

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.  
SYLLABUS FOR S. Y. B. Sc.SEM-III  
ZOOLOGY-PRACTICALS  
( Effective From JUNE-2012)  
BASED ON PAPER-III

- 1- Classification of following animals upto--sub-class.  
Amoeba, Euglena, Monocystis, Paramecium, Leucosolenia,  
Hyalonema, Spongilla, Hydra, Porpita, Aurelia, Gorgonia,  
Sea-anemone, Planaria, Taenia, Liver-fluke, Ascaris, Earthworm  
Leech.
- 2- The following practicals of **LEECH** to be studied **preferably** with the help of charts, models, videos, photographs, permanent slides, working models, simulators etc. **(OR)** Demonstration of dissection of preserved animal should be given at the ratio of 1 animal per 10 students.
  - a) Digestive system and mounting of salivary gland.
  - b) Reproductive system mounting of jaws.
  - c) Nervous system and mounting of testicular nephridia.
- 3- Adaptations: Fossorial adaptations- Arenicola and Talpa; Deep sea adaptations-giant squid, Octopus, flat fish, arrow fish; Cave dwelling adaptations- Troglodite, Proteus (proteus anguinus); Cursorial adaptations- Cheetah, Horse, Wolves, Deer; Variation- Digits in man, giraffe.
- 4- Life history of indian mulberry silk worm ( Bombyx mori).  
Api culture: To study Life history, queen, drones, workers, wax, modern movable beehive.

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- 1- Classification of following animals upto--sub-class.  
Nereis, Peripatus, Crab, Palaemon, Lobster, Grasshopper, Termite, Silverfish, Centipede, millipede, Spider, Scorpion, Butterfly, Chiton, Unio, Aplysia, Sepia, Starfish, Brittlestar, Sea cucumber, Feather star, Balanoglossus.
- 2- The following practicals of **COCKROACH dissections and mountings** should be performed **individually** by students.
  - a) Digestive system and mountings of 1st and 2nd thoracic spiracles.
  - b) Reproductive system and mounting of gizzard.
  - c) Nervous system and mounting of abdominal spiracle

- 3- Protective coloration and mimicry (with the help of charts, models, museum specimens, photographs etc.): Leaf insect, Stick insect, Lantern fly, Eyespot butterfly, Australian seahorse, rattle snake.
- 4- Study of Life History of Lac insect (with the help of charts, photographs etc.), Vermiculture (with the help of charts, photographs, models etc.) - types of earth worms & vermicompost practices.

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- 1- Classification upto sub-class (with the help of specimens, photographs, models etc.)  
 Ascidian, amphioxus, lamprey, myxine, scoliodon, electric ray, protopterus, clarius, seahorse, ophiocephalus, labeo.
- 2- The following practicals of **SCOLIODON** to be studied **preferably** with the help of charts, models, videos, photographs, permanent slides, working models, simulators etc. **(OR)** Demonstration of dissection of preserved animal should be given at the ratio of 1animal per 10 students.
  - a) Digestive system and temporary mounting of placoid scales.
  - b) Urino-genital system and mounting of ampulla of lorenzini.
  - c) Circulatory system
  - d) Brain-dorsal and ventral view.
- 3-Mammalian Histology : Study of permanent histological slides of salivary gland, liver, stomach, pancreas, intestine, kidney, gonads.
- 4-Osteology : Study of girdles in Scoliodon, frog, varanus, pigeon and rabbit.

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- 1- Classification up to sub-class (with the help of specimens, photographs, models etc.)  
 Frog, hyla, bufo, salamander, amblystoma, caecilian, calotes, varanus, turtle, dhaman, russel viper, cobra, krait, pigeon, koel, sparrow, platypus, bat, rat.
- 2- The following practicals of **PIGEON** to be taught/studied **only** with the help of charts, models, videos, photographs, permanent slides, working models, simulators etc.
  - a) Digestive system and mounting of Hyoid apparatus.
  - b) Circulatory system
  - c) Urino-genital system and mounting of pecten.
  - d) Brain and airsacs.
- 3-Embryology: Study of amphioxus embryology (with the help of models/charts/photographs/specimens/permanent slides etc ).: Uncleaved

- egg,2,4,8,16&32 cell stage, blastula, gastrula, t.s.passing through pharynx, intestine, testis, ovary &caudal region.
- 4-Osteology :Study of fore limbs and hind limbs in Frog, varanus,pigeon & rabbit.

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- 1- To study Haemin crystals from human blood.
- 2- Total count of WBC from human blood.
- 3- Estimation of Haemoglobin from human blood.
- 4- To determine normal and abnormal constituents of urine.
- 5- To study different types of muscle fibres- striated, nonstriated, medullated,non medullated and cardiac. sensory organs –human eye and ear.Different types of nerve cells.

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- 1-Demonstration of microtome and micro technique.
- 2-Preparation and study of different stages of mitosis from onion root tip.
- 3-Preparation and study of different stages of meiosis from cockroach testis.
- 4- Permanent slides of cell division.
- 5-Cytoplasmic inheritance : Coiling of Shell in Lymnaea.
- 6-Structure of carbohydrates (with the help of atomic models) : Triose, Pentose ,Hexose sugar, Lipid & glycerol.