SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc (Mathematics)
Semester: IV
Syllabus with Effect from: November/December-2012

Paper Code: US04EMTH04	**Total Credit: 2**
Title Of Paper: Mathematical Biology	

Unit	Description in detail	Weighting (%)
I	Continuous-time dynamical system : Historical demographical models - Malthusian model ; Logistic model ; Population model with age distribution	
II	Pest control : The spruce budworm ,Specialist and generalist predators, Interactions in Biological systems - Predator-Prey : Lotka-Volterra model ; Analytic solution of Lotka-Volterra model	
III	Super predator ; Predator - Prey model ; General predator – prey model ; Competition .	
IV	Reaction-di®usion equations ; Solution control ; Steady solution and stability ; Applications .	

Basic Text & Reference Books:-

- Jacques Istas , Mathematical Modeling for the Life Sciences, Springer.