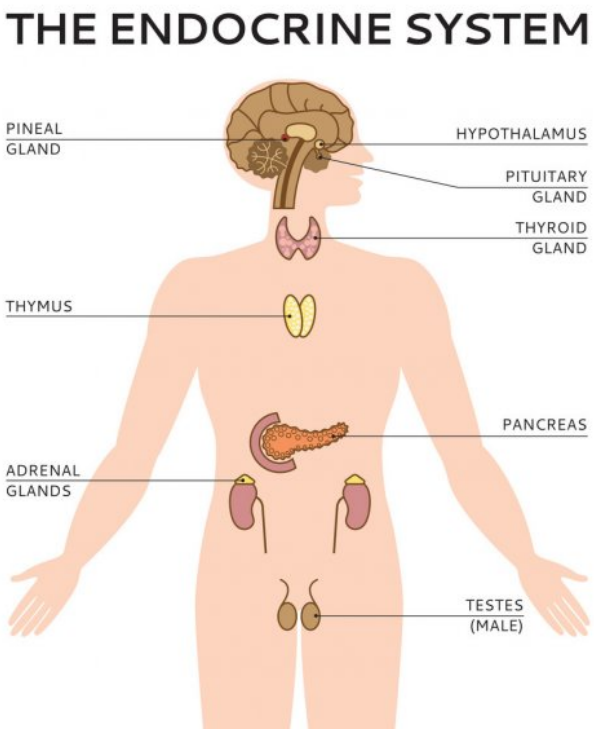
Endocrine System

1. **How many types of glands human body has?**
   Ans. Human Body has two types of glands
   a. Exocrine Glands
   b. Endocrine Glands

2. **What are Exocrine Glands?**
   Ans. These glands discharge their secretions directly to the target sites through ducts
   Ex: Enzyme secreting Glands of digestive tract,
   Sweat Gland etc.

3. **What are Endocrine Glands?**
   Ans. These are ductless glands which discharge their secretions into blood. These secretions are called hormones which are carried by the blood to the target sites.
   Ex: Pituitary glands, Thyroid Glands, Adrenal Glands etc.

4. **Show the different Endocrine Glands in Human Body.**
   Ans. The different Endocrine Glands are as below:
   a. Pituitary Gland
   b. Theroid Gland
   c. Adrenal Gland
   d. Pancreas
   e. Gonads- Ovary and Testis.
   They are shows below



5. **What are the characteristics of Hormones?**
   Ans.
   - Hormones are chemical substances which are released directly into blood through ductless endocrine glands.
   - These are produced and are effective in extremely minute quantities.
   - The hormones are carried by bloodstream to the target organs or cell upon which they act.
   - Hormones may differ from each other according to their chemical nature.
   - Each hormone has a specific function and its effect is produced in specific cells, tissues and organs.
   - These regulate the growth, development and other physiological processes. Therefore, they are also called as chemical messengers.

6. **Which hormone secrets through Adrenal Medulla?**
   Ans. Adrenal Medulla Secrets Adrenaline as the major hormone.

7. **What are the functions of Adrenaline?**
   Ans. The functions of Adrenaline are
   a. Increase the heartbeat.
   b. Constricts blood vessels and raises blood pressure.
   c. Increase rate of respiration and sweating in the body.
   d. Release more glucose from the liver into the blood and gives energy.
   e. Helps the body to adapt to extreme conditions such as fasting, pain, trauma etc.

8. **Why Adrenal Gland are called Suprarenal Grounds?**
   Ans. One of the Adrenal Gland is placed on the top of each kidney, because of their position they are called Suprarenal Grounds.

9. **What is Pituitary Gland?**
   Ans. The pituitary gland or hypophysis is a very small pea-sized structure. It lies in a pocket, at the base of the brain.
   The hormones secreted by pituitary gland regulate a number of body activities and functions of other endocrine glands.

10. **Which Hormones secreted by the Pituitary Gland?**
    Ans. The following glands are secreted by Pituitary Gland
    a. Growth Hormone (GH)
    b. Thyroid Stimulating Hormone (TSH)
    c. Adrenocorticotropic Hormone (ACTH)
    d. Prolactin (PRL)
    e. Gonadotropic Hormones (GTHs)
    f. Oxytocin (OCT)
    g. Antidiuretic Hormone (ADH)

11. Write the functions of Different hormones of Pituitary Glands?

Ans.

