PRINT

Qn No. 1 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
.

Hint.
.

Marks :(4)

Hide Answer

Qn No. 2 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
.

Hint.
.

Marks :(3)

Hide Answer

Qn No. 3 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Analyze the information given in the box and answer questions.

Thymas, Pituitary, Pinial, Hypothalamas

1. Identify the gland which is not present in the brain.

2. Which of these gland is a part of both nervous system and endocrine system?

Hint.
1. Thymas

2. Hypothalamas

Marks :(2)

Hide Answer

Qn No. 4 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
X is a hormone and Y is a gland.Observe the table and answer the questions.

X	**Slows down the action of defense cells.**
Y	**Control the activities and maturation of T lymphocytes.**

1. Identify the Hormone indicated as X.

2. Which endocrine gland does 'X' indicate?

3. Name the hormone which stimulate the gland that secrete "X"?

Hint.

1. Cortisol

2. Thymus

3. ACTH

Marks :(3)

Hide Answer

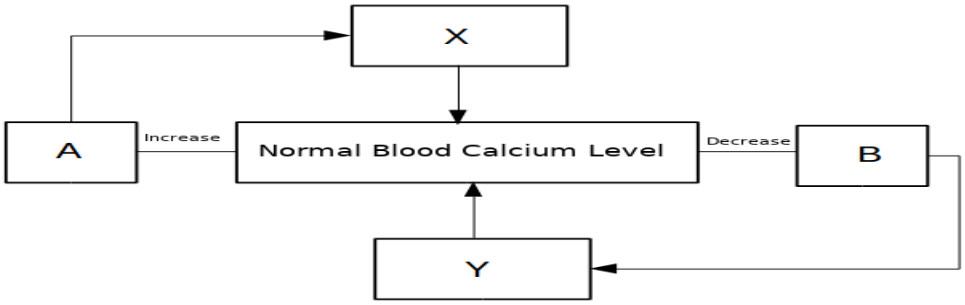
Qn No. 5 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.

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.

Hint.

1. 9-11 mg/100ml

2. A- Thyroid Gland, B- Parathyroid gland

3. X - Calcitonin, Y- Parathormone.

4. Prevents the process of mixing of calcium from bones to blood/ Stores the excess calcium from blood to bones.

Marks :(4)

Hide Answer

Qn No. 6 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.

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?

Hint.

1. A- Normal blood calcium level, B- Normal blood glucose level

2. Calcitonin,Parathormone

3. Diabetes

Marks :(3)

Hide Answer

Qn No. 7 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Tabulate the diseases given in the box

Alzheimer's, Acromegaly, Epilepsy, Diabetes

Disorder of nervous system	Disorder of endocrine system

Hint.

Disorder of nervous system	Disorder of endocrine system
Alzheimer's Epilepsy	Acromegaly Diabetes

Marks :(2)

Hide Answer

Qn No. 8 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Tabulate the hormones given the box by giving the name of the their glands as the heading.

Vasopressin, Thyroxine, Releasing hormone, Prolactin, Calcitonin, Somatotropin

Hint.

Hypothalamus	Thyroid	Pituitary
Vasopressin Releasing hormone	Thyroxine Calcitonin	Prolactin Somatotropin

Marks :(3)

Hide Answer

Qn No. 9 ***Chapter Name:3. Chemical messages for Homeostasis***

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

A	B
Musk	Ethylene

Bombycol	**Gibberellin**

Hint.

Pheromones	Plant Hormones
Musk	**Ethylene**
Bombycol	**Gibberellin**

Marks :(2)

Hide Answer

Qn No. 10 ***Chapter Name:3. Chemical messages for Homeostasis***

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

Ethylene, Civeton, Gibberellin, Bombycol

Hint.

Pheromones	Plant hormones
Civeton, Bombycol	**Ethylene, Gibberellin**

Marks :(2)

Hide Answer

Qn No. 11 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Which among the following is/are not produced by pituitary gland?

Prolactin, Oxytocin, Somatotropin, Gonado tropic hormone

Hint.
Oxytocin

Marks :(1)

Hide Answer

Qn No. 12 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Complete the table by analysing the Hints.

