

Dr. Rajesh Verma, Assistant profe-  
-ssor and Head, U.G.

Department of Zoology, D.K.  
College Durgam Cheruvu, Notes  
for Bsc part 3<sup>rd</sup>, paper V.

Q. :- Write notes on THYROID  
GLAND.

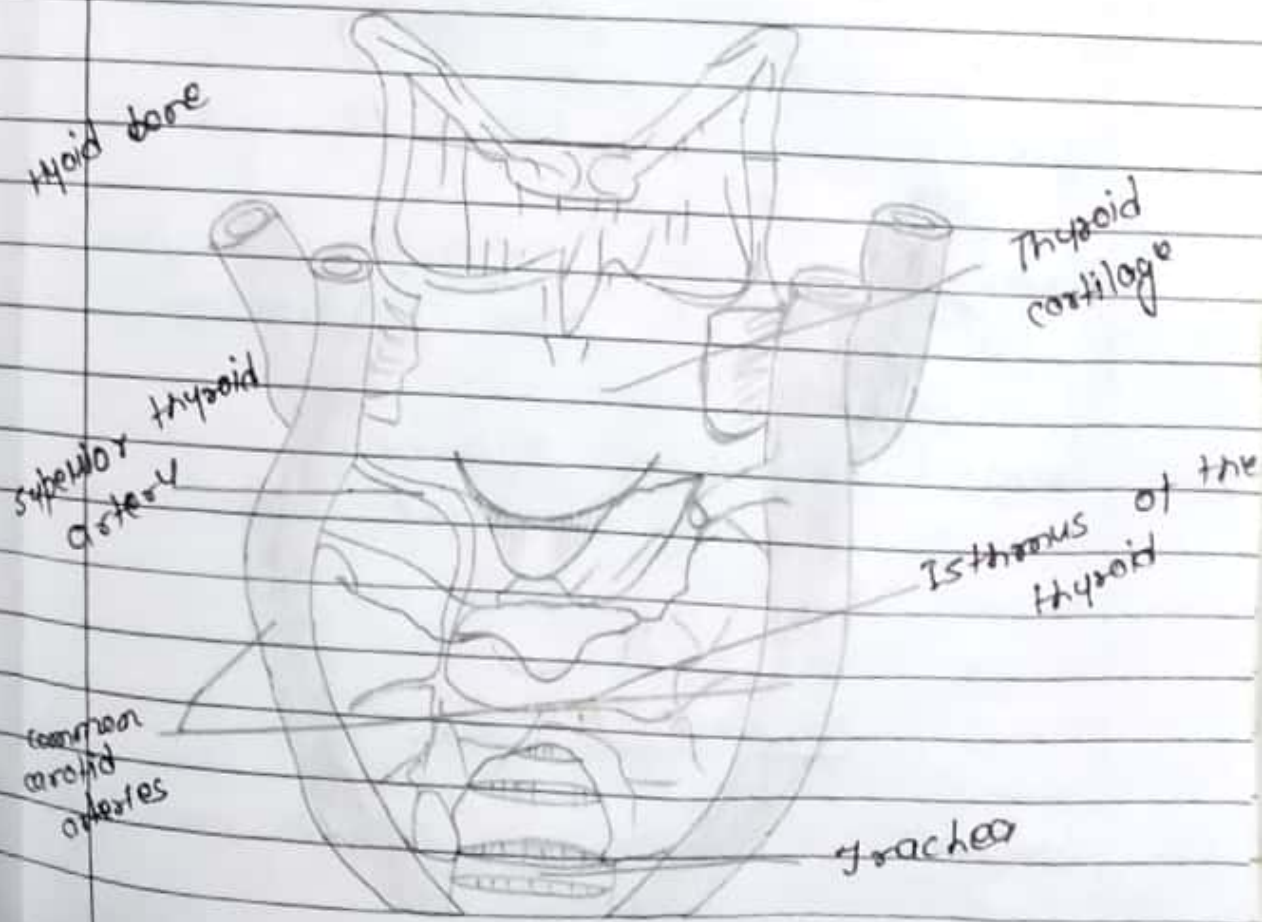
Ans. :- Thyroid :-

The thyroid or  
thyroid gland, is an endocrine  
gland in the neck consisting  
of two connected lobes.

The lower two thirds of the  
lobes are connected by a thin  
band of tissue called the  
thyroid isthmus. The thyroid is  
located at the front of the  
neck, below the Adam's apple.

Microscopically, the functional unit  
of the thyroid gland is the  
spherical thyroid follicle, lined  
with follicular cells (thyrocytes),  
and occasional parafollicular cells  
that surround a lumen con-  
-taining colloid. The thyroid  
gland secretes three hormones:  
two thyroid hormones - triiodothy-  
-roxine ( $T_3$ ) and thyroxine ( $T_4$ ) -

and a peptide hormone, calcitonin. The thyroid hormones influence the metabolic rate and protein synthesis, and in children, growth and development. Calcitonin plays a role in calcium homeostasis. Secretion of the two thyroid hormones is regulated by thyroid-stimulating hormone (TSH), which is secreted from the anterior pituitary gland. TSH is regulated by thyrotropin releasing hormone (TRH), which is produced by the hypothalamus.





Thyroid



Details

Pronunciation

/ˈθaɪrɔɪd/

Precursor

Thyroid diverticulum  
 an extension of  
 endoderm into and  
 pharyngeal arch

System

Endocrine system

Artery

superior, inferior  
 thyroid arteries

vein

superior, middle,  
 inferior thyroid veins

Identifiers

Latin

Glandula thyroidea

MOSH

D013961

TA

A11.8.00.001

FMA

9603

The thyroid gland develops in the floor of the pharynx at the base of the tongue at 3-4 weeks gestation; it then descends in front of the pharyngeal gut, and ultimately over the next few weeks, it migrates to the base of the neck. During migration, the thyroid remains connected to the tongue by a narrow canal, the thyroglossal duct. At the end of the fifth week the thyroglossal duct degenerates, and over the following two weeks the detached thyroid migrates to its final position.

History :-

Antiquity :-

The presence and diseases of the thyroid have



been noted and treated for thousands of years. In 1600 BCE burnt sponge and seaweed (which contain iodine) were used within China for the the treatment of goitres, a practice which has developed in many parts of the world. In Ayurvedic medicine, the book Sushruta Samhita written about 1400 BCE described hypothyroidism, hypothyroidism and goitre. Aristotle and Xenophon in fifth century BCE describe cases of diffuse toxic goitre. Hippocrates and Plato in the fourth century BCE provided some of the first descriptions of the gland itself, proposing its function as a salivary gland. Pliary the Elder in the first century BCE referred to epidemics of goitre in the Alps and proposed treatment with burnt seaweed. A practice also referred to by Galen in the second century, referred to burnt sponge for the treatment of goitre.