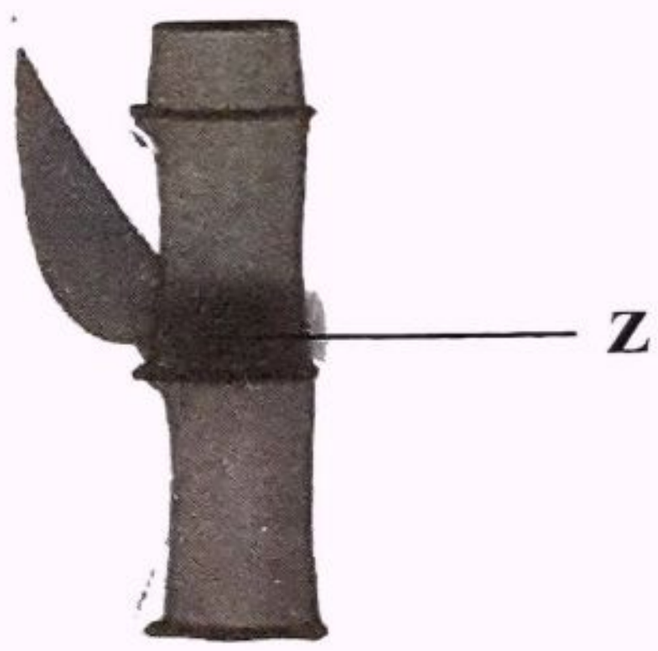
When we engage in continuous and strenuous exercises, muscles temporarily lose their power of contraction.

a) Name the condition mentioned here. 1

b) Why continuous and strenuous exercise lead to this condition? 1

12. Observe the figure and answer the following questions.





a) Identify and name the meristems denoted as X and Z. 1

b) Write the significance of Y in plant growth. 1

13. Analyse the statement and answer the following questions.

Changes, quite different from other stages occur in old age.

a) List any two physical peculiarities that make this stage different from other stages. 1

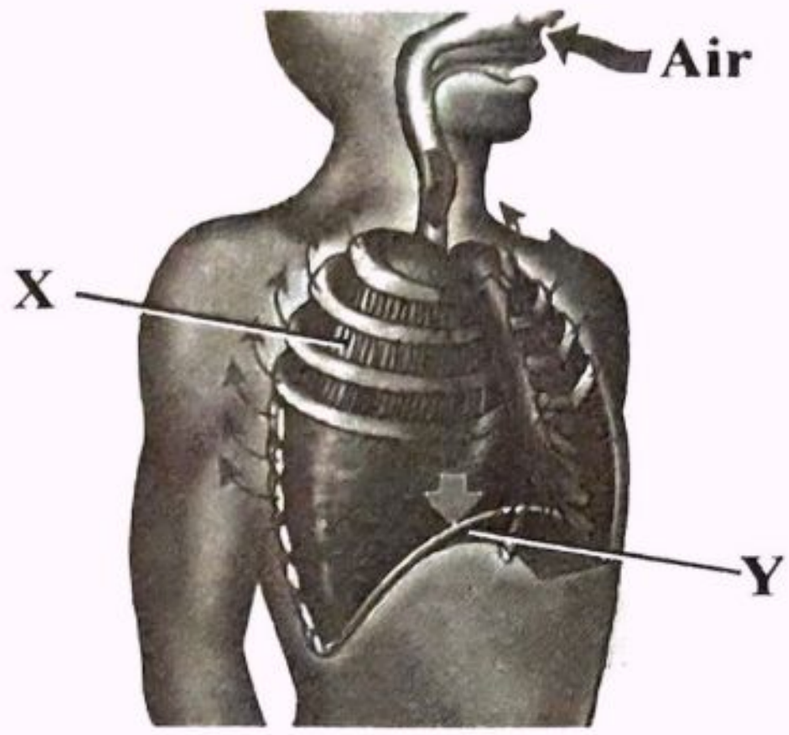
b) What should be our attitude towards elderly people? 1

Answer any five from questions 14 to 20. Each carries 3 score. (5x3=15)

14. Arrange the given steps of blood circulation in the correct order, starting from Right atrium. 3

- ◆ Blood from different parts of the body reaches the right atrium.
- ◆ Blood passes through the pulmonary artery to the lungs.
- ◆ Right ventricle contracts.
- ◆ Blood reaches the left atrium through the pulmonary veins.
- ◆ Right ventricle receives blood through the tricuspid valve.
- ◆ Left ventricle receives blood through the bicuspid valve.

15. Observe the figure related to breathing and answer the questions.



a) Identify the step of breathing.

b) Name the parts indicated as X and Y.