X - production of milk.
Y – facilitates lactation.

	Name	Gland
X		
Y		

Hint.

	Name	Gland
X	Prolactin	Pituitary gland
Y	Oxytocin	Hypothalamus

Marks :(2)

Hide Answer

Qn No. 13 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Write answers to the questions using the data given in box.

Adrenal gland	
Cortex - aldosterone	Medulla - Cortisole

a) Which is the correct pair among those indicated in the box?

b) Which is the site of action of the hormone that controls salt – water balance ?6060

Hint.
a) Cortex – aldosterone

b) Kidney

Marks :(2)

Hide Answer

Qn No. 14 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Find out the correct statement related to hormones among the following.

a) Hormones act only on target cells.

b) Hormones are the secretions of endocrine glands

c) Hormones reach the target cells through special tubes

d) Hormones are transported through the blood.

1. a, b, c are correct

2. a, c, d are correct

3. b, c, d are correct

4. a, b, d are correct

Hint.
4. a, b, d are correct

Marks :(1)

Hide Answer

Qn No. 15 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Identify the odd one and write the common feature of others

TSH, ACTH, GTH, ADH

Hint.
ADH, Others are tropic hormones/produced by anterior lobe of pituitary

Marks :(1)

Hide Answer

Qn No. 16 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Which among the following hormones has no role in the maintenance of blood glucose.

Cortisol, Glucagone, Aldosterone, Insulin

Hint.
Aldosterone

Marks :(1)

Hide Answer

Qn No. 17 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Write the relation between the words among the word pairs by analysing them.

a) Thyroxine – Cretinism

b) Somatotropin – Dwarfism

Hint.
a) The disease, Cretinism develops in children due to the deficiency of thyroxine.

b) The disease, Dwarfism develops in children due to the deficiency of Somatotropin.

Marks :(2)

Hide Answer

Qn No. 18 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Identify the odd one and write the common feature of others

Melatonin, Progesterone, Testosterone, Oestrogen

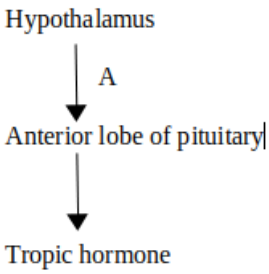
Hint.
Melatonin. Others are sex hormones

Marks :(1)

Hide Answer

Qn No. 19 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Name the hormone indicated as "A" in the illustration.



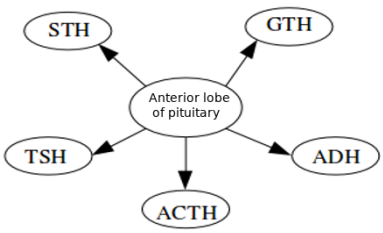
Hint.
Releasing hormone

Marks :(1)

Hide Answer

Qn No. 20 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Observe the illustration.



a) Which hormone is wrongly included in the illustration?

b) Which gland produces the wrongly included hormone? What is its function?

Hint.
a) ADH

b) Hypothalamus. Helps to reabsorb water from the kidney.

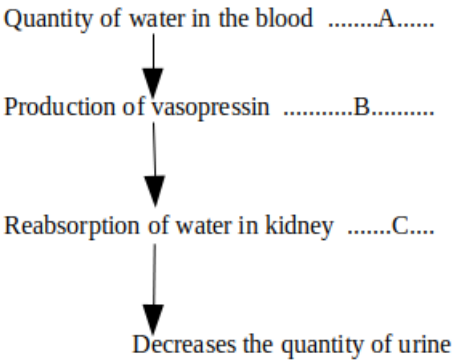
Marks :(2)

Hide Answer

Qn No. 21 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Complete the illustration of the working of vasopressin using the data given in the box

Increases, Decreases, Normal level, No change



Hint.A. Quantity of water in the blood decreases
B. Production of vasopressin increases
C. Reabsorption of water in kidney increases

Marks :(3)

Hide Answer

Qn No. 22 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Answer the questions by analysing the given situations

A. Production of vasopressin decreases.

B. Production of insulin decreases.

C. Production of calcitonin decreases.

a) Which disease develops during the situation A?

b) Which disease develops during the situation B?

c) Which are the blood factors that vary during the conditions A, B and C

Hint.
a) A – diabetes insipidus

b) B – Diabetes

c) A – water, B- glucose, C- calcium

Marks :(2)

Hide Answer

Qn No. 23 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Which among the following is not a function of thyroid gland?

a) Raises the rate of metabolism.

b) Helps to reabsorb water in kidney

c) Regulates growth in children.

d) Increases energy production.

