Programme: M. Sc. (Zoology) **Course Code:** ZOO-303 **Number of Credits:** 2 **Effective from AY:** 2018-19

Prerequisites for the	Elementary knowledge on animal anatomy and physiology.	
course:		
<u>Objective:</u>	This course provides a fundamental knowledge of animal reproduction at anatomical, physiological and endocrinological level to deal with management of reproduction and fertility in animals and humans.	
<u>Content:</u>	Module 1 : Male Reproduction: Histo-architecture of testis, Spermatogonia, Stem cells; Biology of spermatozoa ,Seminiferous epithelial cycle, Spermatogenesis, Hormonal control of spermatogenesis, hormonal regulations of accessory male reproductive organs- epididymis , Vas deferens ,prostate glands seminal vesicle , coagulating gland cowper's gland; Biochemistry of semen, semen analysis and its utility in medico legal cases.	12 hours
	Module 2: Female Reproduction: Reproductive cycles in mammals and their regulations; Ovulation; Implantation, types of implantation, sequence of events during implantation, decidual cell reaction, delayed implantation hormonal regulation; Pregnancy; Corpus Luteum, luteotrophic complex in different mammals; Endocrine control of pregnancy; Parturition; Activation and stimulus of uterus, hormonal mediation; Lactation, morphological and functional development of mammary glands, preparation for lactation, milk secretion; Menopause.	12 hours
Pedagogy:	Lectures/ tutorials/assignments/self-study	
References/Readings	 Knobil E and Neil JD, Physiology of Reproduction (Vol. I and II), Raven Press Ltd., New York. Mandal A, A Handbook of Neuroendocrinology, Emkay Publication, New Delhi Nelson RJ, An Introduction to Behavioral Endocrinology, Sinaeur Associates, Inc., USA. Pablo De, Scanes CG and Weintraub BD, Handbook of Endocrine Research Techniques, Academic Press Inc., USA. Saidapur SK, Reproductive Cycles of Indian Vertebrates, Allied Publishers Ltd. New Delhi. Schatten H and Constantinescu GM, Comparative Reproductive Biology, Willey Blackwell Publications, UK. 	
<u>Learning Outcomes</u>	 Explanation of how to apply reproductive information to strategies for the management of reproduction and fertility in animals. Critically evaluation of the advantages/disadvantages of current and developing reproductive technologies 	