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QUALITY EDUCATION FOR ALL

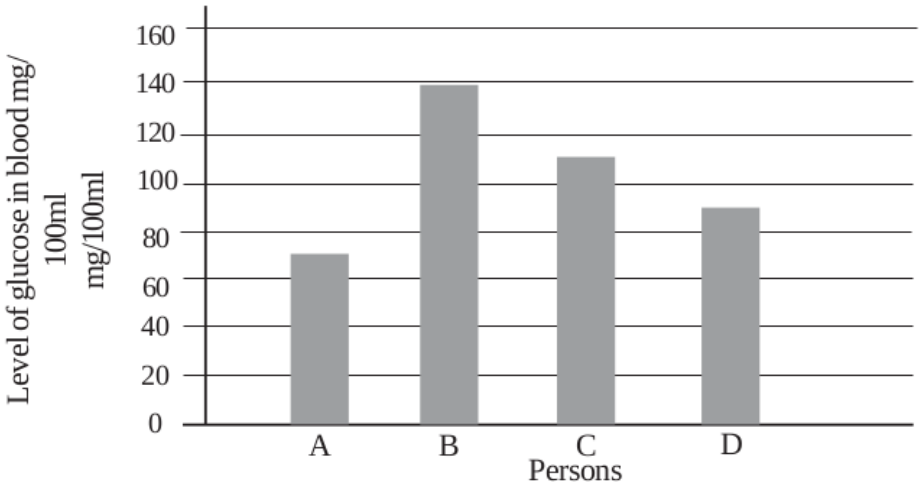
A JOINT VENTURE OF DIET AND SSK, PALAKKAD

3 Chemical Messages for Homeostasis

10th Biology Chapter_03 Worksheet based on Focus Area 2021

1.

Examine the graph indicating the blood glucose level of different individuals before breakfast.



a) Which individual is affected by diabetes mellitus?

b) Write two actions of insulin to prevent the rise in the level of glucose in blood.

c) Why do people having diabetes mellitus experience extreme fatique?

2.

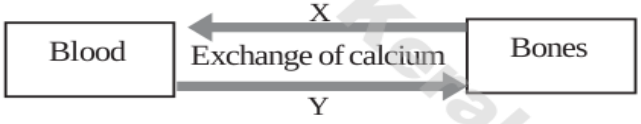
Honey bees and termites live in colonies.

a) Name the chemical substance which helps them to live together.

b) Mention two uses of these chemical substances.

3.

Maintenance of the level of calcium in the blood is illustrated below. Analyse it and answer the following questions.



(a) Name the hormone indicated as 'X'.

(b) Which gland produces the hormone 'Y'?

(c) Write another activity performed by 'X' to raise the level of calcium in blood.

4.

Given in the table below is to growth hormone. Complete the table suitably.

Disease	Condition of Hormone	Symptoms
(a)	Deficiency of growth hormone during growth phase.	Stunted growth
Gigantism	(b)	Excessive growth of the body
Acromegaly	(c)	(d) .....

5.

Given below is a doctor's comment at a seminar conducted as part of Diabetic day.

"In diabetic patients, the blood glucose level before breakfast is above 126mg/100ml.

Analyse the statement and enlist the reasons.

6.

Analyse the table and identify the correct pair.

a. Decrease in somatotropin during growth phase.	Dwarfism
b. Increase in somatotropin during growth phase.	Acromegaly
c. Increase in somatotropin after growth phase.	Gigantism

7.

Choose the correct statement related to pheromones from those given below.

(a) Pheromones are chemical substances secreted inside the body for communication.

(b) This is the message to attract mates, determining the path of travel etc.

(c) Musk in the civet cat is a pheromone.

(d) Bombaycol is the pheromone secreted by the female silk worm.

8.

Analyse the box given below and complete the table suitably.

civeton, glucagon, endolymph, bombycol
ethylene, calcitonin, auxin.

