

**RRB JE | SSC JE 2023 | SSC Phase 11**

**एक नई शुरुआत**

**Science**

**Glands and Hormones**

**( सीखें मजेदार तरीके से )**



**ZERO TO HERO SERIES**



**A**  
**ENGINEERS**

**By DeepMani sir**

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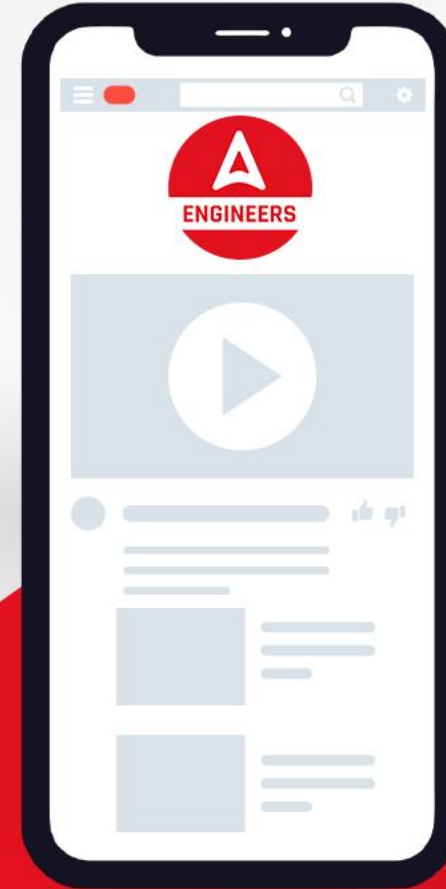


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**Q. Our bones and teeth are generally made of :**

- (a) Tricalcium Phosphate**
- (b) Fluoropetite**
- (c) Chloropetite**
- (d) Hydrolith**

**प्र. हमारी हड्डियाँ और दाँत सामान्यतः बने होते हैं:**

- (ए) ट्राइकैल्शियम फॉस्फेट**
- (बी) फ्लोरोपेटाइट**
- (सी) क्लोरोपेटाइट**
- (डी) हाइड्रोलिथ**



Kiran Kumari 19 hours ago

Our bones and teeth are generally made up of Tricalcium Phosphate. Tricalcium phosphate is a calcium salt of phosphoric acid with the chemical formula  $\text{Ca}_3(\text{PO}_4)_2$ .  
Thanku sir 😊.

👍 1       Reply

**D** Deepmani 1 second ago  
Absolutely correct 😊

👍    Reply



Babita Kumari 19 hours ago

Options -(A).... Thank you so much sir 🙏🙏🙏🙏🙏🙏🙏🙏🙏🙏🙏🙏🙏🙏🙏🙏

👍 2       Reply

**D** Deepmani 1 second ago  
Absolutely correct 😊

👍    Reply



sachin Biradar 12 hours ago

Ans:(A)Tricalcium Phosphate  
It is also known as tribasic calcium phosphate and bone phosphate of lime

Akshay Vishwakarma 19 hours ago  
AA

👍 1       Reply

**D** Deepmani 1 second ago



SWAGATIKA KHATOI 14 hours ago

AA, ye saab sessions bahut effective hai sir( concepts + mcqs), tq so much sir 🙏🙏

👍 1       Reply

**D** Deepmani 0 seconds ago  
Absolutely correct and thanks 😊

👍    Reply



Dharmraj Kumar 19 hours ago

Made mostly of collagen, bone is living, growing tissue. Collagen is a protein that provides a soft framework, and calcium phosphate is a mineral that adds strength and hardens the framework

👍 1       Reply

**D** Deepmani 1 second ago  
Absolutely correct 😊

👍    Reply



Amit Kumar 19 hours ago (edited)

A  
Tricalcium Phosphate



Ravi Raj 19 hours ago

Aaaa pr tala lagaeye 🗝️🗝️🗝️🗝️

👍 1       Reply

**D** Deepmani 1 second ago

Q. Our bones and teeth are generally made of :

**(a) Tricalcium Phosphate**

(b) Fluoropetite

(c) Chloropetite

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प्र. हमारी हड्डियाँ और दाँत सामान्यतः बने होते हैं:

