Programme: M. Sc. (Zoology)
Course Code: ZOC-101 **Title of the Course:** Animal Taxonomy and Systematics
Number of Credits: 3
Effective from AY: 2018-19

Prerequisites for the course:	Basic working knowledge of classical and animal taxonomy and systematics.	
Objective:	This course develops concepts in animal taxonomy and systematic, modern methods of taxonomy and systematics and their application, General Organization, affinities and systematic position of minor phyla and molecular basis of animal taxonomy.	
Content:	**Module 1:** Introduction to taxonomy, stages of taxonomy, importance of taxonomy, Rise of taxonomy, Principles and rules of Taxonomy, Zoological nomenclature, ICZN regulations, new trends in taxonomy Zoological classification, problems of taxonomists concept of speciation, Taxonomic collections, identification and description, Taxonomical hierarchy (Linnean hierarchy), Concepts of Taxon, holotype, paratype, topotype etc. **Module 2:** General Organization, affinities and systematic position of minor phyla Lopophorates, Phoronida, Ectoprocta, Brachiopoda, Pogonophora, Chaetognatha, Acanthocephala, Entoprocota and Sipunculida. **Module 3:** Molecular basis of animal taxonomy: Genetic polymorphism, electrophoretic variations, amino acid sequencing for variety of proteins, DNA-DNA and DNA- RNA hybridization.	12 hours 12 hours 12 hours
Pedagogy:	Lectures/ tutorials/assignments/self-study.	
References/Readings	1. Barnes RD, Invertebrate Zoology, Halt Saunders Intl. Edition. 2. Hymen LH, The invertebrates (all volumes), McGraw Hill, Philadelphia, USA. 3. Huston A M, Biological Diversity, Cambridge University Press, Cambridge. 4. Kapoor VC, Theory and Practice of Animal Taxonomy, Oxford and IBH Publ., Delhi. 5. McNeely JA, Economics and Biological Diversity, IUCN, Gland, Switzerland. 6. Prasad SN, Life of Invertebrates, Vikas Publ. New Delhi. 7. Sinha AK, Adhikari S and Ganguly BB, Biology of Animals (vol. I & II), Central Book Agency, Kolkata. 8. Young JZ, Life of Vertebrates, Clarendon Press, Oxford**.**	

Learning Outcomes	1. Understand historical and modern methods of animal classification and systematics. 2. Get acquainted with general organization, affinities and systamatic position of minor Phyla. 3. Familiarise with Molecular basis of animal taxonomy: Genetic polymorphism, electrophoretic variations, amino acid sequencing for variety of proteins, DNA-DNA and DNA- RNA hybridization.	