FOUR YEAR UNDERGRADUATE PROGRAM(2024 - 28) **DEPARTMENT OF ZOOLOGY** COURSE CURRICULUM

Total No. of Teaching—learning Periods (01 Hr. per period) - 45 Periods (45 Hours) role in physiology. Learn about the organization of endocrine glands and mechanism of hormone action. The learners will understand the hormonal disorders, and diseases. Comprehend about the role of hormone in healthy lifestyle. Develop insights on advancements in endocrinology. Credit = 15 Hours - learning & Observation Min Passing Marks: 40 PART -B: Content oftheCourse Total No. of Teaching—learning Periods(01 Hr. per period) - 45 Periods (45 Hours) No. of	-	¥' 8	Cour	RSE CURRICULUM			
Honors Hinners with Research Semister - VII Session: 2024-25	PA	RT-A: Introducti	on				
Course Code ZOSE-05T	Program: Bachelor in Life Science Semester - VII Session: 2024-25						
CourseTitle							
CourseType		······································					
After successfully completing this course, the students will be able to: Understand characters of hormones, their biochemical origin, functions and their role in physiology.							
After successfully completing this course, the students will be able to: > Understand characters of hormones, their biochemical origin, functions and their role in physiology. > Learn about the organization of endocrine glands and mechanism of hormones (CLO). > The learners will understand the hormonal disorders, and diseases. > Comprehend about the role of hormone in healthy lifestyle. > Develop insights on advancements in endocrinology. 6 CreditValue 3 Credits Credit = 15 Hours - learning & Observation Max.Marks: 100 Min Passing Marks:40 PART - B: Content oftheCourse Total No. of Teaching-learning Periods(01 Hr. per period) - 45 Periods (45 Hours) Unit Topics (Course contents) I Chemical Regulators and Gene action: General characters, chemical structure & properties of Hormones. Comparison between hormone and enzymes. Types of chemical regulators: Hormone, Neurotransmitters, Parahormones, Semiochemicals: Pheromones, Lumones & Chalones. Hormone Receptors: Mechanism of hormone action and cell signaling. Second messengers: types and features. Gene & Hormone Action, Hormone Responsive Element. Feedback system in Hormone action, hormone delivery. The Lesser Known Regulatory Substances (Somatomedins, Prostaglandin, Eicosanoids, Thromboxane etc.) Analytical techniques of Hormone Assay: Radioimmuno assay, Enzyme linked immune sorbent assay, Immune histochemistry. Hormone Replacement Therapy. Neuro-endocrine system: Hypothalamus: Origin, Location, Gross Anatomy, and Structure. The Endocrine Hypothalamus: Hypothalamus Hypothalamis Nuclei, General Functions of Hypothalamus; Hypothalamus Hypothalamis of Hypothalamis axis, Prostaglandin, Eicosanoids, Thromboxane etc.) Analytical techniques of Hormone Action, Grigin, Location, Structure, Hormones, Control of secretion & disorders. Regulation of pigmentation by Pars Intermedia in vertebrate chromatophores. Pineal Gland: Origin, Location, Structure, Hormones & Control of Specretion & Parathyroid Gland and Calcium Regulation. Calcium and Phosphate homeostasis. Adr			Discipinio Spec		rogram		
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TotalMarks							
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		Hormone, Pheromone. Determination, Diabet	s, Biosynthesis, Thy tes, Obesity.	roid Gland, Adrenal Gland, Po	ancreas, Catecholamines, Se.	r	

SignatureofConvener&Members (CBoS):

PART-C: **Learning Resources**

Text Books, Reference Books and Others

Text Books Recommended -

- Chandra S. Negi: Introduction to Endocrinology, 2009, PHI
- > Shastri V.K., Endocrinology and Reproductive Biology, Rastogi Publicatio

Reference Books Recommended -

- > Hadley: Endocrinology (6th ed. 2009, Prentice Hall)
- Lodish et al :Molecular Cell Biology, W.H.Freeman& Co Ltd.
- > Turner &Bagnara: General Endocrinology, 6th ed.1984, Saunders)
- Norris: Vertebrate Endocrinology, Fourth Edition, 2007, Academic Press

Online Resources-

- https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=2rAs1Puvga4LW93zMe83aA==
- https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=2rAs1Puvga4LW93zMe83aA==

Online Resources-

- > http://ndl.iitkgp.ac.in/he_document/cec/ gFN1zyU718 PLNsppmbLKJ8KYPKIeHeF3oC4j ZYt8zBe4
- https://egyankosh.ac.in/bitstream/123456789/33320/1/Unit-4.pdf
- https://www.ncbi.nlm.nih.gov/books/NBK441576/

