

P.E. Society's Modern College of Arts, Science and Commerce(Autonomous), Ganeshkhind, Pune 16.

Department of Microbiology- Course- MSc(Microbiology)

Level	Sem	Disciplinary Major Mandatory	DSE Electives	RM	OJT/FP	RP	Cumulative Credits
6	I	14 Cr 4Cr-(Th)-Microbial Systematics 4Cr(Th)-Quantitative Biology 4Cr-(Th)-Biochemistry and Metabolism 2Cr-(Pr)- Practicals based on Microbial Systematics, Quantitative Biology, Biochemistry and Metabolism	4Cr 2Cr-(Th)-Fungal Systematics and Extremophiles 2Cr-(Pr)-Practical based on Fungal Systematics and Extremophiles OR 2Cr (Th)-Nitrogen metabolism and respiration 2Cr (Pr)- Practicals based on Nitrogen metabolism and respiration	4			22
	II	14 Cr 4Cr-(Th)-Molecular biology and genetic engineering tools 4Cr-(Th)-Instrumentation and Molecular Biophysics 4Cr-(Th)-Cell Organization and Biochemistry 2Cr-(Pr)- Practicals on Molecular biology and genetic engineering tools, Instrumentation and molecular Biophysics, Cell organization and Biochemistry	4Cr 2Cr (Th)-Cell culture Technique , 2Cr(Pr) Practicals based on Cell Culture Technique OR 2Cr (Th)-Bioremediation and biomass utilization 2Cr (Pr)- Practicals based on Bioremediation and biomass utilization		4		22
Cu. Cr. for PG Diploma		24-28	8	4	4		40-44
6.5	III	14 Cr 4Cr-(Th)- Advanced Immunology 4Cr-(Th)-OMICS and transgenic plants and animals 4Cr-(Th)- Clinical Microbiology 2Cr(Pr)- Practicals based on Advanced Immunology, OMICS and transgenic plants and animals and Clinical Microbiology	4Cr 2 Cr(Th)Experimental design and quantitative approach for biologists, 2Cr(P) Practicals based on Experimental design and quantitative approach for biologists, OR 2Cr(Th) Industrial waste water treatment and industrial production of vaccines 2Cr (Pr) Practicals based on Industrial waste water treatment and industrial production of vaccines			4	22

	IV	12 Cr 4Cr-(Th)-Pharmaceutical microbiology 4Cr-(Th)-Microbial technology 4Cr-(Th)- Practical based on pharmaceutical microbiology and microbial technology	2Cr(Th)Quality assurance and validation in Pharmaceutical industry and development of anti-infective 2Cr(Pr) Practicals based on Quality assurance and validation in pharmaceutical industry and development of anti-infective OR 2Cr(Th)Advances in Microbial Technology 2Cr(Pr) Practicals based on Advances in Microbial Technology			6	22
Cum. Cr. for 1 Yr. PG		22-26	8			10	40-44
Cum. Cr. for 2 Yr. PG		46-54	16	4	4	10	80-88