



List of New Course(s) Introduced

Department : **Zoology**

Programme Name : **M. Sc.**

Academic Year : **2017-18**

List of New Course(s) Introduced

Sr. No.	Course Code	Name of the Course
01.	LZT 101	Comparative Anatomy of Vertebrates
02.	LZT 103	Reproduction and Developmental Biology

A. V. K. Bhaskar

विभागमध्यक्ष
HEAD
जन्तु विज्ञान विभाग
Department of Zoology
गुरु घासीदास वि.वि., बिलासपुर
Guru Ghasidas Vishwavidyalaya, Bilaspur



Minutes of Meetings (MoM) of Board of Studies (BoS)

Academic Year : 2017-18

School : School of Studies of Life Sciences

Department : Zoology

Date and Time : July, 07, 2017- 09: 30 to 06:30 PM

Venue : Zoology Department

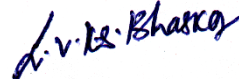
The scheduled meeting of member of Board of Studies (BoS) of Department of Zoology, School of Studies of Life Sciences, Guru Ghasidas Vishwavidyalaya, Bilaspur was held to design and discuss the M. Sc. (I to IV semesters) scheme and syllabi.

The following members were present in the meeting:

1. Prof. Renu Maheshwari (External Expert Member BoS, Dept. of Zoology, Raipur)
2. Dr. Monika Bhadauria (HOD, Associate Prof., Dept. of Zoology.-cum Chairman, BOS)
3. Dr. Seema Rai (Member BoS, Associate Professor, Dept. of Zoology)
4. Dr. Santosh Singh (Member, Assistant Professor, Dept. of Zoology)

The committee discussed and approved the scheme and syllabi. The following new courses were introduced in the M. Sc. Zoology (I and II semester):

Sr. No.	Course Code	Name of the Course
01.	LZT 101	Comparative Anatomy of Vertebrates
02.	LZT 103	Reproduction and Developmental Biology


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Guru Ghasidas Vishwavidyalaya, Bilaspur

Signature & Seal of HoD



Scheme and Syllabus

NEW-2017-18

Department of Zoology, GGV, Bilaspur (CG) 01/

Approved Scheme of Examination, 2017-18 2

M.Sc. Zoology

Semester-wise Theory Papers/ Practical/ Skill Component

Type of Course	Course Code	Title of the Course	Lecture-Tutorial-Practical/week	No. of credits	Continuous Comprehension Assessment (CCA)	End-Semester Examination (ESE) [University-Examination]	Total
Semester - Ist							
Core Course 1	LZT 101	Comparative Anatomy of Vertebrates	4	4	40	60	100
Core Course 2	LZT 102	Cell Biology and Evolution	4	4	40	60	100
Core Course 3	LZT 103	Reproduction and Developmental Biology	4	4	40	60	100
Core Course 4	LZT 104	Basic Mammalian Physiology	4	4	40	60	100
Core Course Practical 1	LZL 105	Lab. Exercises based on courses LZT 101 & 102	6	3	40	60	100
Core Course Practical 2	LZL 106	Lab. Exercises based on courses LZT 103 & 104	6	3	40	60	100
Skill Course 1	LZS 107	Scientific writing skills	2				
				22	240	360	600
Semester IInd							
Core Course 5	LZT 201	Biochemistry and Molecular Biology	4	4	40	60	100
Core Course 6	LZT 202	Regulatory Physiology Mammalian	4	4	40	60	100
Core Course 7	LZT 203	Endocrinology	4	4	40	60	100
Core Course 8	LZT 204	Biotechniques and Bioinformatics	4	4	40	60	100
Core Course Practical 3	LZL 205	Lab. Exercises based on course LZT 201 and 202	6	3	40	60	100

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Department of Zoology, GGV, Bilaspur (CG)

SEMESTER I

LZT 101: COMPARATIVE ANATOMY OF VERTEBRATES

Unit 1: Origin of vertebrates, Integument and its derivatives: Structure of integument, scales, feathers, hair, beak, claw, nail, hoof, horn, antler, gland; Endoskeleton: General plan of neurocranium and dermatocranium, jaw suspensorium, vertebrae.

Unit 2: Digestive system: Modifications in relation to feeding habits; length and surface area, Internal folds, Supplementary diverticulae, accessory digestive glands, Oesophagus, Stomach; Dentition, dental formula in mammals.

Unit 3: Respiratory System: Aquatic respiration, Aerial respiration; Circulatory system: Heart, Aortic arches, Portal systems, Lymphatic system.

Unit 4: Nervous system: Evolution of cerebral hemispheres and cerebellum, Chemoreceptors, Neuromast organs of lower vertebrates, Cranial and spinal nerve.

Unit 5: Urinogenital system: Excretory system- Types and evolution of kidney tubules, Urinary duct and bladder, Reproductive system- General plan of gonads, Accessory reproductive organs.

Books Recommended

1. Hildebrand: Analysis of Vertebrate Structure (1995, John Wiley)
2. Kotpal: Modern Text Book of Zoology Vertebrates (2003, Rastogi)
3. Nigam: Biology of Chordates (1983, S Chand)
4. Romer & Parsons: The vertebrate Body (6th ed. 1986, Saunders)

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Department of Zoology, GGV, Bilaspur (CG)

LZT 103: REPRODUCTION AND DEVELOPMENTAL BIOLOGY

Unit 1: Reproduction Biology: Structure of mammalian testis and ovary; Spermatogenesis and structure of sperm; Oogenesis and structure of egg; Male and female accessory sex organs; Hormones of testis and ovary; Estrous and menstrual cycle; Hormones of pregnancy; Parturition; Hormonal control of lactation.

Unit 2: Fertilization and Development: Biochemical aspect of fertilization; penetration and activation of egg and early development; Fate maps; embryonic induction and differentiation. Gastrulation movements: role of egg cortex and cell surface in morphogenesis. Cell adhesion and cell communication. Hormonal control of metamorphosis in amphibians; Neuro endocrine control of insect metamorphosis; Biochemistry and mechanism of action of hormones during metamorphosis.

Unit 3: Organogenesis: Formation of organ rudiments, differentiation and development of heart and kidney in different mammals. Organizer, inductive tissue interactions in developments.

Unit 4: Nuclear transplantation: Cellular differentiation and protein synthesis; Differential activation; Developmental genetic defects and role of apoptosis in development.

Unit 5: Embryonic Nutrition: Nutritional requirements of Embryo; Modes of embryonic nutrition; Food reserve and embryonic nutrition; Embryonic nutrition from mother and physiology of placenta.

Reference Books:

1. Mac Hadley. 1992: Endocrinology, 3rd Edition. Prentice - Hall Inc. A Simon & Schuster Company, Englewood Cliffs, New Jersey. USA.
2. Turner, C.D. and J.T. Bangara: 1986. General endocrinology. Saunders International Student edition. Toppan Company Limited. Tokyo.
3. Chandra S Negi: Introduction to Endocrinology. 2009. Prentice Hall India Learning Private Limited.
4. Balinsky, B.I: 1981 An Introduction to Embryology. W.B Saunders Co., Philadelphia.
5. Karp, G. and Berrill, N.J.: 1981. Development. McGraw Hill, New York.
6. Saunders, J.W.: 1982. Developmental Biology. MacMillan Co., London.
7. Gilbert, S.F.: 2003. Developmental Biology. Sinauer Associates Inc. Sunderland, Massachusetts, U.S.A.
8. Oppenheimer, S.B.: 1980. Introduction to Embryonic Development. Allyn and Bacon, Inc. U.S.A.

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