PART -D:Assessment andEvaluation

Suggested Continuous Evaluation Methods:

Maximum Marks:

100 Marks

Continuous Internal Assessment(CIA): 30 Marks

EndSemester Exam(ESE):

70 Marks

Continuous Internal Test / Quiz-(2): 20 +20 InternalAssessment Assignment / Seminar -10 Total Marks -30 (CIA):

Better marks out of the two Test / Quiz

+ obtained marks in Assignment shall be considered against 30 Marks

(By Course Teacher) **End Semester**

Two section – A & B

Exam (ESE):

Section A: Q1. Objective -10 x1 = 10 Mark; Q2. Short answer type- 5x4 = 20 Marks

Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40 Marks

Name and Signature of Convener & Members of CBoS:

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FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28) DEPARTMENT OF ZOOLOGY COURSE CURRICULUM

CourseType Discipline Specific Elective Lab Course				COURS	E CURRICULUM		
Course Code ZOSE-05P	P	ART	-A: Introdu	ction			
CourseTitle		-			Semester - VII Session: 202		-25
CourseType Discipline Specific Elective Lab Course	1	1 CourseCode ZOSE-05P			,		
Pre-requisite(if,any) As per Program	2	Cou	rseTitle	Endocrinology			
Course Learning	3 CourseType Discipline Specific Elective Lab Course			2	3		
Develop understanding of histological study of endocrine glands Learn the role anatomical aspects of various endocrine glands. Attain the fundamentals of applied endocrinology. Explore the operation of basic medical kits of routine usage. Create awareness towards lifestyle disorders related to hormones.	4	Pre-requisite(if,any) As per Program					
TotalMarks	5	0		 Develop understanding of histological study of endocrine glands Learn the role anatomical aspects of various endocrine glands. Attain the fundamentals of applied endocrinology. Explore the operation of basic medical kits of routine usage. 			
TotalNo.of learning-Training/performancePeriods:30 Periods (30 Hours) Module Topics (Course contents) Study of histological slides of the endocrine glands. Demonstration of Endocrine Glands of Cockroach. (Alternative Methods) Demonstration of Endocrine Glands in Rat (Alternative Methods) Study of Glucose Tolerance Test. Principle of HbA1c Test. General procedures and demonstration of glucometer operation. Study of working principle / demonstration of Urine Pregnancy Tests (UPT). (Principle, Procedure, Interpretation and Limitations) General Study of Normal Blood Parameters of different hormones (From Pathological Reports) Group discussion/ Seminar/ Quiz/ Projects on Endocrinology Preparation of Practical Record. Keywords Endocrine Glands, Glucose Tolerance Test, HbA1c, Glucometer, Pregnancy	6	CreditValue		1 Credits Credit = 30 Hours Laboratory or Field learning/Training			
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	Key	words				Pregnancy	1
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PART-C:Learning Resources

Text Books, Reference Books and Others

Text BooksRecommended -

- ➤ Lal S.S. Practical Zoology Vertebrates; Rastogi Publications
- > Islam Mofidul, Das Viblab Kumar: Endocrinology with Practicals; Mahaveer Publications
- Verma P.S: A Manual of Practical Zoology Chordates; S.Chand Publications
- Arumugam N: Practical Zoology; Saras Publications.

Reference Books Recommended -

- ➤ Hadley: Endocrinology (6th ed. 2009, Prentice Hall)
- Lodish et al :Molecular Cell Biology, W.H.Freeman& Co Ltd.

Online Resources-

https://egyankosh.ac.in/bitstream/123456789/33320/1/Unit-4.pdf

Online Resources-

- https://www.ncbi.nlm.nih.gov/books/NBK532915/
- https://laboratorytests.org/urine-pregnancy-test/

PART-D:Assessment and Evaluation

Suggested Continuous Evaluation Methods:

MaximumMarks: 50 Marks

ContinuousInternal Assessment(CIA):15 Marks

EndSemesterExam(ESE):35Marks

Continuous	Internal Test / Quiz-(2): 10 &10	Better marks out of thetwo Test / Quiz
InternalAssessment(C	Assignment/Seminar +Attendance- 05	+obtained marks in Assignment shall be
IA):	otal Marks -15	considered against 15 Marks
(By Course Teacher)	* **	- · · · · · · · · · · · · · · · · · · ·

End Semester

Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks Exam (ESE):

B. Spotting based on tools& technology (written) – 10 Marks

C. Viva-voce (based on principle/technology) - 05 Marks

Managed by Course teacher as per lab. status

Name and Signature of Convener & Members of CBoS:

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