

Govind Guru Tribal University, Banswara
Details of Discipline Centric Core and Elective Courses for freshers
who will be admitted in the session 2023-24


(Separate sheet to be used for each discipline/subject)

Name of University: Govind Guru Tribal University, Banswara

Name of Faculty(ies) : SCIENCE

Name of Discipline/Subject: ZOOLOGY

Three-Year Bachelor Degree Program								
#	Level	Semester	Type	Title	Credits			Total
					L+T	P		
1	5	I	DCC	NON CHORDATES I	5	1	0	6
2	6	II	DCC	ECOLOGY & CELL BIOLOGY	5	1	0	6
3	6	III	DCC		5	1	0	6
4	6	IV	DCC		5	1	0	6
5	7	V	DSE		5	1	0	6
6	7	VI	DSE		5	1	0	6


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GOVIND GURU TRIBAL UNIVERSITY BANSWARA

B.Sc.
Three Year Graduate Course
Semester I
ZOOLOGY
DCC
NON-CHORDATES I

Unit –I

- General Characters & classification up to class of Protozoa, Porifera & Coelenterata
- Life cycle of Obelia
- Canal system of Porifera
- Coral & Coral Reef

Unit –II

- General Characters & classification up to class of Platyhelminthes, Aschelminthes & Annelida
- Life cycle of Fasciola
- Concept of Metamerism & Coelom


Unit –III

- General Characters & classification up to class of Arthropoda, Mollusca & Echinodermata
- Mouth parts of insects
- Concept of torsion & its importance in Mollusca
- Echinoderm larva

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Suggested Reading :

- Ruppert and Barnes, R.D. (2006). Invertebrate Zoology, VIII Edition.
- Holt Saunders International Edition. Barnes, R.S.K., Calow, P., Olive, P.J.W., Golding, D.W. and Spicer, J.I.
- (2002). The Invertebrates: A New Synthesis, III Edition, Blackwell Science Barrington, E.J.W. (1979). Invertebrate Structure and Functions. II Edition, E.L.B.S. and Nelson.


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GOVIND GURU TRIBAL UNIVERSITY

BANSWARA

B.Sc. : Semester I

Zoology

THEORY EXAM SEMESTER: I

Syllabus and Marking scheme

Time:4-hour

Maximum marks: 30

The practical [P] component has been included in every core and discipline/ generic specific elective paper. The list of practicals to be conducted by the candidates has been provided alongside each of such courses. The marks (30 marks) for the practical examination will be split as follows.

1. Write up of Practical I:Study of the following specimens/slides: 10
specimens 10 marks
2. Write up of Practical II:Dissections: Various systems of preserved animals
virtual.7 marks
3. Mountings: Permanent preparation of the following3 marks
4. Practical record/ notebook: 5 marks
5. Vivavoce: 5marks

NON-CHORDATES PRACTICAL

1. Study of the following specimens/slides:

Study of *Sycon* (T.S. and L.S.), *Hyalonema*, *Euplectella*, *Spongilla*

Study of *Obelia*, *Physalia*, *Millepora*, *Aurelia*, *Tubipora*, *Corallium*,
Alcyonium, *Gorgonia*, *Metridium*, *Pennatula*, *Fungia*, *Meandrina*,
Madrepora

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One specimen/slide of any ctenophore

Study of adult *Fasciola hepatica*, *Taenia solium* and their life cycles (Slides/micro-photographs)

Study of adult *Ascaris lumbricoides* and its life stages (Slides/micro-photographs)

To submit a Project Report on any related topic on life cycles/coral/coral reefs.

Annelids - *Aphrodite*, *Nereis*, *Heteronereis*, *Sabella*, *Serpula*, *Chaetopterus*, *Pheretima*, *Hirudinaria*

Arthropods - *Limulus*, *Palaemon*, *Daphnia*, *Balanus*, *Sacculina*, *Cancer*, *Eupagurus*, *Scolopendra*, *Julus*, *Bombyx*, *Periplaneta*, termites and honey bees

Onychophora - *Peripatus*

Molluscs - *Chiton*, *Dentalium*, *Pila*, *Doris*, *Helix*, *Unio*, *Ostrea*, *Pinctada*, *Sepia*, *Octopus*, *Nautilus*

Echinoderms - *Pentaceros*, *Asterias*, *Ophiura*, *Clypeaster*, *Echinus*, *Cucumaria* and *Antedon*

2. Dissections: Various systems of preserved animals virtual.

Pheretima: General anatomy, digestive, nervous, excretory and reproductive systems.

Palaemon: Appendages, general anatomy, digestive system and nervous system.

Cockroach: Mouth parts (only after permission from institutional animal ethical committee; otherwise virtual)

3. Mountings: Permanent preparation of the following:

Protozoa: *Euglena*, *Paramecium* rectal ciliates

Porifera: Sponge spicules, spongin fibres and gemmules.

Coelenterata: *Obelia* (colony and medusa)

Annelida: Parapodia of *Nereis* and *Heteronereis*, ovary, septal nephridia and setae (in situ) of earthworm.

Arthropoda: Statocyst and taste plate of prawn, salivary glands and tracheae of cockroach, W.M. of *Cyclops*, *Daphnia*. Mouth parts of any 4 insects Cu/ex, *Anopheles* male and female, housefly, cockroach and honey bee.

Mollusca: Gill lamella, glochidium larva, osphradium and radula of *Pila*.

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B.Sc.
Three Year Graduate Course
Semester II
ZOOLOGY
DCC
ECOLOGY & CELL BIOLOGY

UNIT -I

- Terminology & scope of ecology
- Habitat & niche
- Ecosystem: component, energy flow, food chain, food web & ecological pyramid

UNIT -II

- Population characteristics, exponential & logistic growth, population interaction
- Community characteristics & Succession

UNIT- III

- Structure of Plasma Membrane (Robertson & Fluid Mosaic Model)
- Structure & functions of Mitochondria, Golgi body, Endoplasmic Reticulum, Lysosome & Ribosome
- Structure and Functions of Nucleus & Nucleic Acid

Suggested Reading:

- Colinvaux, P. A. (1993). Ecology. II Edition. Wiley, John and Sons, Inc.
- Krebs, C. J. (2001). Ecology. VI Edition. Benjamin Cummings.
- Odum, E.P., (2008). Fundamentals of Ecology. Indian Edition. Brooks/Cole

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- Robert Leo Smith Ecology and field biology Harper and Row publisher
- Ricklefs, R.E., (2000). Ecology. V Edition. Chiron Press
- Gupta, P.K. (2019). Cell biology and Genetics. Rastogi Publication
- Verma P.S., Agarwal V.K (2004) Cell Biology, Genetics, Evolution & Ecology (multicolor Edition): Evolution and Ecology. S . Chand Publication.

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