Hint.
b) Helps to reabsorb water in kidney

Marks :(1)

Hide Answer

Qn No. 24 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Analyse the given statements and explain how the functioning of endocrine glands are controlled?

a) Hypothalamus controls pituitary gland

b) Pituitary gland controls other endocrine glands

Hint.
a) The releasing hormones produced by hypothalamus stimulate the production of hormones from pituitary gland. The inhibiting hormones produced by hypothalamus inhibits the production of hormones from pituitary gland.

b) The tropic hormones produced by pituitary gland stimulate other endocrine glands.

Marks :(2)

Hide Answer

Qn No. 25 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Analyse the following statements and give reasons.

a) Sleeps during night and wake up in the morning

b) Bees and Termites live in colonies.

Hint.
a) The production of melatonin is high at night so we feel sleepy and low during the day so we wake up

b) Chemicals called Pheromones act as chemical messengers.

Marks :(3)

Hide Answer

Qn No. 26 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Prepare a flow chart on the action of hormones on target cells by rearranging the data.

- **Enzymes become functionally active within the cell**
- **Endocrine gland produces hormones**
- **Changes occur in cellular activities.**
- **Hormone – receptor complex is formed**
- **Hormone reaches the target cells through blood**
- **Hormone molecule binds with the receptor**

Hint.
- **Endocrine gland produces hormones**
- **Hormone reaches the targetcells through blood**

- **Hormone molecule binds with the receptor**
- **Hormone – receptor complex is formed**
- **Enzymes become functionally active within the cell**
- **Changes occur in cellular activities.**

Marks :(3)

Hide Answer

Qn No. 27 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Certain hormones produced by Adrenal gland help to fight or flight from an emergency situation

a) Which are the hormones depicted in the statement?

b) How these hormones are connected to autonomous nervous system?

Hint.
.

a) Epinephrine (Adrenaline), Norepinephrine (Noradrenaline)

b) The body activities developed when the sympathetic nervous system is stimulated are maintained for long time by the hormones Epinephrine (Adrenaline) and Norepinephrine (Noradrenaline) produced by adrenal gland.

Marks :(3)

Hide Answer

Qn No. 28 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
.

“X” is a hormone. This hormone maintains the rhyth of daily activities.

1) Which is the hormone indicated by X?

2) Which gland produces this hormone?

3) What is the difference in the production of this hormone during night and day?

Hint.
1) Melatonin

2) Pineal gland

3) Production of melatonin is high at night and low at day

Marks :(3)

Hide Answer

Qn No. 29 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
A. Nervous system controls the physiological activities

B. Along with nervous system, Endocrine system also controls the physiological activities

Write your response by analysing the opinions of A and B. Justify your response.

Hint.
Homeostasis can be maintained by the combined action of nervous system and endocrine system. For example hormones Epinephrine and norepinephrine maintain the longevity of body activities after the action of sympathetic system during emergency conditions.

Marks :(3)

Hide Answer

Qn No. 30 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
A – Pituitary gland controls the production of hormone from endocrine glands

B - Hypothalamus controls the production of hormone from endocrine glands

Write your response by analysing the opinions of A and B. Justify your response.

Hint.
Hypothalamus controls the production of hormones from endocrine glands. Releasing hormones produced from hypothalamus stimulates the anterior lobe of pituitary thus the tropic hormones for controlling other endocrine glands are produced from anterior lobe of pituitary.

Marks :(3)

Hide Answer

Qn No. 31 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Write two concepts based on the following subtopics for preparing a seminar on artificial plant hormones

1) Possibilities

2) Concerns

Show Answer

Qn No. 32 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Find the odd and write the peculiarities of others.