Hormone	Pheromone	Plant hormone

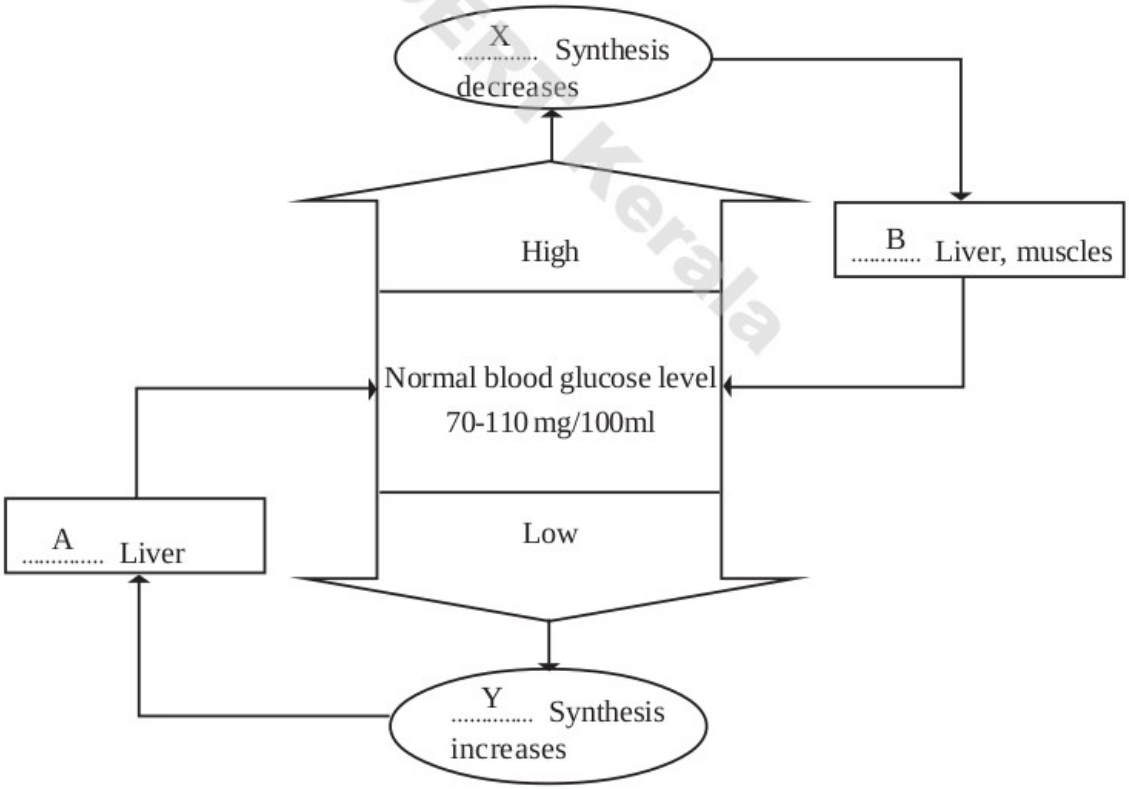
9.

Plant hormones and their functions are given in two boxes below. Pair them suitably.

Hormone	Functions
a. Auxin	i. Break down stored food in the seed.
b. Ethylene	ii. helps in ripening of fruits
c. Giberellins	iii. Dropping of leaves and fruits.
d. Abscisic acid	iv. Promoting growth of terminal bud.

10.

Observe the illustration given below and answer the questions.



(a) Write the names of the hormones 'X' and 'Y'.

(b) Mention two actions that take place in A and B.

(c) Name the gland which synthezises X and Y.

11.

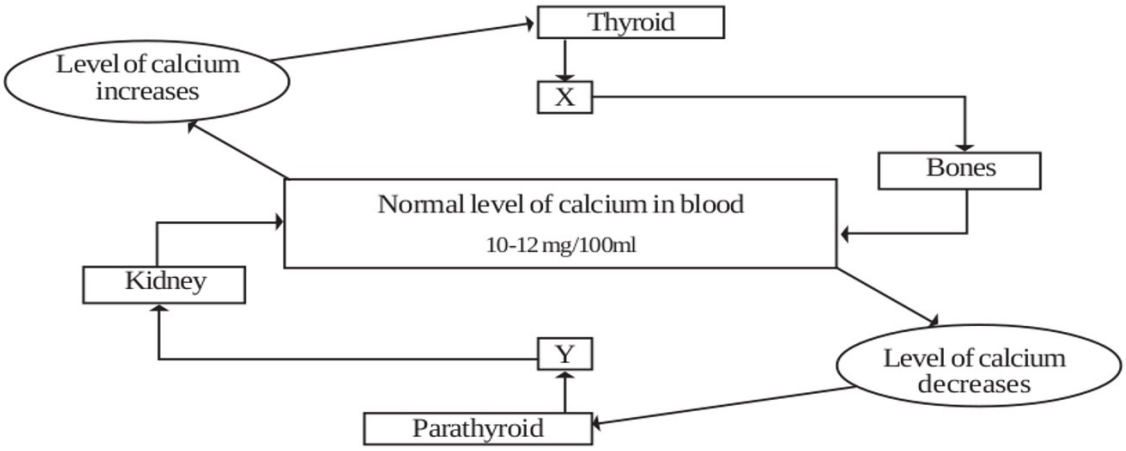
Identify the word pair relationship and fill in the blanks.