(ए) ट्राइकैल्शियम फॉस्फेट

(बी) फ्लोरोपेटाइट

(सी) क्लोरोपेटाइट

(डी) हाइड्रोलिथ

# HUMAN ENDOCRINE SYSTEM

## मानव अंतःस्रावी तंत्र

Gland → Hormone



**Ever wonder how do you wake up at the correct time without setting an alarm clock?**

**क्या आपने कभी सोचा है कि बिना अलार्म घड़ी लगाए आप सही समय पर कैसे जाग जाते हैं?**

Smallest Gland

Pineal Gland

Miletonin

Name

Hormone

Chemicals

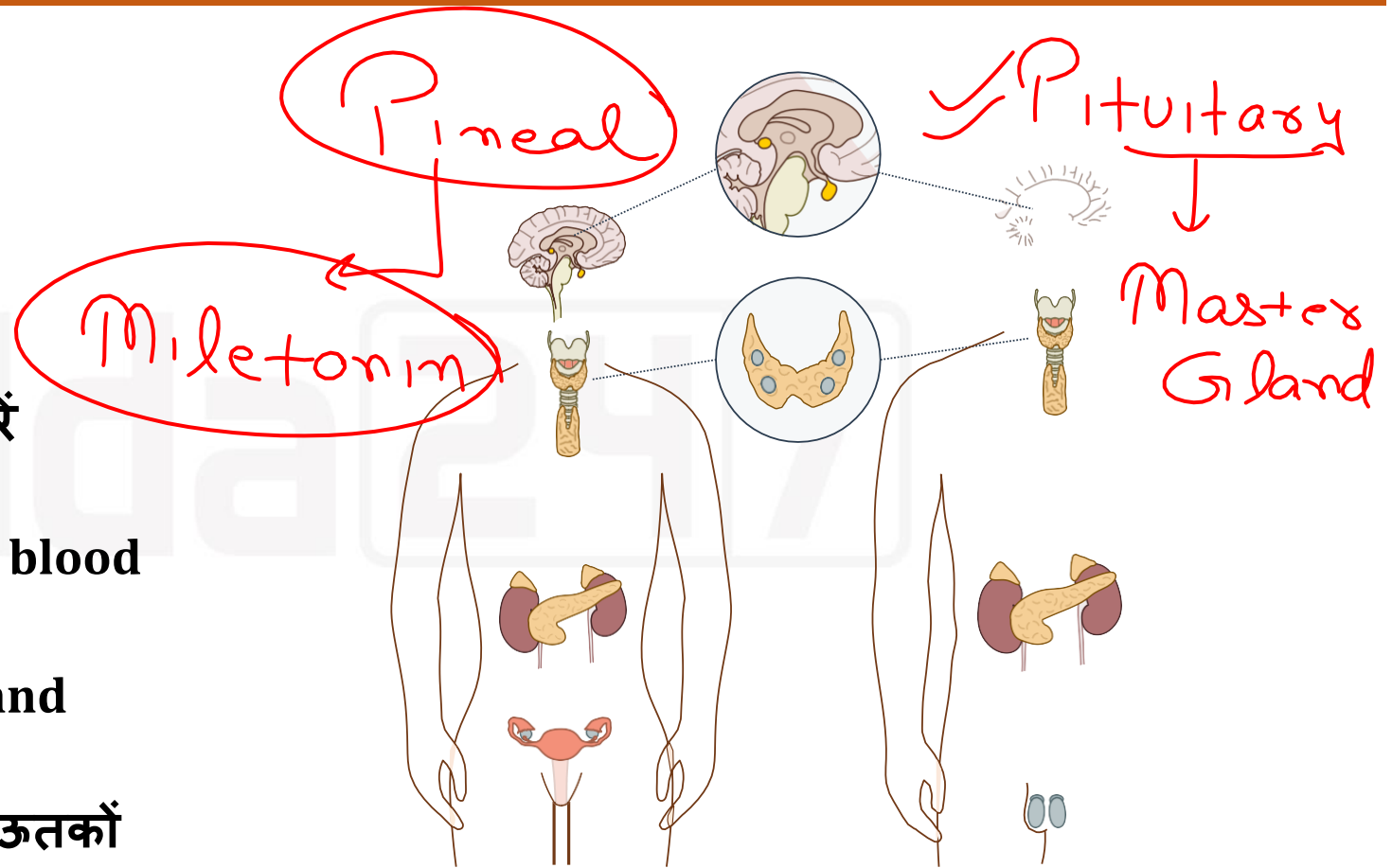
Staxling

\*\*  
Austroalia  
→ Muxxay  
→ Daxling

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# HORMONES

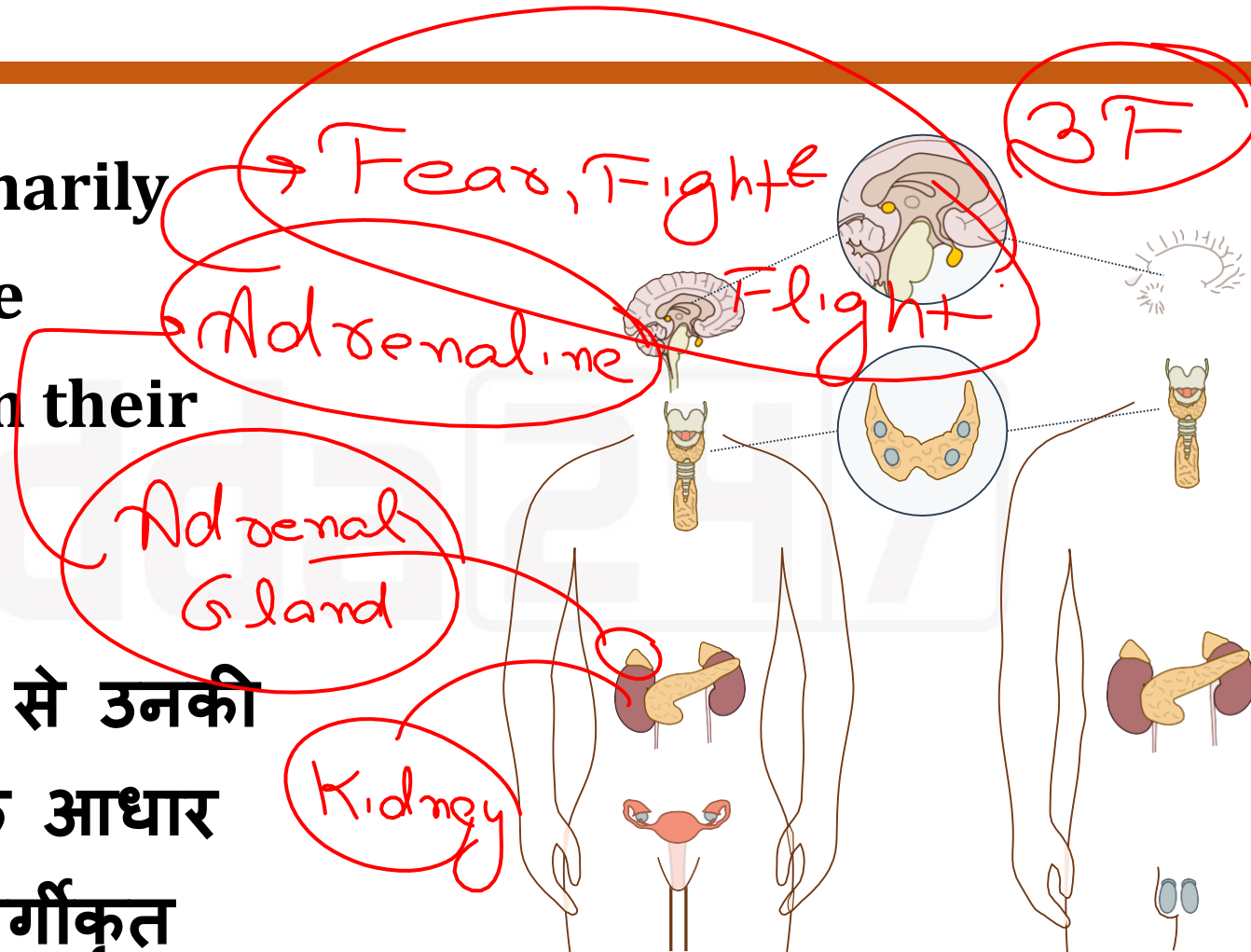
- **Hormones** are non-nutrient chemicals
- हार्मोन गैर-पोषक रसायन हैं
- Act as intracellular messengers
- इंद्रासेल्युलर दूतों के रूप में कार्य करें
- Produced in trace amounts
- Hormones are released into the blood
- रक्त में हार्मोन जारी होते हैं
- Transmitted to various organs and tissues of the human body
- मानव शरीर के विभिन्न अंगों और ऊतकों में प्रेषित



## Hormones Excreted By Various Glands

# HORMONES

- Hormones are primarily classified into three categories based on their chemical structure
- हार्मोन को मुख्य रूप से उनकी रासायनिक संरचना के आधार पर तीन श्रेणियों में वर्गीकृत किया गया है।



*Hormones Excreted By Various Glands*

# HORMONES

SR NO.	HORMONE	EXAMPLE
1.	Lipid derived Hormones लिपिड व्युत्पन्न हार्मोन ✓	<ul style="list-style-type: none"><li>• Cortisol (कोर्टिसोल) ✓</li><li>• Aldosterone (एल्डोस्टीरोन) ✓</li></ul>
2.	Amino Acid-Derived Hormones (अमीनो एसिड-व्युत्पन्न हार्मोन) ✓	<ul style="list-style-type: none"><li>• Epinephrine (एपिनेफ्रीन) ✓</li><li>• Norepinephrine (नोरेपाइनफ्राइन) ✓</li></ul>
3.	Peptide Hormone (पेप्टाइड हार्मोन)	<ul style="list-style-type: none"><li>• Insulin (इंसुलिन) ✓</li></ul>

# TYPES OF GLANDS

ग्रंथियों के प्रकार

## TYPES OF GLANDS

---

- There are 2 main types of secretory glands:
  - Exocrine glands (बहिःस्रावी ग्रंथि)
  - Endocrine glands (अन्तःस्रावी ग्रन्थि)

