

FIRST SEMESTER THEORY**Z.1. Biology of Non-chordates****64 Hrs**

Code :Z-1

Univ Code :

Contact Hours : 64

Work load : 4 hours per week

Credit Points :

Evaluation: Continuous Internal Assessment - 30 marks
 Semester and Examination - 70 marks

1.	Introduction to classification organisms	3	Hrs
	<ul style="list-style-type: none"> • Bio-systematics (Taxonomy): Linnanean Hierarchy (phylum,class,order,family,genus,species) • Types of classification (phylogenetic,Artificial,Natural) • Binomial nomenclature. 		
2.	Phylum Protozoa	8	Hrs
	<ul style="list-style-type: none"> • General characters,classification upto classes with examples • Type study: Life cycle of malarial parasite • Locomotion in Amoeba • Reproduction in protozoa. 		
3.	Phylum porifera	4	Hrs
	<ul style="list-style-type: none"> • General characters,classification with examples ◆ Canal system,histology of sponges,skeletal elements 		
4.	Phylum coelenterate	6	Hrs
	<ul style="list-style-type: none"> • General characters,classification with examples • Polymorphism in Hydrozoa • Life cycle & morphology of Obelia • Corals,types& significances 		
5.	Phylum Platyhelminthes	5	Hrs
	<ul style="list-style-type: none"> • General characters,classification with examples • Morphology and Life cycle of Taenia solium • Parasitic adaptations 		
6.	Phylum : Aschelminthes	2	Hrs
	<ul style="list-style-type: none"> • General characters • Key characters of Ascaris & Wucheraria bancrofti 		
7.	Phylum : Annelida	4	Hrs
	<ul style="list-style-type: none"> • General characters & classification upto classes with examples. Concept of vermiculture. 		
8.	Phylum : Arthropoda	8	Hrs
	<ul style="list-style-type: none"> • General characters & classification upto classes with examples • Prawn : Type study : Appendages,digestive system & Nervous system, reproductive system. 		

9. Phylum: Mollusca 5 Hrs
- General characters & classification upto classes with examples
 - Type study Pila globosa
10. Phylum: Echinodermata 5 Hrs
- General characters & classification upto classes with example
 - Water vascular system in star fish
 - Larval forms and their significance

PRACTICAL ZP-1
BASED ON SEMESTER-1 PAPER 2-1: BIOLOGY OF NONCHORDATA

A. MUSEUM SPECIMENS AND SLIDES:

Commonly available specimens cited in the list of examples for theory are to be selected.

1. Protozoa : Rhizopoda: any two examples ,
Mastigophora: any two examples
Ciliata: : any two examples
Opalinata: Opalina
Sporozoa: any two examples.
2. Porifera : Calcaria: Sycon, etc.,
Hexactinellida: Hyalonema etc.,
Demospongia: Euspongia, spongella
3. Coelenterata : Hydrozoa: . Hydra, Obelia
Scyphozoa: Aurelia
Anthozoa: Corals, Meandrina, Astrea
4. Platyhelminthes : Turbellaria: Planaria.
Trematoda: Liver Fluke, Blood Fluke,
Cestoda: Taenia Solium, Echinoecoccus.
5. Aschelminthes/
Nemathelminthes : Round Worms, Ascaria, Wuecharia
Dracuncula medinensis,
6. Annelida : Polychaeta: . Neries, Heteroneries
Oligochaeta: Earthworm, chaetopterus
Hirudinea: Leech
7. Arthropoda : Onychophora: Peripatus,
Crustacea: Crab, Prawn
Insecta: Butterflies, Beetles, Termites, Grosshoppers, etc., ,
Arachnida: Spiders , Scorpion, limulus
Myriapoda: Scolapendra, and Julus
8. Mollusca : Polyplacophora: Chiton
Scaphopoda: Dentalium
Gastropoda: Pila,
Pelecypoda: Unio, Oyster,
Octopoda: Octopus, Sepia, Nautilus.
9. Echinodermata : Asteroidea: Starfish,
Ophiuroidea: Brittle star
Echinoidea: Echinus
Holothuroidea: Sea Cucumber
Crinoidea: Sea lily.
- B. DISSECTIONS:
1. Earthworm : **Digestive system, Nervous system. Mounting in Earthworm: Setae, Spermatheca**
Or

**Leech; Digestive system, Reproductive system
Mounting in Leech; Jaws, Nephridia,**

2. **Cockroach** : **Digestive system, Nervous system, Mounting in cockroach: Mouth parts**
Or
Prawn : **Digestive system, Nervous system. Mounting in Prawn: Appendages**

FORMAT OF QUESTION PAPER FOR
PRACTICAL Z-P.1:
BIOLOGY OF NONCHORDATA

Maximum Marks : 40

Q.1	Museum specimens and slides	:	10 x 2 = 20
Q.2	Dissection	:	10
Q.3	Mounting	:	05
Q.4	Record Book	:	05