a) Civet cat : .....;
Silkworm : Bombycol

b) Breaks opstored food : Gibberellins
helps in fruit ripending : .....

12.

34. Maintenance of the level of calcium in blood is illustrated below. Analyse it and answer the questions.



(a) Which are the hormones indicated as 'X', 'Y'?

(b) Write the actions performed by 'X' in the bone and 'Y' in the kidney.

13.

Complete the table

Hormones	Functions
Insulin	1. cellular uptake of glucose molecules.
	2.
Glucagon	1. converts the glycogen stored in the liver to glucose.
	2.

14.

Write the reason for the increase of glucose level in blood.

15.

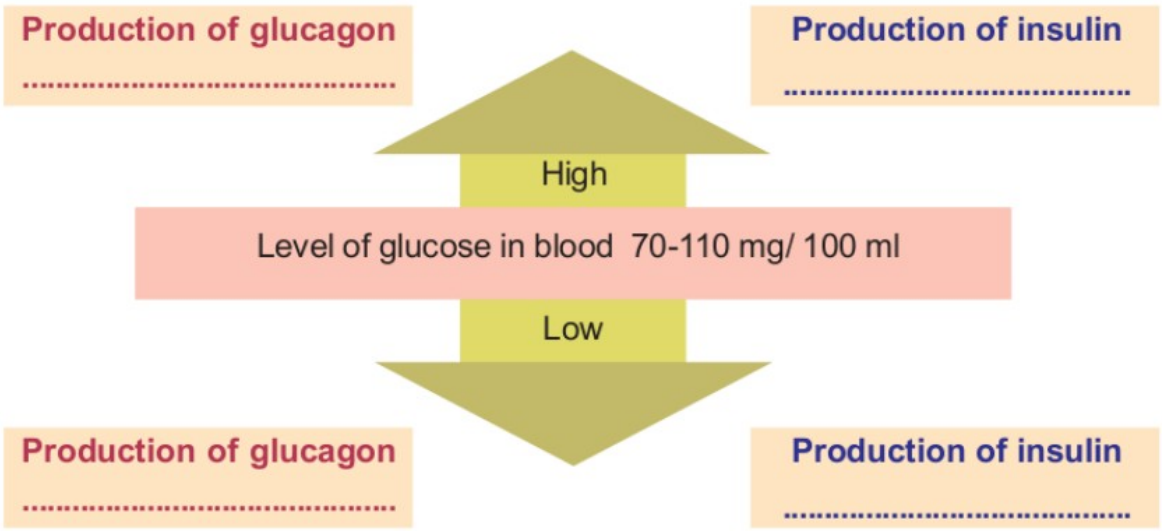
What are the symptomps of Diabetes?

16.

How Diabetes is diagnosed?