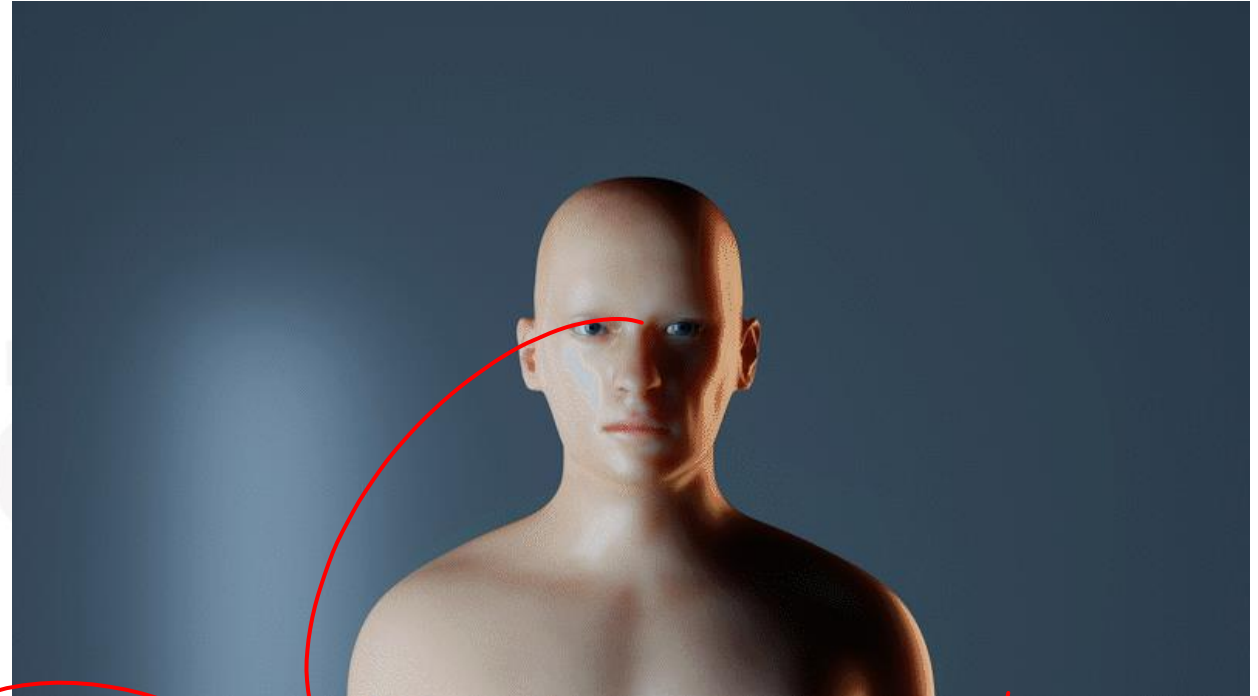
Hormones

## ENDOCRINE GLANDS

- Secrete their respective substances directly into the bloodstream rather than through a duct *Ductless*
- अपने संबंधित पदार्थों को एक वाहिनी के बजाय सीधे रक्तप्रवाह में स्रावित करें

### Examples:

- Thyroid (थाइरोइड)
- Pituitary (पिट्यूटरी/पीयूष)



*ग्रीवा*  
*एंडो*

Thyroxine / Iodine



# EXOCRINE GLANDS

- Secretions through ducts

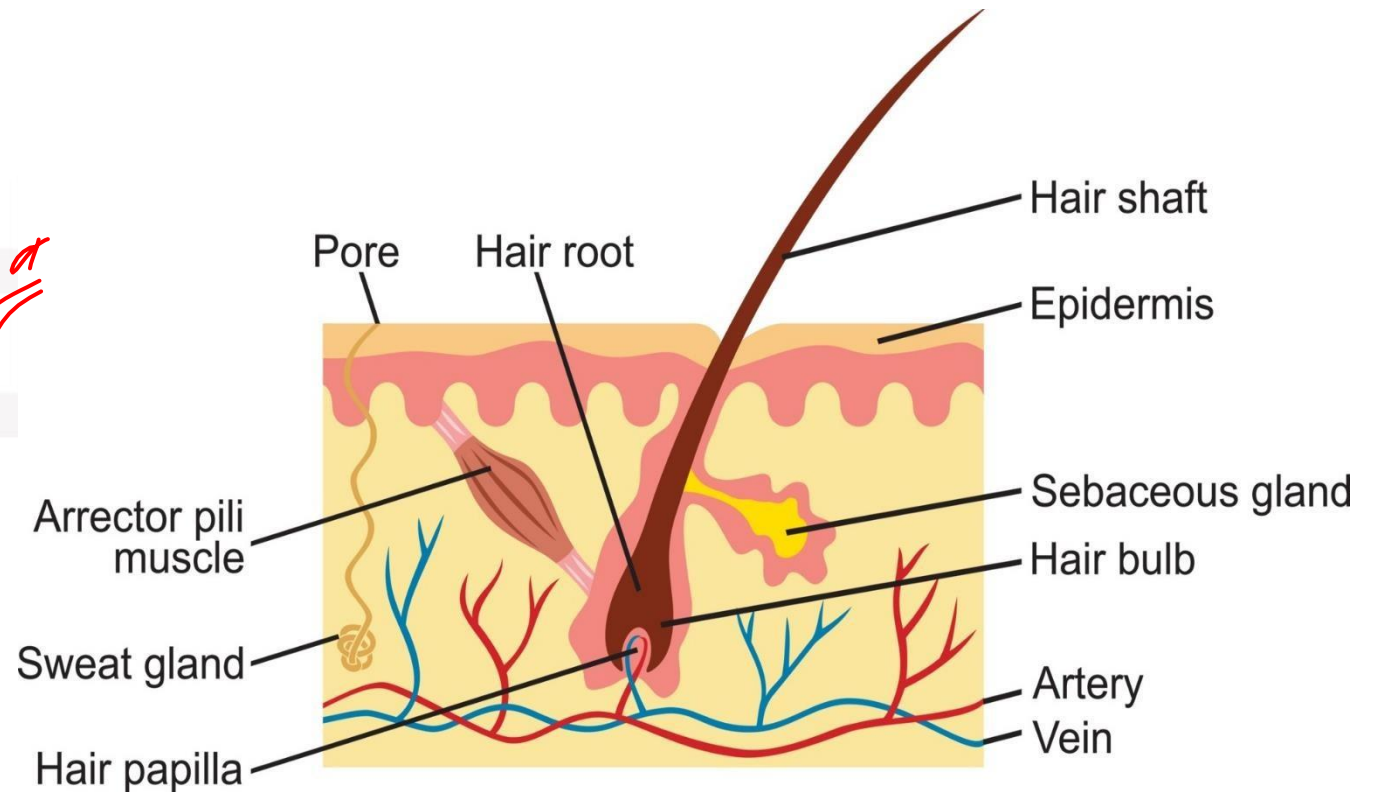
## Examples:

- Sweat glands (प्रस्वेद ग्रंथि)
- Lacrimal glands (अश्रु-ग्रंथि)

Sweat

Tear

*Sweat Gland*



# ENDOCRINE GLANDS

SR NO.	GLAND	FUNCTION
1.	Pituitary gland (पीयूष ग्रंथि)	<ul style="list-style-type: none"> <li>Regarded as <u>master gland</u> (मास्टर ग्रंथि के रूप में माना जाता है)</li> <li>Controls the functions of all other glands (such as the adrenal, thyroid glands)</li> <li>अन्य सभी ग्रंथियों के कार्यों को नियंत्रित करता है (जैसे अधिवृक्क थायरॉयड ग्रंथियां)</li> </ul>
2.	Thyroid gland (थाइरॉयड ग्रंथि)	<ul style="list-style-type: none"> <li>Secretes thyroid Hormones like T3 and T4</li> <li>T3 और T4 जैसे थायराइड हार्मोन को स्रावित करता है</li> </ul>
3.	Parathyroid gland (पैराथाइरॉइड ग्रंथि)	<ul style="list-style-type: none"> <li>Influence <u>calcium levels</u> in the body by producing Parathyroid Hormone</li> <li>पैराथायरायड हार्मोन का उत्पादन करके शरीर में कैल्शियम के स्तर को प्रभावित करता है</li> </ul>