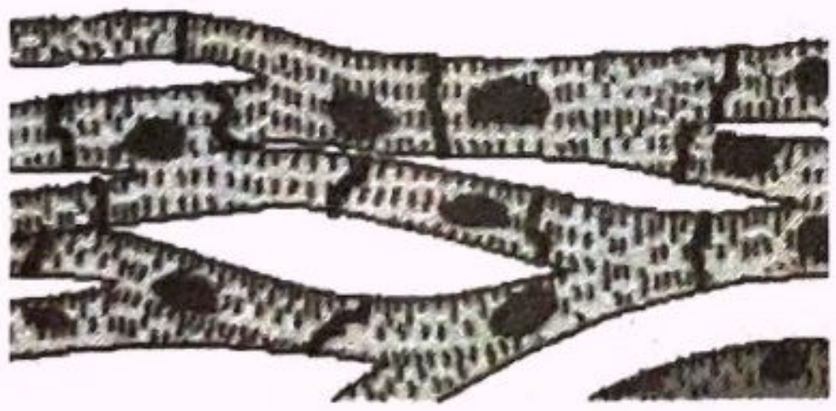
c) How does the combined action of X and Y help in this process?

16. Make suitable pairs using the information given in the boxes A and B, based on the model given. 3

Model : *Region where urine from the filters flows into - Pelvis*

A	B
◆ Dark coloured inner part of the kidney, ◆ Reabsorption and secretion takes place, ◆ The blood vessel that comes out of the Bowmann's capsule, ◆ Region where urine from the filters flows into.	◆ Renal tubule ◆ Medulla ◆ Pelvis ◆ Efferent vessel ◆ Cortex

17. Observe the figure and answer the questions.



X

Y

a) Identify the muscles indicated as X and Y. 1

b) Write any two peculiarities of the muscle indicated as Y. 1

c) Mention any one similarity between these two muscles. 1

18. Prepare any three major concepts to be included in an awareness program on the **importance of exercise** based on the given hints. 3

Hints:

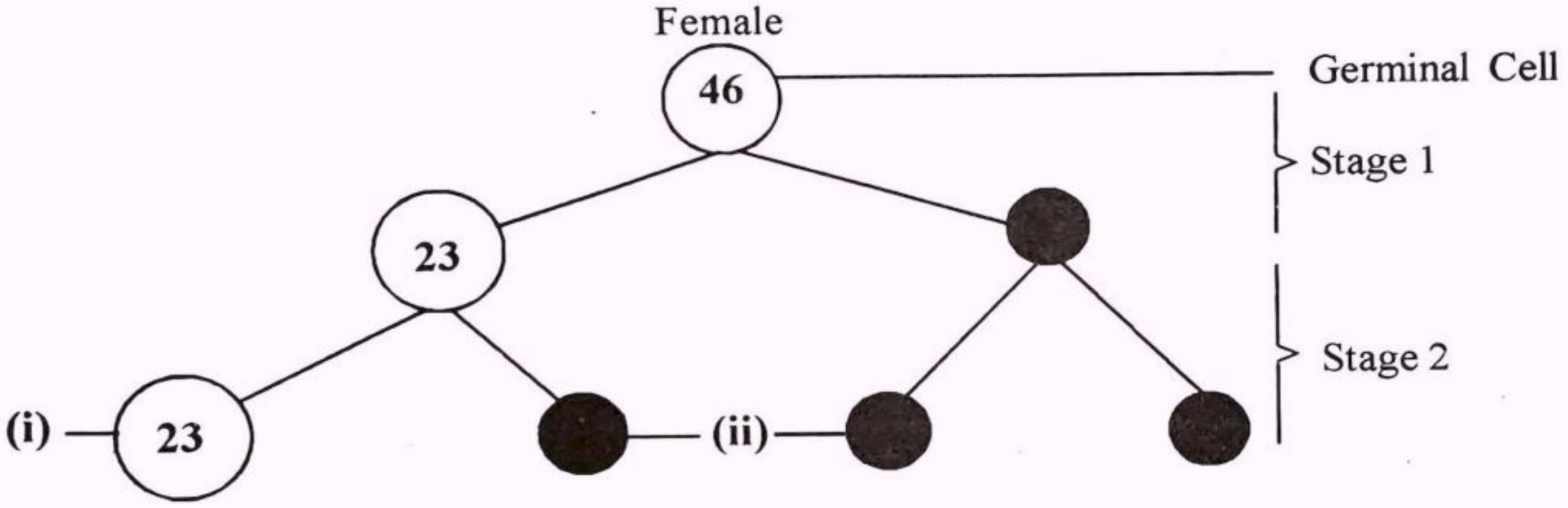
- Heart
- Lungs
- Muscles.

19. Analyse the statements given in the box and arrange them in the following table suitably. 3

No change in chromosome number, helps in the formation of gametes,
occurs in germinal cells, chromosome number becomes half,
occurs in somatic cells, helps in the growth of the body.