Name of the Hormones	Functions
a. Growth Hormone (GH)	It promotes growth and development of the human beings.
b. Thyroid Stimulating Hormone (TSH)	This hormone activates the thyroid gland to secrete hormones.
c. Adrenocorticotropic Hormone (ACTH)	It controls the secretion of hormones from the adrenal cortex.
d. Prolactin (PRL)	It promotes the development of mammary gland and milk production after the birth of a body.
e. Gonadotropic Hormones (GTHs)	These hormones control the growth of gonads and reproductive activities.
f. Oxytocin (OCT)	It stimulates mammary glands for milk secretion. It is also known as milk let-down factor. It also helps in the birth and is called birth hormone.
g. Antidiuretic Hormone (ADH)	Increases reabsorption of water from the kidney tubules and prevents extension of water. It also constricts blood vessels and raises blood pressure.

12. What happen due to over secretion of Growth Hormone?

Ans. Over secretion of Growth Hormone during growth years results in Gigantism.
The symptoms of Gigantism are

- The body grows rapidly and abnormally.
- The individual can attain a height of 8-9 feet.

13. What happen due to under secretion of Growth Hormone?

Ans. Under secretion of Growth Hormone in childhood results in Dwarfism.
The symptoms of Dwarfism are:

- A child of 10 years of age may show the development of a child of 4-5 years.

14. Why Antidiuretic Hormone is called Vasopressin?

Ans. Antidiuretic Hormone constricts blood vessels and raises blood pressure. This is why it is called Vasopressin.

15. Gonadotropic Hormones are how many types?

Ans. Gonadotropic Hormones are two types

a) Follicle-Stimulating Hormone (FSH)
b) Luteinising Hormone (LH)

16. **What is Thyroid Gland?**
    Ans. Thyroid Gland is the largest endocrine gland.
    It is located in the lower part of the neck around the windpipe, trachea.

17. **Which hormones are secreted from Thyroid Gland?**
    Ans. Thyroid Gland secretes two prime hormones
    a. Thyroxine
    b. Calcitonin.

18. **What are the principal effects of Thyroxine?**
    Ans. The principal effects of thyroid hormones are as follow.
    - These regulate the metabolic activities of most of the body tissues.
    - The increased metabolism in tissues raises the basal metabolic rate (BMR) of the body.
    - Thyroid hormones also promote growth of the bones and tissues.
    - Increased production of TH causes decreased body weight.

19. **What happen due to over secretion of Thyroid Hormones?**
    Ans: Increased secretion of thyroid hormones results in-
    - Enlargement of the gland.
    - Protrusion of eyeball. It is called exophthalmos.
    - Increase in metabolic rate, pulse, blood pressure, sweating and heat intolerance.
    - People suffer from mild to extreme weight loss.
    - Diarrhoea, weakness, nervousness, fatigue and hand tremors are observed.

20. **What happen due to deficiency of Thyroid Hormones?**
    Ans. Due to deficiency of thyroid hormones, the following diseases can happen.
    a. Myxoedema
    b. Cretinism
    c. Simple Goitre

21. **What are the symptoms of Myxoedema?**
    Ans. It is caused by improper functioning of thyroid gland in adults.
    It leads to:
    - Swelling on face, under the eyes and on hands.
    - Slow heart rate and lower blood pressure.
    - Increase in weight, consumption and husky voice.

22. **What are the symptoms of Cretinism?**
    Ans. It is caused by hyposecretion during childhood and its effect are:
    - Reduced Metabolic Rate and heartbeat.
    - Dwarfism; failure of skeletal growth.
    - Mental retardation and obesity.

23. What are the symptoms of Simple Goitre?

Ans. This occurs due to deficiency of lack of iodine in diet causing decreased secretion of thyroid hormones.

The symptoms are as below:

- Enlargement of thyroid gland.
- Swelling in the neck.