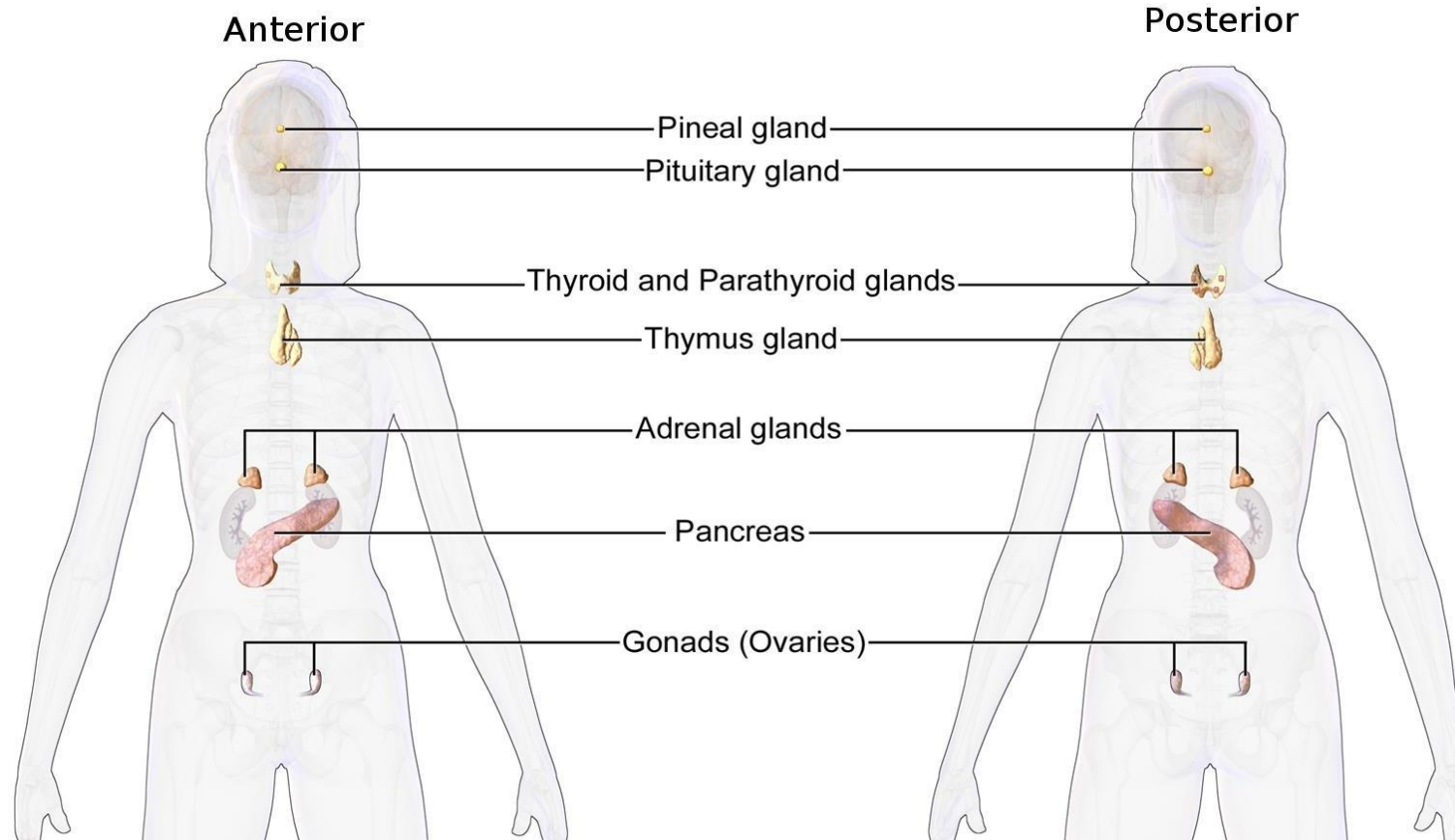
## ENDOCRINE GLANDS

SR NO.	GLAND	FUNCTION
4.	Adrenal glands	<ul style="list-style-type: none"> <li>• Secretes Adrenaline, which triggers the flight or fight response</li> <li>• एड्रेनालाईन स्रावित करता है, जो उड़ान या लड़ाई की प्रतिक्रिया को ट्रिगर करता है</li> </ul>
5.	<del>Pancreas</del> (अग्न्याशय) (Insulin)	<ul style="list-style-type: none"> <li>• Insulin is produced by the <math>\beta</math> cells in the pancreas</li> <li>• अग्न्याशय में B कोशिकाओं द्वारा इंसुलिन का उत्पादन किया जाता है</li> <li>• Helps in regulating blood glucose levels in the body</li> <li>• शरीर में रक्त शर्करा के स्तर को विनियमित करने में मदद करता है</li> </ul>
6.	Pancreas (Glucagon) अग्न्याशय (ग्लूकागन)	<ul style="list-style-type: none"> <li>• Glucagon is produced by <math>\alpha</math> cells of the pancreas</li> <li>• ग्लूकागन अग्न्याशय की <math>\alpha</math> कोशिकाओं द्वारा निर्मित होता है</li> <li>• Helps to prevent glucose levels from dropping too low</li> <li>• ग्लूकोज के स्तर को बहुत कम होने से रोकने में मदद करता है</li> </ul>

