

SARDAR PATEL UNIVERSITY
Programme: BSC (GENETICS)
Semester: VI
Syllabus with effect from: November 2013

Paper Code: US06CGEN05	Total Credit: 3
Title Of Paper: Animal biotechnology	

Unit	Description in detail	Weighting (%)
1	ANIMAL CELL AND TISSUE CULTURE History of animal cell cultures, Requirements for animal cell and tissue culture, Media composition, Culture methods- short term and long term culture, Cell lines, Cell clones, their maintenance & preservation, Significance and applications of cell culture, Tissue engineering (skin regeneration), Cell viability and Toxicity .	
2	Importance of artificial insemination, Types of insemination techniques, Cryopreservation of Animal germplasm -semen, ovum & embryos, <i>In vitro</i> fertilization, Brief account of mammalian embryonic development.	
3	EMBRYO TRANSFER TECHNOLOGY Embryo transfer technology - Methodology, Superovulation, Synchronization of estrus in animals, Embryo collection and Transfer in recipients.	
4	TRANSGENIC ANIMALS Gene transfer or transfection , transgenic animals: Mice, Sheep, Pigs, Goats, and Cows.	

Basic Text & Reference Books:

- Animal cell culture - R. Ian Freshney, John Wiley & Sons,
- Biotechnology - B.D. Singh, Kalyani Publishers.
- Molecular Biotechnology - Primrose. 2nd Ed, Blackwell Scientific Publications Ltd.
- Notes on Applied animal reproduction - S.B. Kodagali
- Animal Biotechnology - M.M. Ranga. 3rd Ed, Eastern Book Corporation.
- Principles and Practise of Animal Tissue Culture - Sudha Gangal, Orient Longman Limited, Universities Press (India) Pvt. Ltd

