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# ENDOCRINE SYSTEM

**P.G.Sem-2 PSYCHOLOGY**

**NEUROPSYCHOLOGY**

**Paper-CC-6 Unit-1**

# ENDOCRINE SYSTEM

The word endocrine derives from the Greek words "endo," meaning within, and "crinis," meaning to secrete . In general, a gland selects and removes materials from the blood, processes them and secretes the finished chemical product for use somewhere in the body. Is called endocrine system affects almost every organ and cell in the body .

# GLAND

**A gland is an organ that makes and puts out hormones that do a specific job in your body. Endocrine glands release the substances they make into your bloodstream .**

# Function of Endocrinesystem

- ◎ Makes hormones that control your moods, growth and development, metabolism, organs, and reproduction
- ◎ Controls how your hormones are released
- ◎ Sends those hormones into your bloodstream so they can travel to other body parts.

# PARTS..

- Many glands make up the endocrine system. The hypothalamus, pituitary gland, and pineal gland are in brain. The thyroid and parathyroid glands are in neck. The thymus is between lungs, the adrenals are on top of kidneys, and the pancreas is behind stomach. Ovaries (in a woman) or testes (in a man) are in pelvic region.

Hypothalamus

Pituitary

Parathyroids

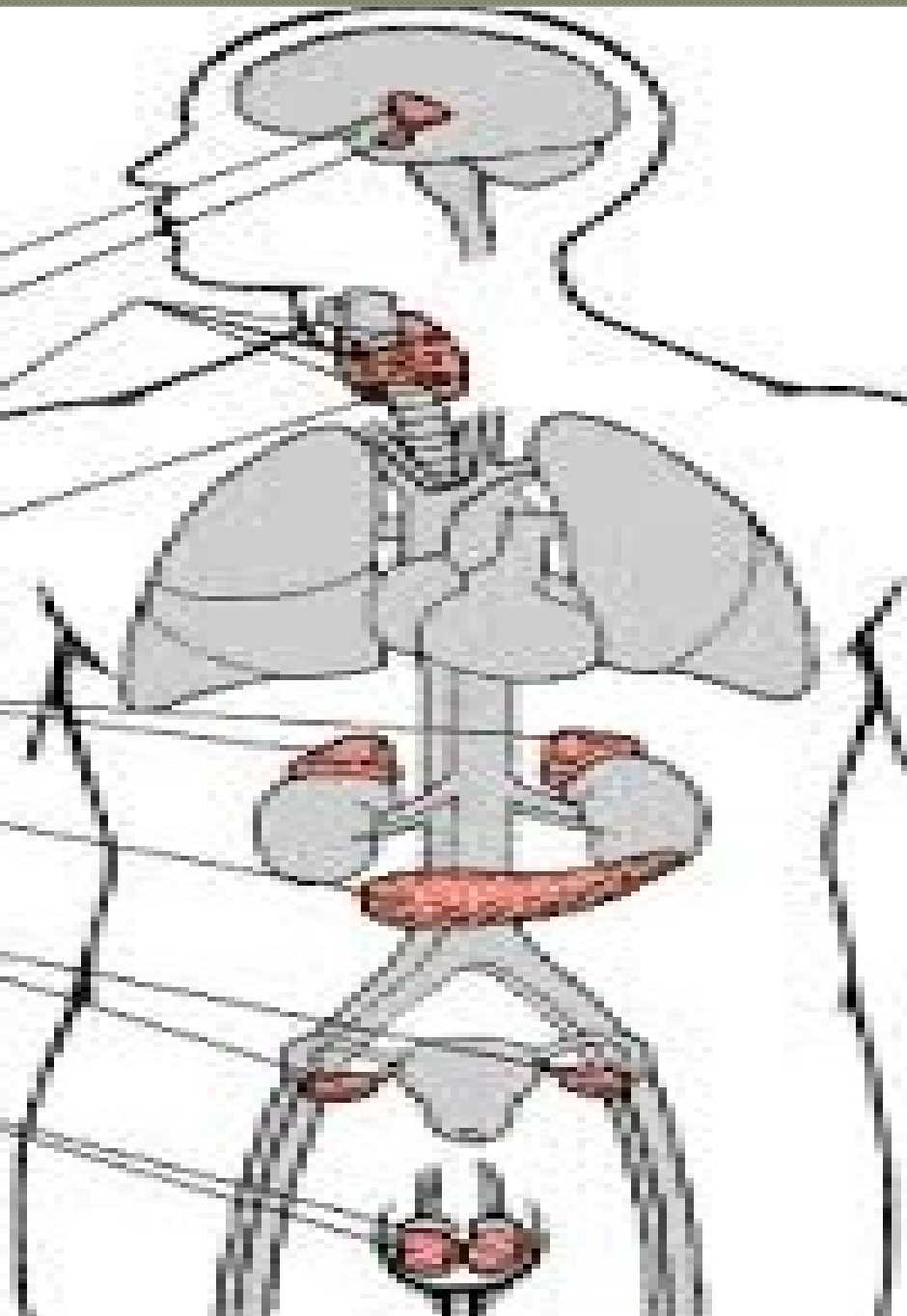
Thyroid

Adrenals

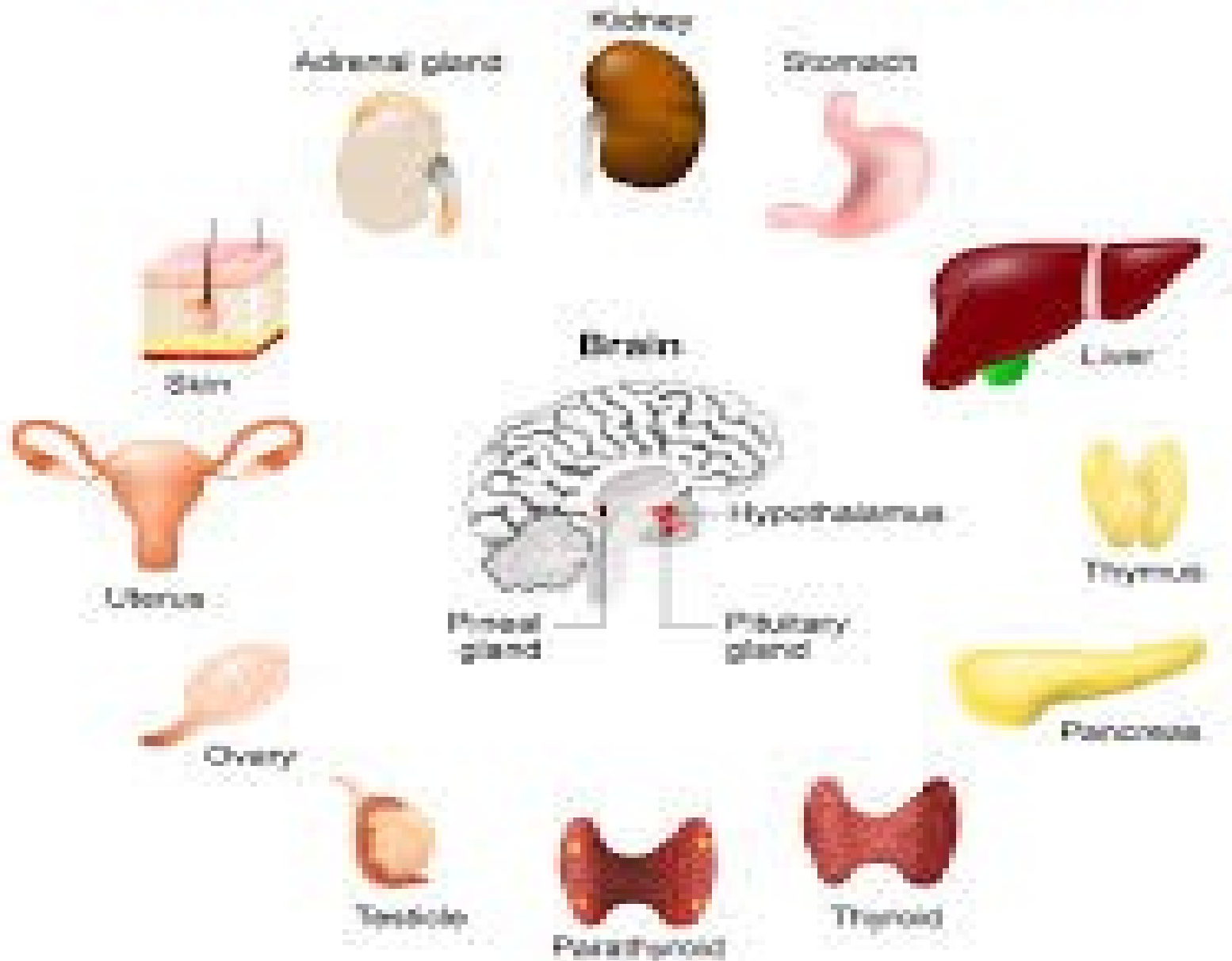
Pancreas

Ovaries  
(female)

Testes  
(male)