## ENDOCRINE GLANDS

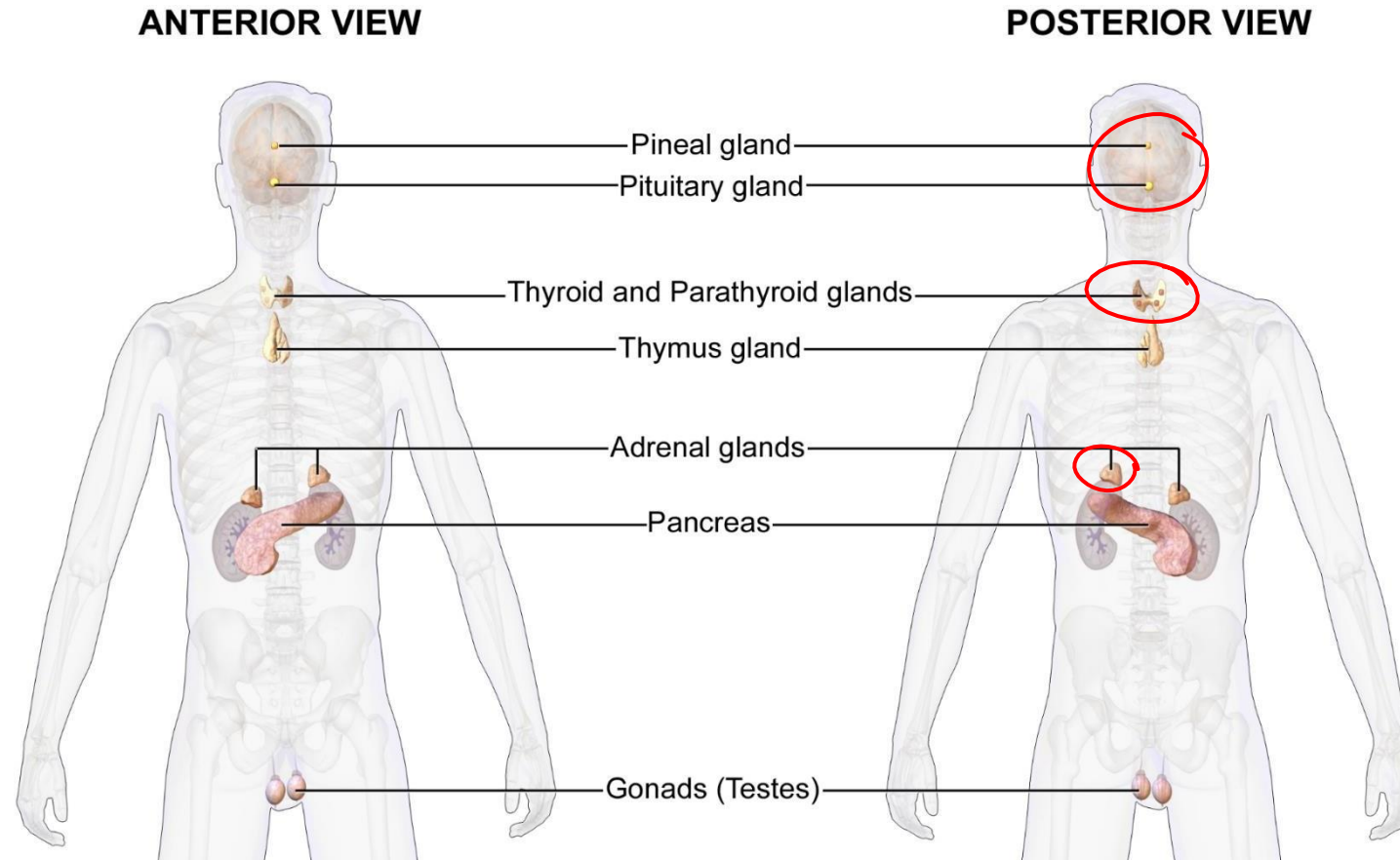
SR NO.	GLAND	FUNCTION
7.	<p><b>Gonads</b> <b>(Ovaries)</b> जननांग (अंडाशय)</p>	<ul style="list-style-type: none"> <li>• Produce estrogen important for reproduction and female sex characteristics</li> <li>• प्रजनन और महिला यौन विशेषताओं के लिए महत्वपूर्ण एस्ट्रोजेन का उत्पादन करें</li> </ul>
8.	<p><b>Gonads</b> <b>(Testes)</b> जननग्रंथि (वृषण)</p>	<ul style="list-style-type: none"> <li>• Produce <b>testosterone</b> that is responsible for male sex characteristics.</li> <li>• टेस्टोस्टेरोन का उत्पादन करता है जो पुरुष यौन विशेषताओं के लिए जिम्मेदार होता है।</li> </ul>
9.	<p><b>Pineal gland</b> (पीनियल ग्रंथि)</p>	<ul style="list-style-type: none"> <li>• Produces <b>melatonin</b> which influences the body's internal clock</li> <li>• मेलाटोनिन का उत्पादन करता है जो शरीर की आंतरिक घड़ी को प्रभावित करता है</li> </ul>

