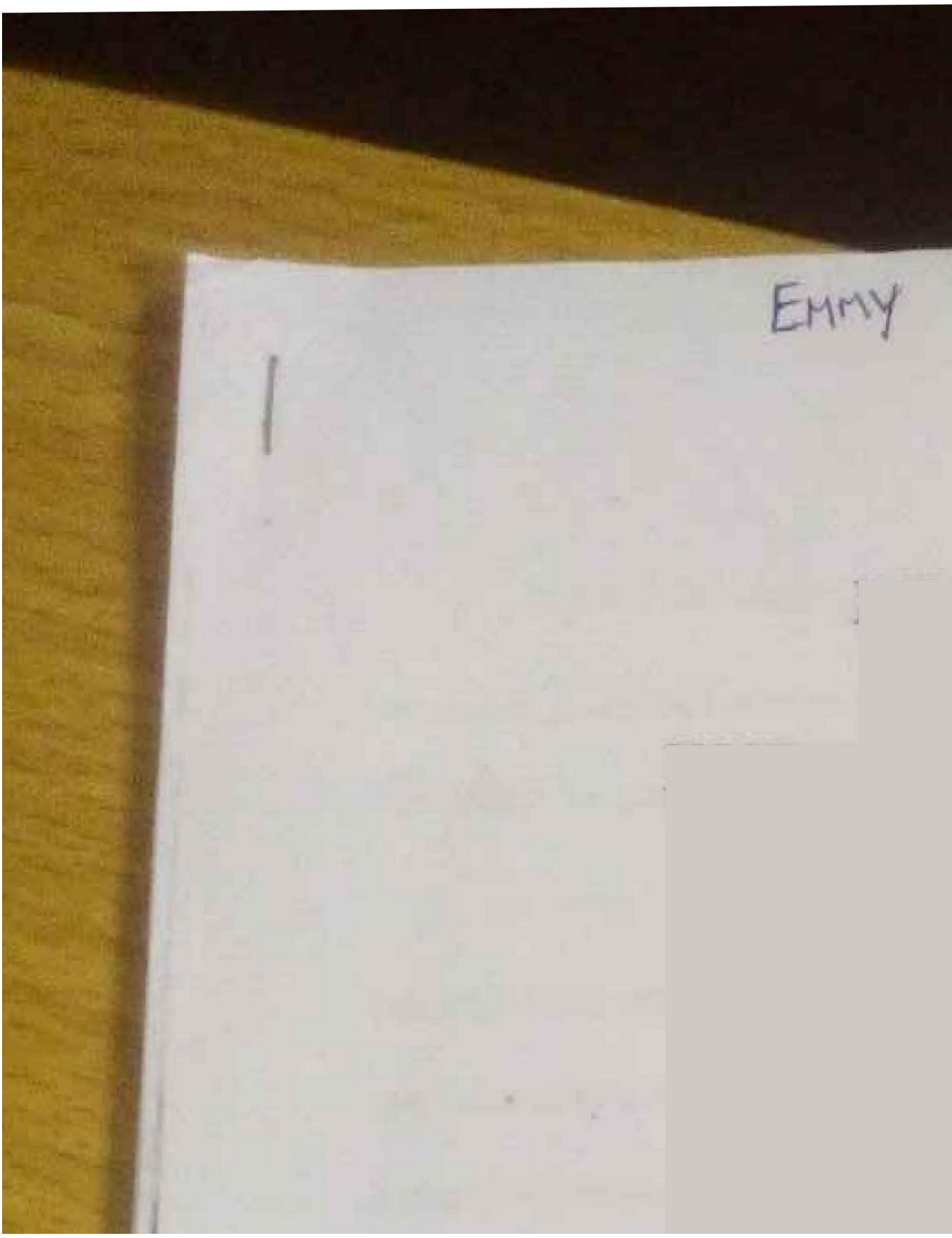
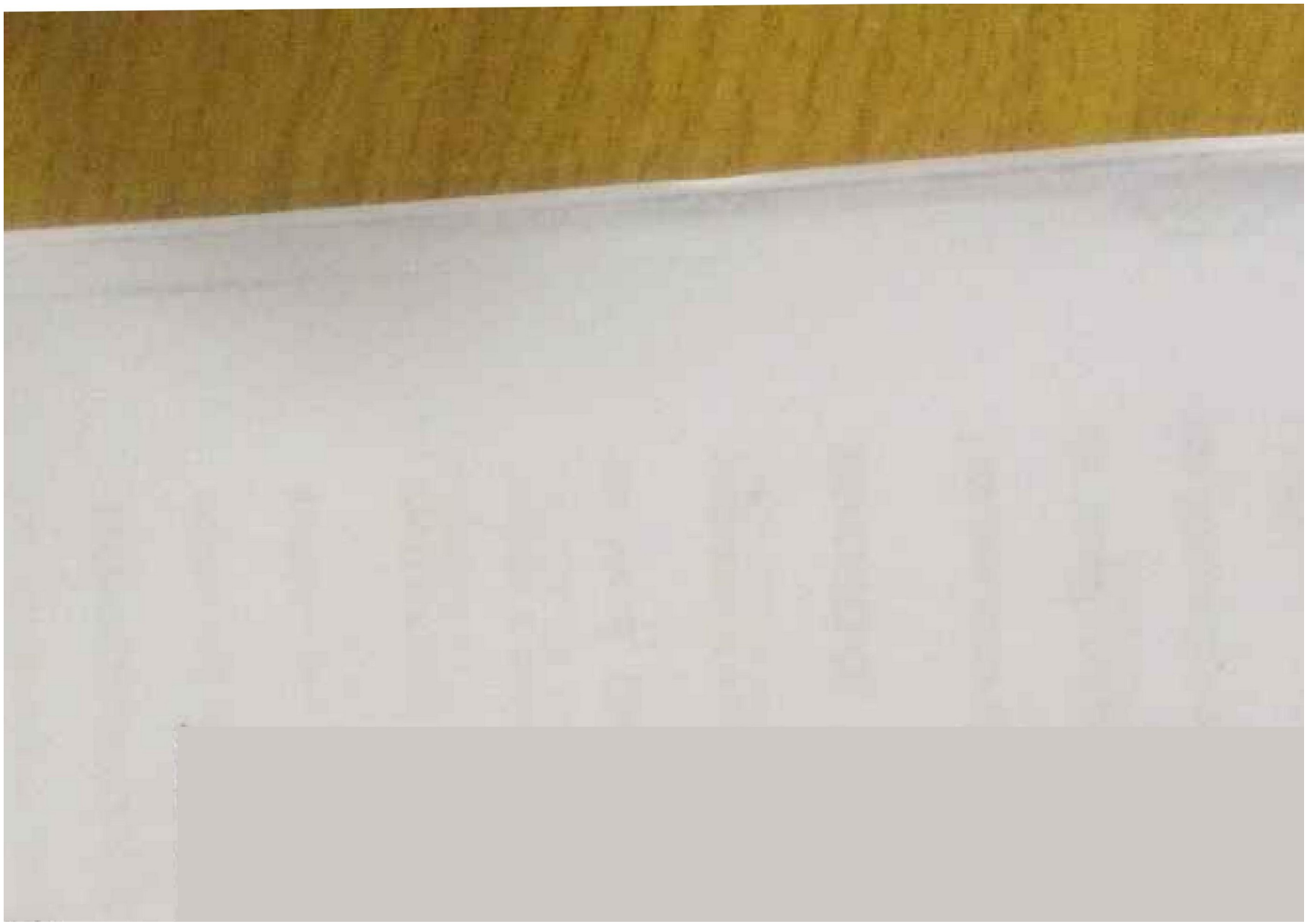