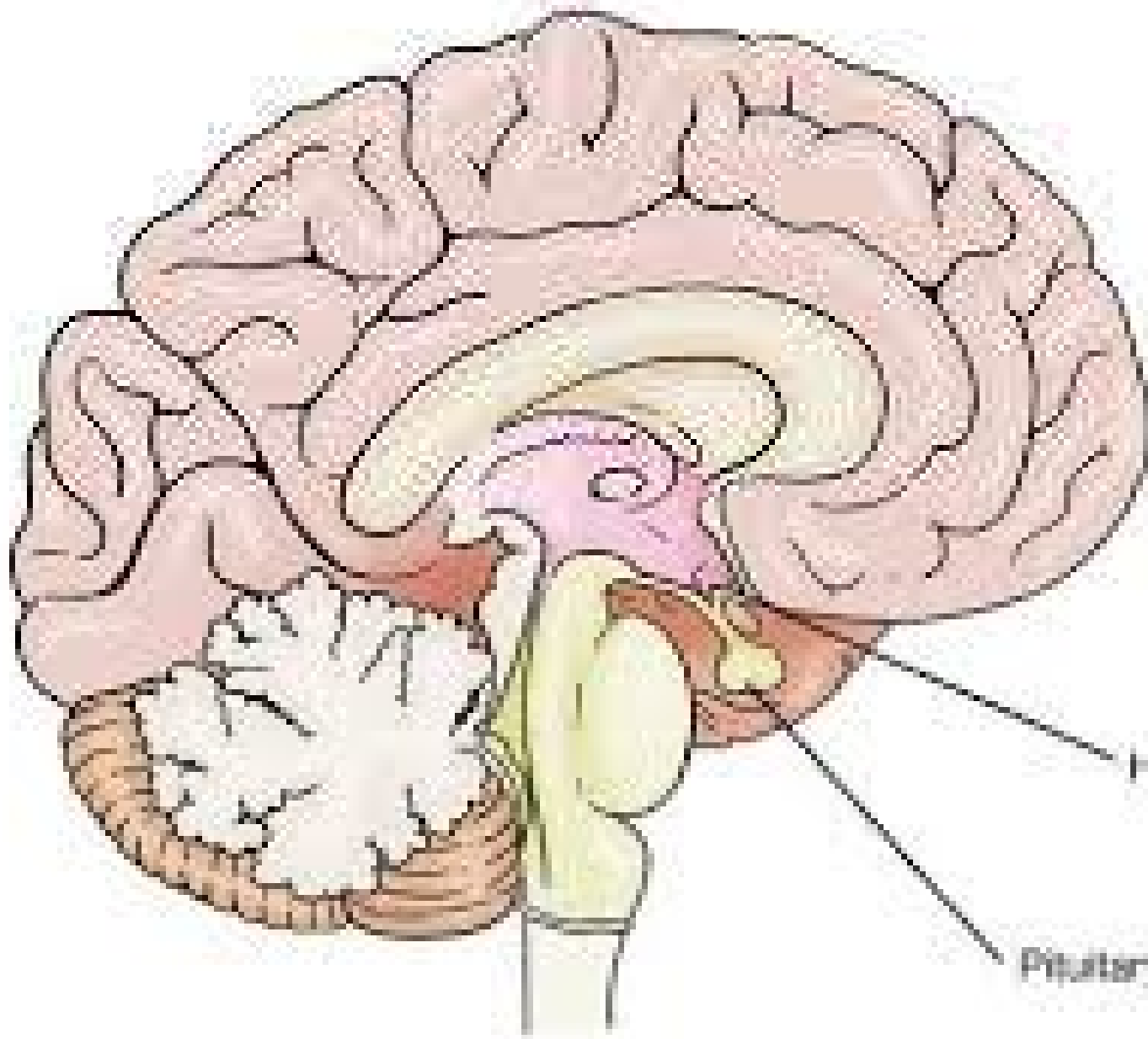
# ENDOCRINE SYSTEM





# HYPOTHALAMUS

- This organ connects our endocrine system with nervous system. Its main job is to tell our pituitary gland to start or stop making hormones.



Hypothalamus

Pituitary Gland

# PITUITARY GLAND

- **Pituitary Gland is called Master Gland. The primary role of the pituitary gland is an important link between the nervous system and the endocrine system. It releases many hormones which affect growth, metabolism, sexual development and the reproduction system. It is connected to the hypothalamus and is about the size of a pea. It is located in the center of the skull, just behind the bridge of Hindbrain**

## Pituitary gland Cont..

- ①. It makes many important hormones, including growth hormone; prolactin, which helps breastfeeding moms make milk; and luteinizing hormone, which manages estrogen in women and testosterone in men.

# PINEAL GLAND

- **Pineal gland** - It makes a chemical called melatonin that helps our body get ready to go to sleep.

# THYROID GLAND

- ◎ This gland makes thyroid hormone, which controls your metabolism. If this gland doesn't make enough (a condition called hypothyroidism), everything happens more slowly. Your heart rate might slow down. You could get constipated. And you might gain weight.

## Yhy... Cont..

- If thyroid gland makes too much (hyperthyroidism), everything speeds up. Your heart might race. You could have diarrhea. And you might lose weight without trying.

## PARATHYROID GLAND

- This is a set of four small glands behind thyroid. They play a role in bone health. The glands control your levels of calcium and phosphorus.



