

CHEMICAL CONTROL CO-ORDINATION IN ANIMALS

1. What is a hormone?

- ◆ Cells of endocrine glands liberate chemical substances called hormones.

2. What is simple goiter?

- ◆ Simple goiter is a disease caused due to deficiency of iodine in diet,
- ◆ Deficiency of iodine leads thyroid gland do not secrete thyroxine hormones as a result of thyroid gland increases in size which results in enlargement of neck, this condition is called simple goiter.

3. What is the importance of pituitary gland and mention the hormones and their functions?

- ◆ Pituitary gland is an endocrine gland. It is present below the brain.
- ◆ Pituitary gland is large pea seed in size.
- ◆ It consist of three parts, they are anterior lobe, middle lobe and posterior lobe.
- ◆ It controls the functions of all other endocrine glands in the body, hence it is called master gland.

Hormones secreted by pituitary gland:

- ◆ **Growth hormone:** It is secreted by anterior lobe of pituitary gland. It acts mostly on tissues. It helps in the growth of limbs and bones.
- ◆ **Thyroid stimulating hormone (T.S.H.):** It acts as thyroid gland. It helps in secretion of thyroxin hormone from thyroid gland.
- ◆ **Prolactin:** It acts as mammary glands and its function is to stimulate milk flow after child birth.
- ◆ **Follicle stimulating hormone (F.S.H.):** It acts on ovaries and testis. It helps in secretion of hormone testosterone from testis and oestrogen from ovaries.

4. Write brief account of adrenal glands?

Adrenal glands are endocrine glands. They are present on top of the kidneys and are looks like caps.

- ◆ Adrenal glands has two parts. They are cortex and adrenal medulla.
- ◆ Adrenal cortex is outer part of the adrenal gland. It secretes two hormones called cortisol and aldosterone.
- ◆ Cortisol regulate metabolic activities of carbohydrates, proteins and fats.
- ◆ Aldosterone helps increases the reabsorption of water and sodium in the body and helps to maintain blood volume and sodium levels.

- ◆ Inner part of adrenal gland is called adrenal medulla. It secretes hormone called adrenaline.
- ◆ Adrenaline secretes from adrenal gland during emotions, physical and mental stress such as fall in blood sugar levels, or when person is injured or exposed to cold conditions.
- ◆ It is secreted during anger, fear or grief. It helps the body to face these conditions. It is therefore called flight or fight hormone and adrenal gland is called organ of flight or fight.

5. Write short note on Diabetes Mellitus?

Diabetes Mellitus is a disease caused due to insufficient secretions of insulin hormone from pancreas.

- ◆ **Symptoms:** 1.Glucose levels in blood increases and excreted through urine.
- ◆ This can be identified by the presence of sugar in urine.
- ◆ Insulin also affects the metabolism of fats and proteins.

Write brief note on Cretinism and Tetany:

Cretinism: Thyroid gland is an endocrine gland. It secretes hormone called thyroxine. Deficiency of thyroxine leads body growth will be slow and child will be mentally retarded, this condition is called cretinism.

Tetany: Para Thyroid gland is an endocrine gland. It is present in the neck region and very close to thyroid gland.

- ◆ It secretes hormone called parathormone. This hormone controls the levels of calcium and phosphate in the blood and bone.
- ◆ Excessive secretions of parathormone hormone leads to the muscles become very active and remain in contracted state- a condition called Tetany.

Fill up the blanks

1. Proposal of plant growth substance was first put forward by _____
2. 2, 4, D is used as _____
3. Early ripening of fruits is promoted by _____
4. Apical dominance is promoted by _____ phyto hormone.
5. Oxytocin and vasopressin are secreted by _____ gland.
6. Islets of langerhans secrete hormones called _____, _____

7. Excessive secretions of growth hormone leads to _____
8. _____ hormone is called flight or fight hormone.
9. The hormone that helps in the formation of placenta is called _____
10. Hormone _____ helps in the implantation of embryo .
11. _____ hormone stimulates milk flow after child birth.
12. Formation of seedless fruits is called _____
13. Gibberellins was first isolated from the fungi called _____
14. Scientific name of oat plant is called _____
15. Water loss from plants is prevented by a hormone called _____

KEY

1. Charles Darwin
2. Weedicide
3. Ethylene
4. Auxin
5. Pituitary
6. Insulin, Glucagon
7. Gigantism
8. Adrenalin
9. Progesterone
10. Progesterone
11. Prolactin
12. Parthenocarpy
13. Gibberella fujikourii
14. Avena Sativa
15. Abscisic Acid