# FEMALE ENDOCRINE SYSTEM



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# MALE ENDOCRINE SYSTEM



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# PRACTICE QUESTIONS

अभ्यास प्रश्न

**Which of the following release sex hormone–**

**□**

**A. Adrenal gland**

**B. Thyroid gland**

**C. Pituitary gland**

**D. Sebaceous gland**



**Which of the following release sex hormone–**

**□**

**A. Adrenal gland**

**B. Thyroid gland**

**C. Pituitary gland**

**D. Sebaceous gland**

## Where Pituitary gland found in body-□

Master Gland

A. On the base of heart

B. In base of the brain

C. In neck

D. Abdomen

Pineal

**Where Pituitary gland found in body–□**

- A. On the base of heart**
- B. In base of the brain**
- C. In neck**
- D. Abdomen**

Which of the following gland regulate the body temperature or thermoregulatory.

□

A. Pineal gland

B. Pitutory gland

C. <sup>Thyroid</sup> ~~Avatu~~ gland

D. Hypothalamus

पितुवरी



Hunger, Thirst, Anger, Love

**Which of the following gland regulate the body temperature or thermoregulatory.**

**□**

- A. Pineal gland**
- B. Pitutory gland**
- C. Avatu gland**
- D. Hypothalamus**

Which is the center of human body  
regulate angry, water balance and body  
temperature-

□

A. Veins

B. Medula oblongata

C. Thalamus

 D. Hypothalamus 

**Which is the center of human body regulate angry, water balance and body temperature-**

**□**

- A. Veins**
- B. Medula oblongata**
- C. Thalamus**
- D. Hypothalamus**

In mammal largest gland found--

□

A. Hyoid gland

B. Liver

C. Pancreas

D. Spleen





In mammal largest gland found--

□

A. Hyoid gland

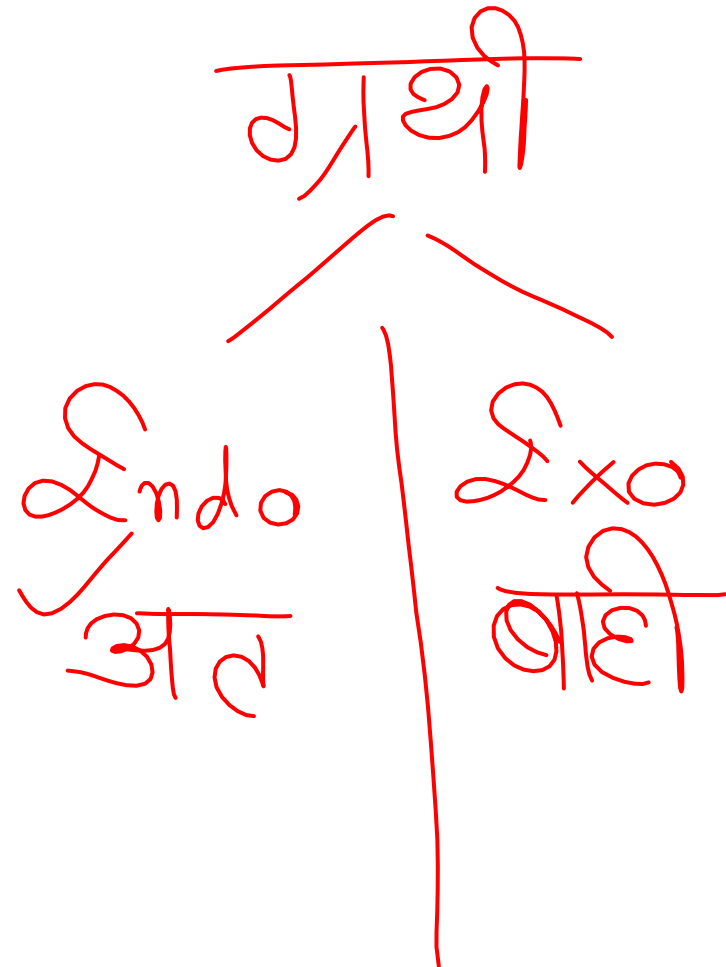
B. Liver

C. Pancreas

D. Spleen

In body which is the largest endocrine gland-

□



~~A. Thyroid~~

Thyroxine

~~B. Parathyroid~~

Parathormone

C. Adrenal

Adrenaline

D. Pituitary

Pineal

Love Hormone

ADH

Oxytocin

In body which is the largest endocrine gland–

□

- A. Thyroid**
- B. Parathyroid**
- C. Adrenal**
- D. Pituitary**

In which following endocrine gland found in neck?