# THYMUS

- ◎ This gland makes white blood cells called T-lymphocytes that fight infection and are crucial as a child's immune system develops. The thymus starts to shrink after puberty.

# ADRENALS

- Best known for making the "fight or flight" hormone adrenaline (also called epinephrine), these two glands also make hormones called corticosteroids. They affect our metabolism and sexual function, among other things.

# PANCREAS

- **Pancreas**. This organ is part of both your digestive and endocrine systems. It makes digestive enzymes that break down food. It also makes the hormones **insulin** and **glucagon**. These ensure you have the right amount of **sugar** in your bloodstream and your cells.

# OVARIES

- In women, these organs make estrogen and progesterone. These hormones help develop breasts at puberty, regulate the menstrual cycle, and support a pregnancy.

# TESTES

- In men, the testes make testosterone. It helps them grow facial and body hair at puberty. It also tells the penis to grow larger and plays a role in making sperm.

# THE ENDOCRINE SYSTEM

## HYPOTHALAMUS

Regulates hunger, thirst, sleep and weight of body, plus most of your involuntary mechanisms including body temperature.

## THYROID GLANDS

Regulates your energy and your metabolism.

## PANCREAS

Aids in the digestion of proteins, fats and carbohydrates. Produces insulin which controls blood sugar levels.

## OVARIES

Influences how your blood circulates and determines your mental vigor and your sex drive. (Testes in males.)

**METABOLISM** - The conversion of nutrients into energy and building materials to meet your body's needs.

## RETICULAR GLAND

Controls all other endocrine glands; influences growth, metabolism and regeneration.

## PARATHYROID GLANDS

Secretes the hormones necessary for calcium absorption.