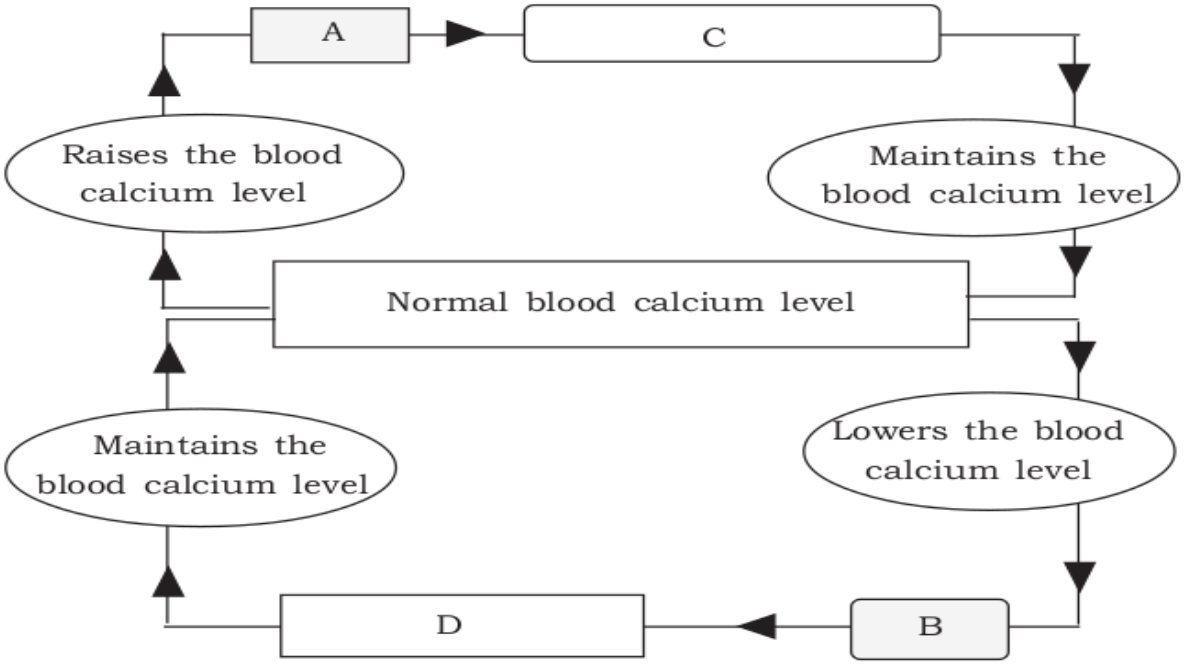
17.

Complete illustration by including the production of hormones that regulate the level of glucose



18.

Observe the illustration and answer the following questions.



a) What is the normal level of calcium in blood ?

b) Name the glands marked as A and B ?

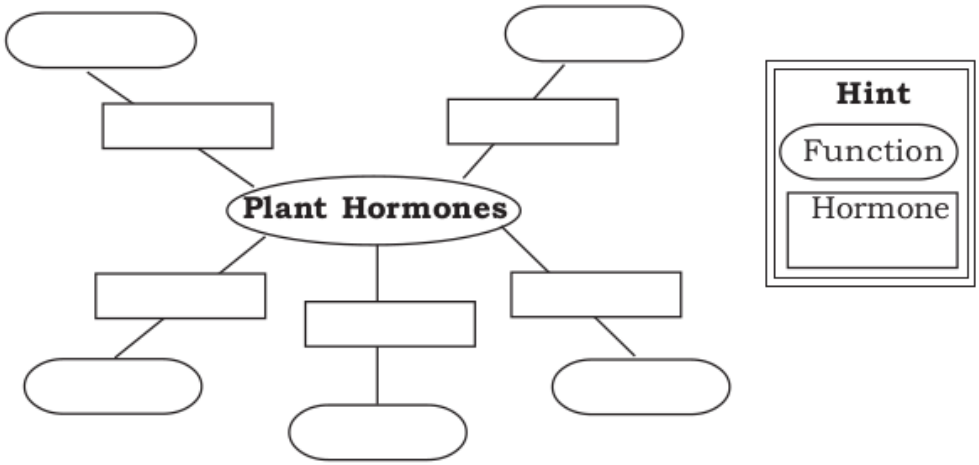
c) Name the hormones marked as C and D ?

d) What is the action of the hormones C and D in regulating the blood calcium level to normal?

19.

