



Progressive Education Society's
 Modern College of Arts, Science and Commerce (Autonomous)
 Ganeshkhind, Pune - 16

Course Structure for F.Y.B.Sc (Microbiology) NEP 2

Name of the Board: Department of **Microbiology**

Class	Sem	Course Type	Sr. No.	Course Code	Course Name	Theory/ Practical	No. of Credits	No. of Hours/week	Total Marks	CIE Marks	ESE Marks	Remark
F.Y B.Sc.	I	Major DSC	1	24MIC11101	Introduction to Microbiology	Theory	02	02	50	20	30	
		Major DSC	2	24MIC11102	Practical based on Introduction to Microbiology	Practical	02	04	50	20	30	
		OE	3	24MIC11303	Microbiology in day-to-day life	Theory	02	02	50	20	30	
		SEC	4	24MIC11404	Good laboratory practices	Practical	02	04	50	20	30	
	II											
		Major	1	24MIC12101	Microbial biochemistry and	Theory	02	02	50	20	30	



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		DSC			growth							
		Major DSC	2	24MIC12102	Practical based on Microbial biochemistry and growth	Practical	02	04	50	20	30	
		OE	3	24MIC12303	Practical based on Microbiology in day to day life	Practical	02	04	50	20	30	
		SEC	3	24MIC12404	Basic Laboratory Skills	Practical	02	04	50	20	30	

Class	Sem	Course Type	Sr. No.	Course Code	Course Name	Theory/ Practical	No. of Credits	No. of Hours/week	Total Marks	CIE Marks	ESE Marks	Remark
S.Y. B.Sc.	III											
		Major DSC	1	24MIC23101	Bacterial physiology and Agricultural Microbiology	Theory	02	02	50	20	30	
		Major	2	24MIC23102	Environmental	Theory	02	02	50	20	30	



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		DSC			Microbiology							
		Major DSC	3	24MIC23103	Practical based on Bacterial physiology and Agricultural Microbiology and Environmental Microbiology	Practical	02	04	50	20	30	
		Major specific IKS	4	24MIC23104	Indian Knowledge System in Microbiology	Theory	02	02	50	20	30	
		Minor	5	24MIC23205	Microbial ecology	Theory	02	02	50	20	30	
		Minor	6	24MIC23206	Practical based on Microbial ecology	Practical	02	04	50	20	30	
		OE	7	24MIC23307	Human Health and Diseases	Theory	02	02	50	20	30	
		VSEC	8	24MIC23408	Cultivation of Microorganisms and Special staining techniques	Practical	02	04	50	20	30	
		FP	9	24MIC23609	Field Project	Practical	02	04	50	20	30	
	IV											
		Major DSC	1	24MIC24101	Bacterial Genetics	Theory	02	02	50	20	30	
		Major	2	24MIC24102	Industrial Microbiology	Theory	02	02	50	20	30	



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		DSC										
		Major DSC		24MIC24103	Practical based on Bacterial genetics, Industrial Microbiology, Food and dairy microbiology	Practical	02	04	50	20	30	
		Minor		24MIC24204	Introduction to Industrial Microbiology	Theory	02	02	50	20	30	
		Minor		24MIC24205	Introduction to Industrial Microbiology practical	Practical	02	04	50	20	30	
		OE	3	24MIC24306	Practical based on Human health and diseases	Practical	02	04	50	20	30	
		VSEC	3	24MIC24407	Food and Dairy Microbiology	Theory	02	02	50	20	30	
		SEC		24MIC24408	Advancements in Sustainable Agriculture: Production of Biofertilizers, Biopesticides, and Nanoparticle Biosynthesis	Practical	02	04	50	20	30	
		CEP		24MIC24609	Community Engagement and Service	Practical	02	04	50	20	30	

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T.Y. B.Sc.	V											
		Major DSC	1	24MIC35101	Medical Microbiology	Theory	02	02	50	20	30	
		Major DSC	2	24MIC35102	Basic and conceptual Immunology	Theory	02	02	50	20	30	
		Major DSC	3	24MIC35103	Enzymology	Theory	02	02	50	20	30	
		Major DSC	4	24MIC35104	Genetics	Theory	02	02	50	20	30	
		Major DSC	5	24MIC35105	Practicals based on Medical Microbiology, Immunology	Practical	02	04	50	20	30	
		Major DSC	6	24MIC35106	Practicals based Enzymology and Genetics	Practical	02	04	50	20	30	
		Major DSE	7	24MIC35107	Bioprocess Technology	Theory	02	02	50	20	30	
		Major DSE	8	24MIC35108	Practicals based on Bioprocess technology	Practical	02	04	50	20	30	



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	Minor	9	24 MIC35209	Medical Microbiology and immunology	Theory	02	02	50	20	30	
	VSEC	10	24MIC35410	Waste Management	Theory	02	02	50	20	30	
	FP	11	24MIC35611	Field project	Practical	02	04	50	20	30	
	VI										
	Major DSC	1	24MIC36101	Microbial diseases and chemotherapy	Theory	02	02	50	20	30	
	Major DSC	2	24MIC36102	Advanced immunology and immunological techniques	Theory	02	02	50	20	30	
	Major DSC	3	24MIC36103	Metabolism	Theory	02	02	50	20	30	
	Major DSC	4	24MIC36104	Molecular Biology	Theory	02	02	50	20	30	
	Major DSC	5	24MIC36105	Practical based on Microbial diseases and chemotherapy, Advanced immunology and immunological techniques	Practical	02	04	50	20	30	
	Major DSC	6	24MIC36106	Practicals based Metabolism and Molecular Biology	Practical	02	04	50	20	30	
	Major DSE	7	24MIC36107	Nanobiotechnology	Theory	02	02	50	20	30	
	Major	8	24MIC36108	Practical based on Nanobiotechnology	Practical	02	04	50	20	30	



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		DSE										
		VSEC	9	24MIC36409	Practicals based on Applied Microbiology	Practical	02	04	50	20	30	
		OJT	10	24MIC36610	On Job Training	Practical	04	08	100	40	60	