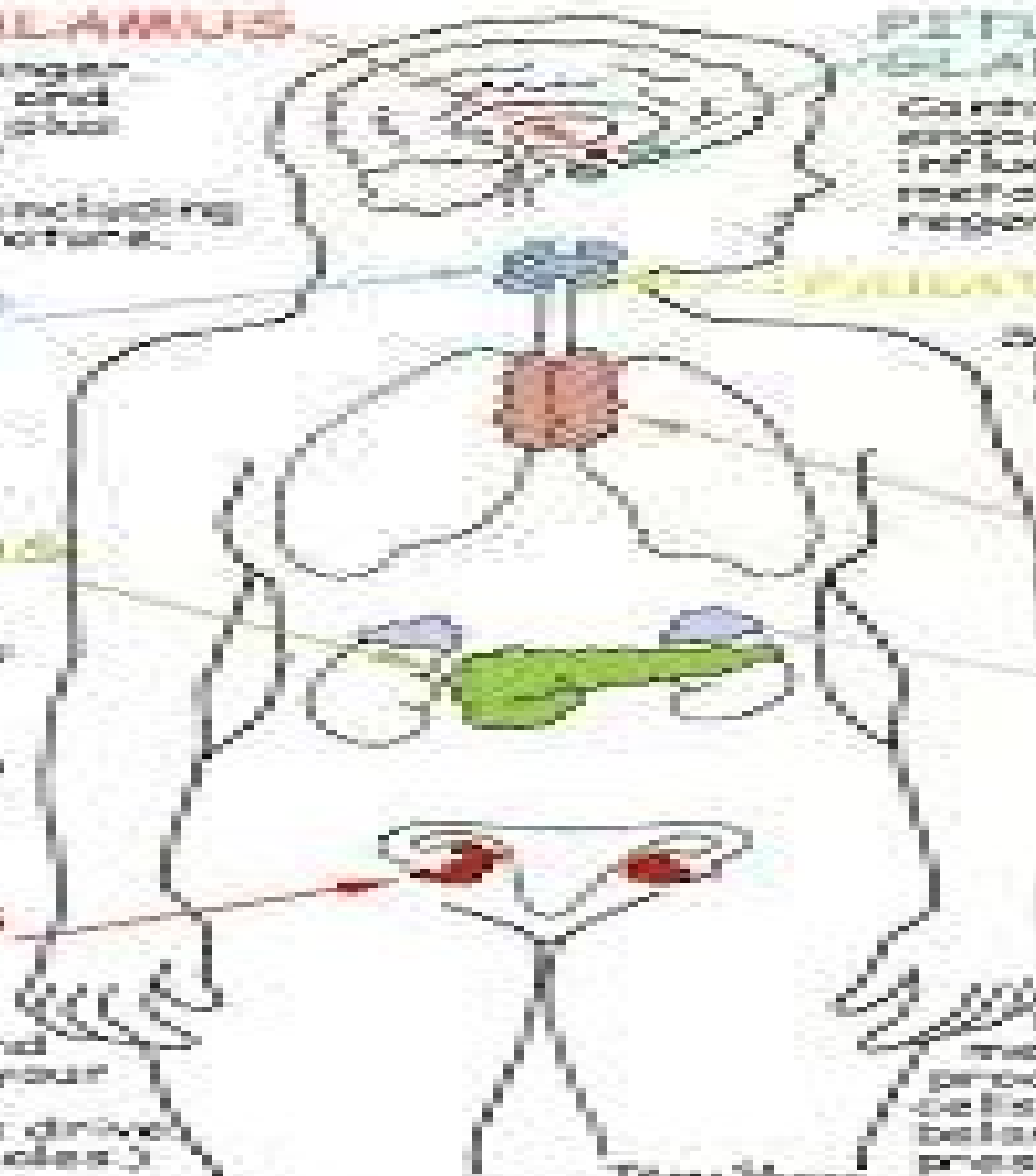
## THYMUS

Helps build resistance to disease.

## ADRENAL GLANDS

Secretes hundreds of compounds including cortisone & adrenaline which helps you react to emergencies.

Regulates your metabolic processes in the cells, water balance, blood pressure, etc.



True Blood

# PROBLEM

- ⦿ Hormone levels that are too high or too low indicate a problem with the endocrine system. Hormone diseases also occur if your body does not respond to hormones in the appropriate ways. Stress, infection and changes in the blood's fluid and electrolyte balance can also influence hormone levels,.