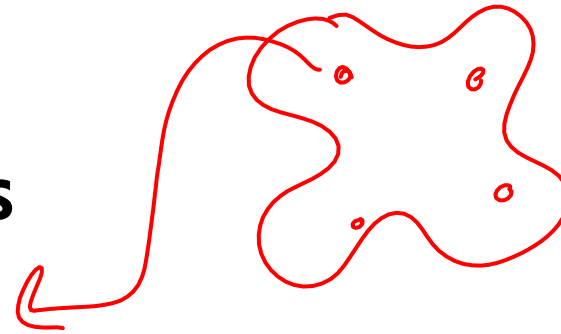
□

A. Pancreas

B. Thyroid

C. Pituitary

D. Adrenal cortex



**In which following endocrine gland found in neck?**

**□**

- A. Pancreas**
- B. Thyroid**
- C. Pituitary**
- D. Adrenal cortex**

Who discovered insulin–

□

- A. A.F. Banting**
- B. Edvard Jener**
- C. Ronald Ros**
- D. S.A. Vaxmen**

**Who discovered insulin–**

**□**

**A. A.F. Banting**

**B. Edvard Jener**

**C. Ronald Ros**

**D. S.A. Vaxmen**

Which gland in human body is related to excitement of body?

□

A. Thyroid Gland

B. Pancreas

C. Adrenal cortex

D. Pituitary

कोर्टिसी  
और  
एड्रेनलीन  
Adrenaline



**Which gland in human body is related to excitement of body?**

**□**

- A. Thyroid Gland**
- B. Pancreas**
- C. Adrenal cortex**
- D. Pituitary**

**During excitement, which hormone release higher amount–**

**□**

- A. Cortison**
- B. Serotonin**
- C. Adrenaline**
- D. Esterogen**

**During excitement, which hormone release higher amount–**

**□**

- A. Cortison**
- B. Serotonin**
- C. Adrenaline**
- D. Esterogen**

Which is male sex hormone?

□

A. Progesteron

B. Esterogen

C. Testestrone

D. Insulin

Female

Testes  
↳ Testesterson

**Which is male sex hormone?**

**□**

**A. Progesteron**

**B. Esterogen**

**C. Testestrone**

**D. Insulin**

\* The production of growth hormone is occurs.

□

Thyroxine

A. By thyroid gland

B. By Pituitary gland

C. By Gonad

D. By bone

ADH

Oxytocin

ADH

31015  
4124

**The production of growth hormone is occurs.**

**□**

- A. By thyroid gland**
- B. By Pituitary gland**
- C. By Gonad**
- D. By bone**

**Grave disease occurs due to–**

**□**

**A. Hyper secretion of thymus**

**B. Hyper secretion of thyroid**

**C. Hypo secretion of thymus**

**D. Hypo secretion of thyroid**



**Grave disease occurs due to–**

**□**

- A. Hyper secretion of thymus**
- B. Hyper secretion of thyroid**
- C. Hypo secretion of thymus**
- D. Hypo secretion of thyroid**

Which is pepsin releasing cells of stomach?

□

A. Acidic cell

B. Inlite cells

C. Chief cells

D. Spincter cells

→ Pepsin  
= Pepsin

Gastric / Oxyntic

Which is pepsin releasing cells of stomach?

□

- A. Acidic cell
- B. Inlite cells
- C. Chief cells
- D. Spincter cells

In Human throat, which is known as Adam's apple

□

**A.** Ciuoroid or Laryme Cartilage

**B.** Throat

**C.** Laryme

**D.** Thyroid Cartilage

**In Human throat, which is known as Adam's apple**

**□**

**A. Ciuoroid or Laryme Cartilage**

**B. Throat**

**C. Laryme**

**D. Thyroid Cartilage**

gdp  
Which of the following deficiency causes Goitre?

□

- A. Iron
- B. Sodium
- C. Potassium
- D. Iodine ✓✓

Thyroid  
↓  
Thyroxine

**Which of the following deficiency causes Goitre?**

**□**

**A. Iron**

**B. Sodium**

**C. Potassium**

**D. Iodine**

**The Pigment which given colour to Human body–**

**□**

**A. Melanin**

**B. Rhodopsin**

**C. Iodopsin**

**D. Anthrocyanin**



**The Pigment which given colour to Human body–**

**□**

- A. Melanin**
- B. Rhodopsin**
- C. Iodopsin**
- D. Anthrocyanin**

Diabetes mellitus occur due to lack of synthesis of hormone

□

Pancreas

↓  
Islets of Langerhans

- A. Insulin ✓
- B. Glucagon
- C. Thyroxine
- D. Androgen



**Diabetes mellitus occur due to lack of synthesis of hormone**

**□**

- A. Insulin**
- B. Glucagon**
- C. Thyroxine**
- D. Androgen**

Hw

Which one of the following is the smallest endocrine gland in human body?

□

- A. Adrenal
- B. Thyroid
- C. Pituitary
- D. Pancreas