EMMY

LECTURE NOTE



ENDOCRINE PHYSIOLOGY
(END CRINOLOGY)
PCL 251
LECTUR
R DR. C.J. ONAH

EN
OVERVEIW
EISIDOCROIOLOGY: This is the understaning of hormone secretion, hormone action and principals of feedba k control. In other words the study of endocrine glands.

ENDOCRINE SYSTEM: It is system in which a group of secretor cells (glands) secrete a potent chemical trans Itter substance which is known as a hormone into ii
the blood. The transmitter is th n carried by the blood to the target cells where a response is elicited.

MECHANISMS OF HORMO ACTION
Group
• Hormone binds to the r ceptor molecule. The resulting hormone-protein complex then binds to INA and promotes the synthesis of RNA. When •

mRNA leaves the nueleu and enters the cytoplasm where it is translated to
4

3
F
protein moiecules4 For example T3, 1143 oestrogens, progesterone and testosterone
Group H
Jo Generaly act through c
Bind to all surface receipt° before they stimulate release of 2nd messengers which will then perform bi logical functions of these hormones eg. ACTH, FSH, LH, TRH, Gralii
Hormones are vent potent ubstances as very small amounts have profound effects in metabolic processi
CLASSIFICATION OF HORIVI NES

1. Amines -11' derived from it odificatioil of Amino acids egg, melatonin, Thyroid horm•nes and catecholamines.
2. Peptides—w. made up of on a few amipo acid residues e. e, oxytocin, vasopressin
I Steroid Derived from olesterol c.g sex hormones, adrenal cortex hormones
4. Protein Are built up fro large amino acid residues e.g Insulin, Ghucagon, SornItotropins

4

4
•
5. Glycoprotein Are Coirgated proteins bound to carbonhydrates eg LH, FAH, T

6. Ecosanoide Made u
POINTS OF ENTEREST

- Some organs in the Endo functions in other systems
- A single gland may secret of small fatty acid derivatives e.g prostaglandins,

rifle system are involved in and have numerous
.g1 Testis and adrenal glands.
mpitiple hormones reflecting different types of

endocrine glands in the same gland erg, Anterior pituitary and pancreas.