Auxin, Ethylene, Cytokinin, Gibberellin

Hint.
Ethylene. Others are in liquid form or stimulate the plant growth

Marks :(1)

Hide Answer

Qn No. 33 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.

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.

3) How this chemical can be used in the agricultural sector?

Hint.

1) Pheromones

2) To attract mates, to inform the availability of food (to determine the path of travel, to give signals on dangers)

3) Artificial pheromones are used for pest control in agricultural sectors.

Marks :(3)

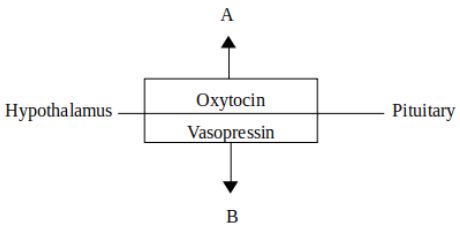
Hide Answer

Qn No. 34 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.

Write answer to the questions by analysing the illustration and data given in the box

Kidney, Bone, Uterus



1) Select name of the organs indicated as A and B in illustration from the box

2) How Hypothalamus and pituitary are related to oxytocin and vasopressin?

3) Write the action of oxytocin in A.

Hint.

1) A- Uterus, B – Kidney

2) Hypothalamus produces oxytocin and vasopressin and releases them to the posterior lobe of pituitary.

3) Makes the childbirth easy by enhancing the contraction of smooth muscles of uterus.

Marks :(3)

Hide Answer

Qn No. 35 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.

Functions of Plant hormones are given in the box. Analyse the box given below and complete the table suitably.

Fruit formation, Dropping of ripened leaves and fruits, Cell division, Break down of stored food, Growth of terminal buds.

Hint.

Cytokinin	Auxin
Cell division Cell differentiation	Fruit formation Growth of terminal buds.

Marks :(2)

Hide Answer

Qn No. 36 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Analyse the given symptoms and tabulate them suitably

a) Weight loss b) Increase in body weight c) Emotional imbalance d)Hypertension e) Excessive sweating f) Inflammation in body tissues

Hypothyroidism	Hyperthyroidism

Hint.

Hypothyroidism	Hyperthyroidism
Increase in body weight	**Weight loss**
Inflammation in body tissues	**Excessive sweating**
Hypertension	**Emotional imbalance**

Marks :(3)

Hide Answer

Qn No. 37 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
X and Y in the illustration are hormones.

- **X reduces the level of calcium in blood.**
- **Iodine is essential for the production of Y.**

1) Name the hormones X and Y

2) Write any two functions of Y

Hint.
1) X – Calcitonin, Y – Thyroxine

2) Increases energy production / Raises the rate of metabolism / Accelerates the growth and development of the brain in the foetal stage and infancy.

Marks :(3)

Hide Answer

Qn No. 38 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
The names of certain endocrine glands of man are given below. Arrange them as from head to bottom based on the position.

Pancreas, Thyroid, Pituitary, Testis, Hypothalamus, Thymus

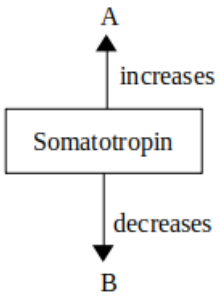
Hint.
Hypothalamus, Pituitary, Thyroid, Thymus, Pancreas, Testis

Marks :(3)

Hide Answer

Qn No. 39 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
The production of somatotropin in persons A and B is given in the illustration.



Identify the diseases of persons A and B?

Hint.
A – Gigantism

B- Dwarfism

Marks :(2)

Hide Answer

Qn No. 40 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
It is essential to eat food containing iodine. Deficiency of iodine affects the functioning of a gland that controls the metabolic activities.

1) Which gland is indicated in this statement?

2) How does the deficiency of iodine affect this gland?

Hint.
1) Thyroid gland

2) Deficiency of iodine causes the decrease in the production of thyroxine and it leads to a diseases called goitre.

Marks :(2)

Hide Answer

Qn No. 41 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Make a question that answers the level given below.