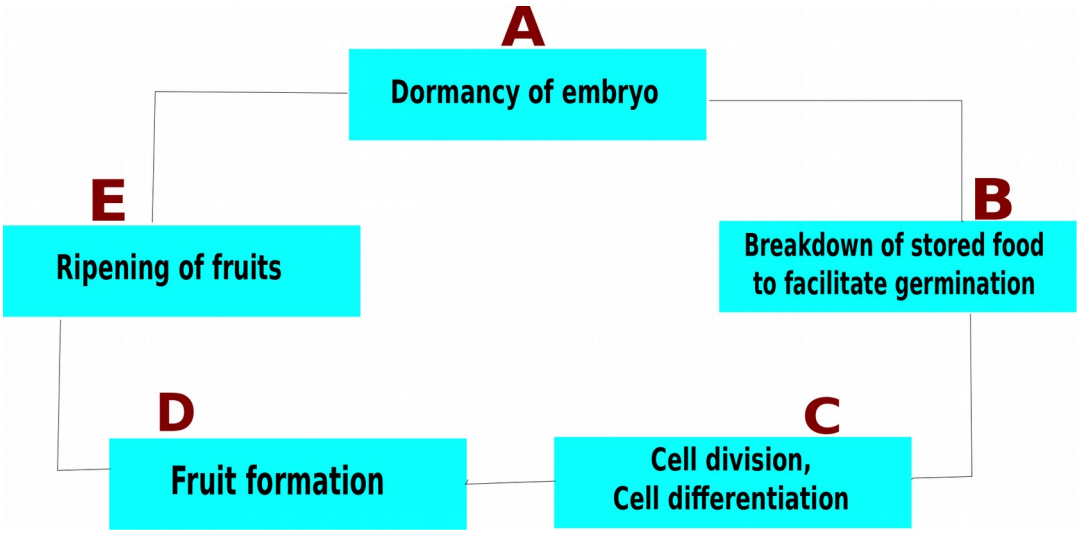
Complete the illustration using the words given in the box.

Abscisic acid, Inhibiting the growth of lateral buds by promoting the growth of terminal buds, Gibberellins, Auxin, Breaking up of stored food in seeds, Ethylene, Cell differentiation,Wilting of leaves, Cytokinin, Helps in ripening of fruits



20.

Various stages of the formation of the next generation of seeds are illustrated.



Name the plant hormones A, B, C, D and E mentioned in the illustration

21.

The normal level of two components of human blood given in the table. Analyze them and answer the questions.

A	9-11 mg/100ml
B	70-110 mg/100ml

1. Identify A and B.

2. Name the hormones which maintains the normal level of A.

3. Write the disease caused by the excess level of B?

22.

Rearrange columns B and C according to column A.

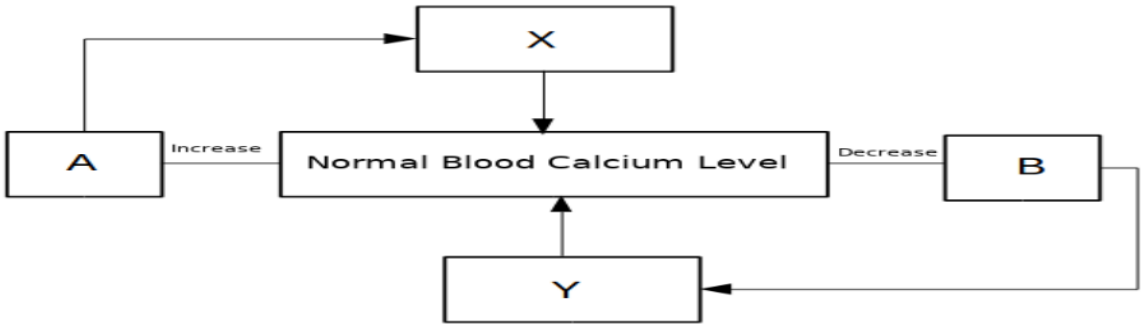
A	B	C
excessive production of somatotropin after the growth phase.	Stunted growth of the body	Myxoedema
production of somatotropin decreases during the growth phase	the growth of the bones on the face, jaws and fingers	Dwarfism
production of somatotropin increases during the growth phase	Normal growth of the body	Acromegaly
	excessive growth of the body	Gigantism.

23.

Maintenance of blood calcium level is illustrated below. Analyse it and answer the questions.

Hints - A,B Glands

X,Y Hormones



1. Write the normal blood Calcium level.
2. Identify the glands indicated as A and B.
3. Name the hormones mentioned as X and Y.
4. Write any one function of X in the regulation of blood calcium level.

24.

Analyse the table and give proper heading to columns A and B

A	B
Musk	Ethylene
Bombycol	Gibberellin

25.

Classify the given terms based on the similarities and give proper heading.

Ethylene, Civeton, Gibberellin, Bombycol

26.

Honey bees and termites are living in colonies.

1) Which chemical helps them to live in colonies?

2) Write other two functions of this chemical.

27.

"Diabetes patient should be more energetic as their blood glucose levels are higher."

What explanation will you give to this doubt?

28.

Observe the illustration and write answers to following questions.

Indicator: Hormone X

a) which is the hormone indicated as X.

b) Write two functions of X to maintain the blood glucose level.