- In a few cases a single call may secrete more than one hormone e.g. Anterior

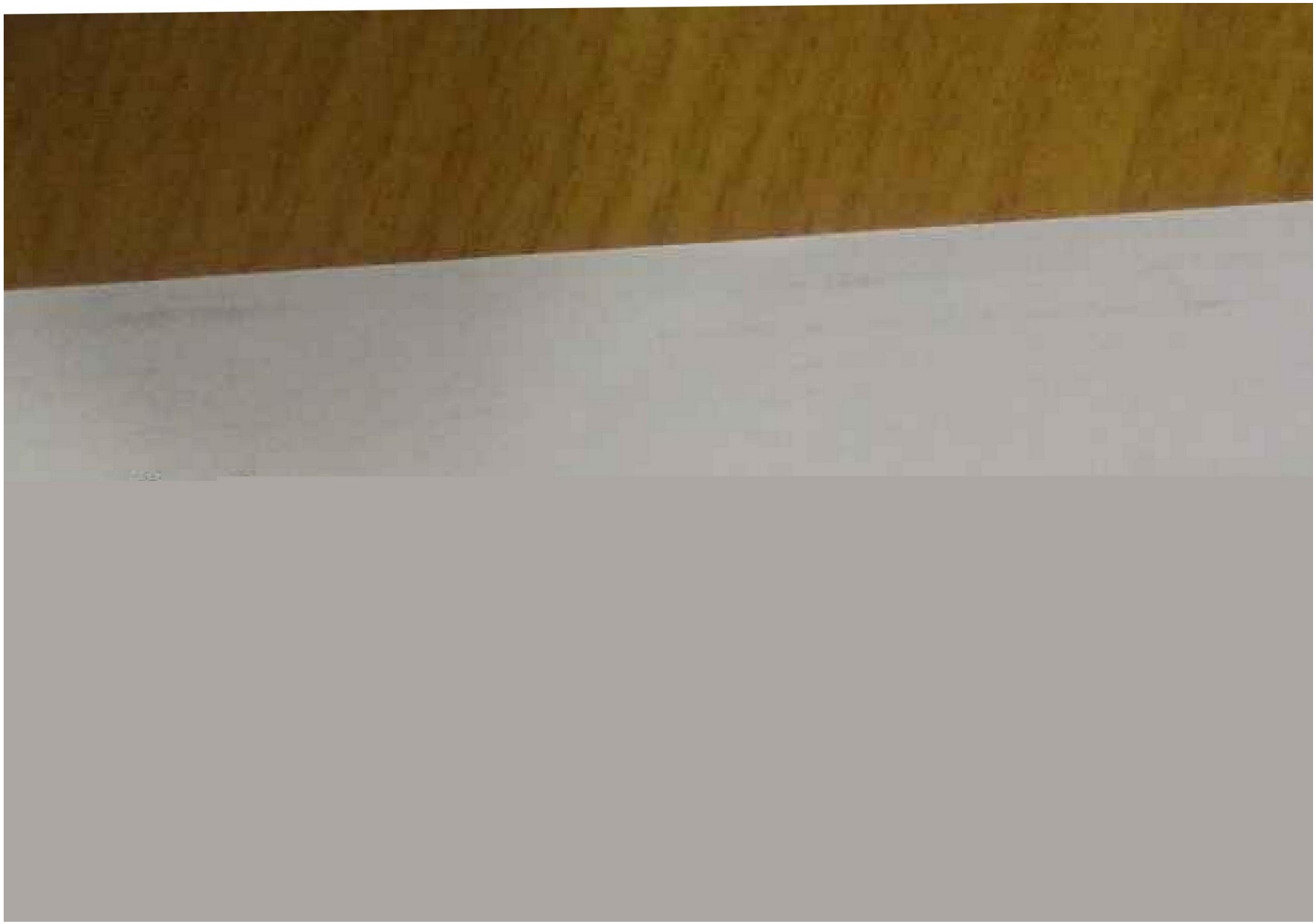
1
pituitary Gland-LH and FSH,
4.

- A particular hormone may

be produced by numerous endocrine glands e.g.
Sex hormones and adrenal Fortex.

- Ail hormone secreted from rdocrine glands (ductless) are transported in the

I
blood.
I Endocrine system is regul
back) using releasing Norm
exarnplilied in the pitu.rary
ted by a reed back mechanism (negative feed
nes TRH, GraFT. etc). This mechanism is well
well vasoularized).
•



MAJOR ENDOCRINE GLANDS

1. Pineal gland : Located the brain and produces tnelatonin which functions to convey information c ■ neerning the daily cycle of light and darkness to the body and also involved reproductive development.

2. Hypothalamus; Located the lower central part on the brain.

It is an organ that connects the ndocrine system to the Nervous system.

Important in regulating satiety, ietabolism and body temperature

e.g Thyrotropin Releasing HQ one TRH —TSH

Corticotropin Releasing facto CRF —ACTH,

-Growth Hormone Releasing fi mime GHERJ-I

-Gonadotropin Release Horm.o e GnRH

3. Pituitary Gland

* Located a-t the base of 11) brain beneath the hypothalamus (Size small like a pea) Diameter connected to hypothalamus by a stalk called infundibulum.

- Very important as it prod ices hormones that control many functions of other

endocrine glands,

- It consists of Anterior and posterior pituitary lobes.