24. What is the function of Follicle-Stimulating Hormone (FSH)?

Ans. Follicle-Stimulating Hormone (FSH) stimulates egg production in females and sperm formation in males.

25. What are the functions of Luteinising Hormone (LH)?

Ans. Luteinising Hormone (LH) regulates ovulation in females. The male has Interstitial Cell Stimulating Hormone (ICSH), which stimulates the production of testosterone.

26. What is Tropic Hormone?

Ans. A hormone that stimulates another endocrine gland to secrete hormones is called a Tropic Hormone.

Ex: TSH, ACTH, FSH, and ICSH.

27. What happen due to hyposecretion of Antidiuretic Hormone (ADH)?

Ans. Excessive, forced and frequent urination leading to loss of large amount of water from the body, causing dehydration and thirst.

28. What are the different parts of Adrenal Gland?

Ans. Adrenal Gland is differenced into two distinct endocrine regions.

a. Outer Adrenal Cortex
b. Inner Adrenal Medulla.

29. Which hormones secrets Adrenal Cortex?

Ans. The hormones secreted by adrenal cortex are Corticosteroids.

30. What are the different types of Adrenal Cortex?

Ans. Adrenal Cortex are three types

a. Mineralocorticoids
b. Glucocorticoids
c. Androcorticoids

31. What are the functions of Mineralocorticoids?

Ans. These maintain the mineral balance within the body, especially of “Na” and “K”. Principal mineralocorticoids are called aldosterone.

32. What are the functions of Glucocorticoids?

Ans. These hormones regulate the metabolism of glucose, proteins and fats.

Ex: Cortisone.

33. What is another name of Androcorticoids?

Ans. Another name of Androcorticoids is Androgens.

34. What are the functions of Androcorticoids?

Ans. This hormone stimulates the development of reproductive organs and secondary sexual characters.

35. What happen due to lack of Aldosterone?

Ans. Lack of Aldosterone results in extraction of more minerals and water in urine, leading to low blood pressure.

36. What happen due to over secretion of Corticoids?

Ans. Due to over secretion of Corticoids

- Increase in blood glucose concentration and obesity
- Swollen face
- Acne and excess growth of facial hair.

37. What happen due to lack of Cortisone?

Ans. Lack of Cortisone results in decreased levels of glucose in the blood.

38. What happen due to hypertension of Adrenaline?

Ans. Due to hypertension of Adrenaline

a. Prolonged increase in heartbeat rate, high blood pressure and respiration rate.
b. Continuous sweating in the body.
c. Excess amount of glucose in the blood.
d. General weakness of the body and tiredness.

39. What is Pancreas?

Ans. This is an organ located posterior and inferior to the stomach, inside the loop of duodenum.

It is a mixed organ, and releases digestive enzymes as well as hormones.

40. What are Islets of Langerhans?

Ans. The endocrine portion of the pancreas is made up of millions of solid cells are called Islets of Langerhans.

41. How many types of cells in Islets of Langerhans?

Ans. There are three types of cells in Islets of Langerhans. They are

a. α cell : Secrete Glucagon
b. β cell : Secrete Insulin.
c. δ cell : Secrete Somatostatin

42. What are the Functions of Glucagon?

Ans. It stimulates breakdown of glucose in liver into glucose and increase the level of glucose in blood.

43. What are the functions of Insulin?

Ans. It

- Stimulates oxidation of glucose and produces energy and Heat.
- Convers extra glucose to glycogen which is stored in liver and muscle cells.
- Decreases blood glucose level

44. What are the functions of Somatostatin?

Ans. It

- Regulates the endocrine functions of pancreas
- Prevents secretion of insulin and Glucagon

45. What happen due to deficiency of Insulin?

Ans. Diabetes Mellitus was happening due to deficiency of Insulin.

This disease has following symptoms

- Decreased oxidation of glucose by body cells
- High amount of glucose in the blood.
- Loss of excess glucose in urine.
- Frequent and excessive urination.
- Weight loss, lack of energy and weakness.

46. What happen due to increase of Insulin?

Ans. Due to increase of Insulin "Coma" was happen.

The symptoms are as below

- Excess utilisation of blood glucose
- Decrease in the level of blood glucose.
- Can be very harmful and results in Coma.