Mitosis	Meiosis
◆ ◆ ◆	◆ ◆ ◆

20. Observe the illustration of cell division and answer the questions.



a) Name the type of cell division indicated. 1

b) Identify the cells indicated as (i) and (ii). 1

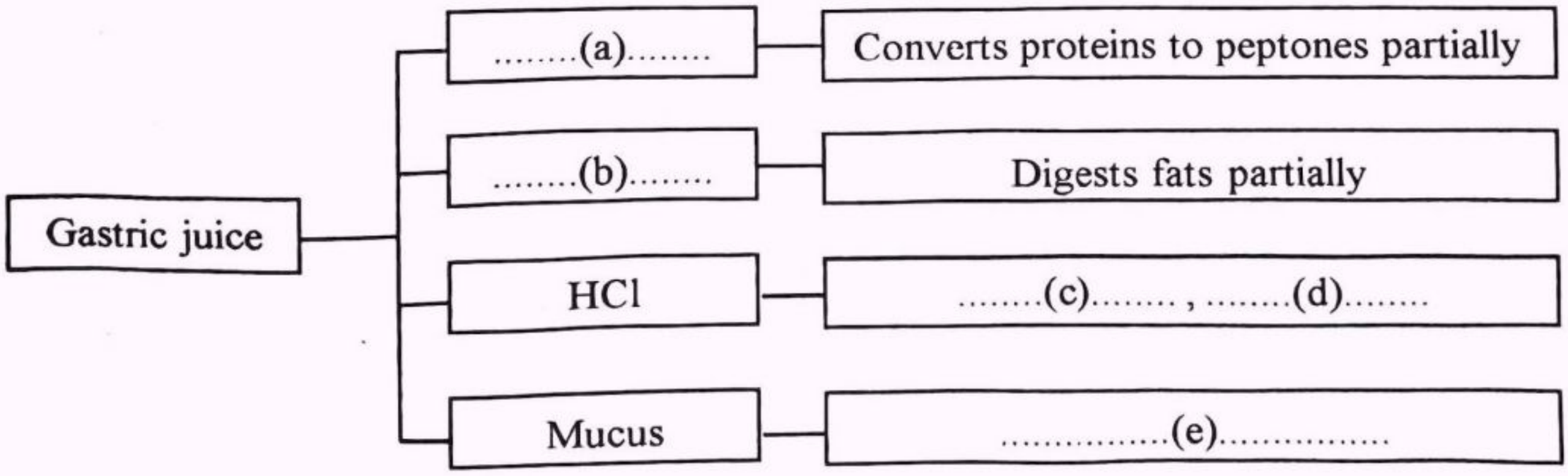
c) What is the difference between stage 1 and 2? 1

Answer any two from questions 21 to 23. Each carries 4 score. (2x4=8)

21. Complete the illustration suitably, based on the hints. 4

Hints:

- *a and b are enzymes.*
- *c, d and e are functions.*



22 Observe the figures showing the stages of nuclear division and answer the questions.

X

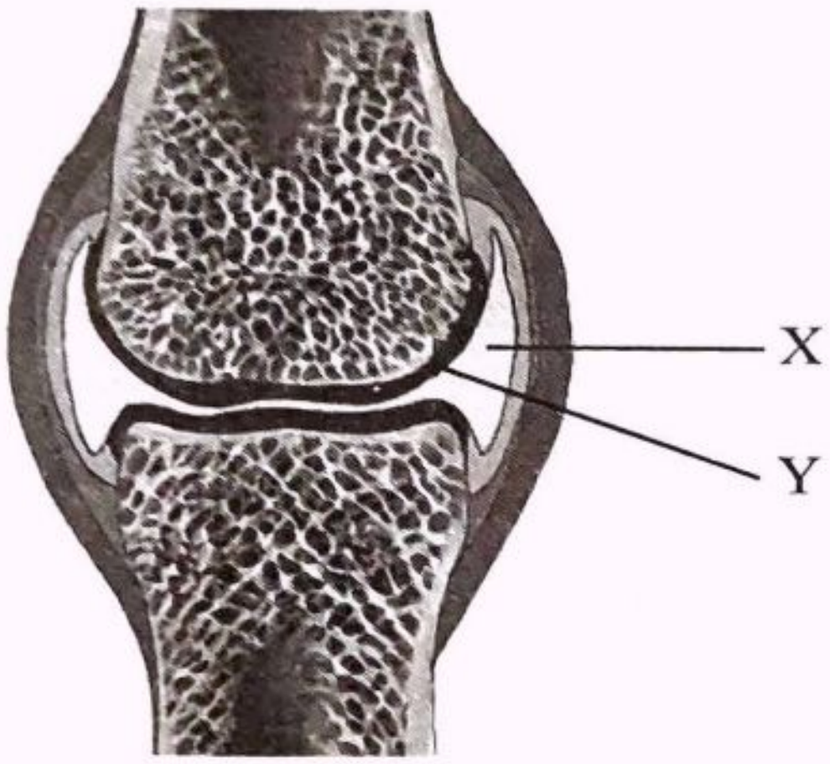
Y

a) Which stages of mitosis are indicated as X and Y? 1

b) What are the major changes that occur in the cell during the stages X and Y? 2

c) What are the other stages of this process? 1

23. Redraw the diagram of skeletal joint and answer the questions and label the parts indicated.



For redrawing the diagram. 1

a) Name the parts indicated as X and Y. 1

b) Write the functions of X and Y. 2