

HUMAN ENDOCRINOLOGY

Semester	Subject Code	Category	Lecture		Theory		Practical	Credits
			Hrs/ week	Total Hours/ Semester	Hrs/ week	Total Hours/ Semester		
V	21CZO5E	Elective-II	4	60	4	60	Nil	3

COURSE OBJECTIVES:

- To learn about various endocrine glands and the hormonal regulation
- To gain knowledge about deformities of hormonal imbalance.

COURSE OUTCOMES (CO)

On the successful completion of the course, students will be able to:

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	Students will develop knowledge about the master gland and its control over other hormone secreting glands.	K2 , K3
CO2	students will able to identify the abnormalities of thyroid and parathyroid disfunction.	K2, K3
CO3	Students gets an awareness on the cause and effects of Diabetes mellites	K2,
CO4	Students will learn to control the stress level.	K3, K4
CO5	Students apply their knowledge in understanding hormonal variations in different stages of their life.	K3,K4

Knowledge Level: K1- Remember; K2 – Understand; K3 – Apply; K4 – Analyze.

MAPPING WITH PROGRAMME OUTCOMES

COS	PO1	PO2	PO3	PO4	PO5
CO1	S	S	M	S	S
CO2	S	S	S	M	M
CO3	M	S	S	S	S
CO4	S	S	S	S	S
CO5	S	M	S	S	S

S- Strong; M – Medium; L- Low

Distribution of Marks: Theory 100% and Problems Nil %

UNIT – I

SCOPE AND INTRODUCTION OF ENDOCRINOLOGY

(12 Hours)

Structure of hypothalamus and Pituitary gland – Adenohypophysis, Neurohypophysis and Pars Intermedia. Hormonal secretions of anterior and posterior Pituitary Gland. Hypothalamic Hypophyseal portal system and its regulation for release of Pituitary hormones. Abnormalities of Pituitary Secretions-Dwarfism, Gigantism, Acromegaly, Diabetes insipidus. Pineal gland and its functions.

UNIT – II

THYROID AND PARATHYROID GLAND

(12 Hours)

Structure and functions of Thyroid Gland. Regulation of Thyroid secretion, Hyper and Hypo secretion of Thyroid Gland -Thyroxine dysfunctions -Goiter, Cretinism, Myxoedema and Grave's disease Biosynthesis of Thyroid hormones. Structure of Parathyroid glands and Biological actions of Parathormones, Parathyroid dysfunctions- Hypo and Hyper secretion

UNIT – III

ISLETS OF LANGERHANS

(12 Hours)

Structure of Islets of Langerhans-Alpha and Beta cells, Biological Action of Insulin and glucagon, Regulation of Insulin secretion, physiological effects of hypo and hyper secretion of insulin -Hyperglycemia, hypoglycemia, Diabetes mellitus, Ketosis. Feedback mechanism of Insulin and Glucagon– Biosynthesis of Insulin.

UNIT – IV

ADRENAL GLAND

(12 Hours)

Structure of Adrenal gland- Adrenal Cortex and Adrenal Medulla, Biological Action of Adrenal cortex hormones – Mechanism of Fight, Fright and Flight -Physiological and Biochemical actions of Emergency Hormones- Cushing syndrome and Addison's disease.

UNIT – V

REPRODUCTIVE GONADS

(12 Hours)

Male reproductive system – Hormonal control of Testis, Chemistry and Biosynthesis of Testosterone – Functions of Testosterone, Abnormality of Testosterone, Female reproductive system –Hormones of Ovary- Oestrogen and Progesterone, Role of Hormones in Female sexual Cycle-Puberty, Menstruation, and Menopause. Placental hormones –Hormones of Parturition and Lactation. Abnormalities of Oestrogen and Progesterone.

TEXT BOOKS

S. No.	Authors	Title of the Book	Publishers	Year of Publication
1	Mac E Hadley	Endocrinology	Third edition, prentice Hall, New Delhi	1992
2	Prakash S Lohar	Endocrinology, Hormones and Human Health	MJP Publishers; 1 edition	2019
3	Dharmalingam	Textbook Of Endocrinology	Jaypee Brothers Medical Publishers	2010

REFERENCES BOOKS:

S. No.	Authors	Title of the Book	Publishers	Year of Publication
1	Matsumoto A. and Ishi S	Atlas of endocrine organs, vertebrates and invertebrates	Springier verlag, Germany	1992
2	Wilson J.D and Foster D.W	William's textbook of endocrinology, 8th edition,	WB saunders company, Philadelphia	1992
3	Turnerm C.D and Bagnarr, J.T	General Endocrinology, 6th edition	WB saunder's company, Philadelphia [saunder's international students edition	1994
4	Lamming, G.E Marshll,S	Physiology of Reproduction; Reproductive cycles of vertebrates	Churchill livingstone, Edinburgh	1984

WEB SOURCES:

www.sciencedirect.co.
www.pebmed.com
www.khansacademy.com
www.epatsala.com
www.swayam.com

TEACHING METHODOLOGY

- Class room teaching
- Charts/ Models
- Power point Presentations
- Discussions
- Assignments
- Home test

SYLLABUS DESIGNERS

- Dr. D. Sasikala, Assistant Professor and HOD
- Dr. V. Kiruthiga, Assistant Professor
- Dr. V. Rekha, Assistant Professor
- Dr. A. Vinodhini, Assistant Professor
- Dr. G. Vidhya, Assistant Professor