70-110 mg /100ml blood

Hint.
What is the normal blood glucose level?

Marks :(1)

Hide Answer

Qn No. 42 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Which among the following glands are not located in the brain?

Thymus gland, Hypothalamus, Pinial gland, Adrenal gland, Pituitary gland

Hint.
Thymus gland,Adrenal gland

Marks :(2)

Hide Answer

Qn No. 43 ***Chapter Name:3. Chemical messages for Homeostasis***

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

What explanation will you give to this doubt?

Hint.
Energy is released by the breakdown of glucose in the cell. In diabetic patient blood glucose level increase due to the defeciency or malfunction of insulin. so glucose intake to the cell decrese. Energy production decreases.

Marks :(2)

Hide Answer

Qn No. 44 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
Identyfy the glands related to the given statements.

a) Reduces the blood calcium level.

b) Maintains the salt- water level

c) maintain the rhythm of our daily activities

Hint.
a) Thyroid gland

b) Adrinal gland

c) Pinial gland

Marks :(3)

Hide Answer

Qn No. 45 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
Choose the statements related to the gland that secrete hormones enable to overcome emergency situations.

1. Medulla secrete hormones.

2. Situated justbelow the hypothalamus.

3. Stimulated by Adreno Cortico Tropic Hormone.

4. Hormone disorder leads to Acomegali.

Hint.
1. Medulla secrete hormones.

3. Stimulated by Adreno Cortico Tropic Hormone.

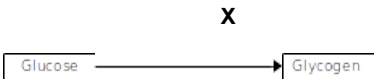
Marks :(2)

Hide Answer

Qn No. 46 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
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.

Hint.
a) Insulin

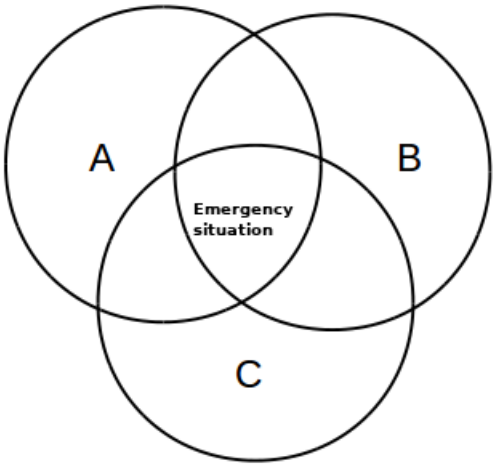
b) Stimulate the entry of glucose molecules into cell, converts glucose to glycogen in liver and muscles.

Marks :(3)

Hide Answer

Qn No. 47 *Chapter Name:3. Chemical messages for Homeostasis*

Qn.
The elements that enable the body to overcome the emergency situations are referred to as A, B, C.



1. Name the hormones that indicate A and B.

2. Identify the part of autonomous nervous system that indicates C.

Hint.
1. A,B- Adrinalin and noradrinalin

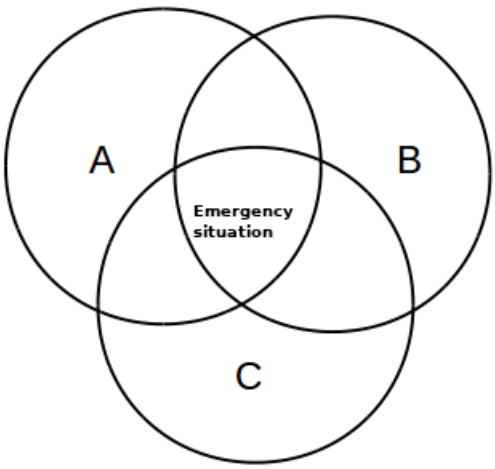
2. Sympathetic system

Marks :(3)

Hide Answer

Qn No. 48 ***Chapter Name:3. Chemical messages for Homeostasis***

Qn.
The elements that enable the body to overcome the emergency situations are referred to as A, B, C.



1. Name the hormones that indicate A and B.

2. Identify the part of autonomous nervous system that indicates C.

Hint.
1. A,B- Adrinalin and noradrinalin

2. Sympathetic system

Marks :(3)

Hide Answer