

Course Structure for M.Sc (Microbiology) NEP

Name of the Board: Department of Microbiology (PG-M.Sc-I)

Class	Sem	Course Type	Course Code	Course Name	Theory/ Practical	No. of Credits	No. of Hours	CIE Marks	ESE Marks	Total Marks
M.Sc- I	Ι	Major DSC	MIC51101	Microbial Systematics	Theory	02	30L	20	30	50
		Major DSC	MIC51102	Quantitative Biology	Theory	04	60L	40	60	100
		Major DSC	MIC51103	Biochemistry and Metabolism	Theory	04	60L	40	60	100
		Major DSC	MIC51104	Biochemical Techniques	Practical	04	30P	40	60	100
		Major elective	MIC51205	Bioremediation and Biomass Utilization	Theory	02	30L	20	30	50
		Major elective	MIC51206	Practical Based on Bioremediation and Biomass Utilization	Practical	02	15P	20	30	50



		RM	MIC51307	Research Methodology	Theory	04	60L	40	60	100
		Semester I				No. of credits		Tota 1	Tota l	Total mark
						: 22		CIE	ESE	s 550
								marks	marks	
M.Sc-I	II	Major DSC	MIC52101	Instrumentation and Molecular Biophysics	Theory	02	30L	220 20	330 30	50
		Major DSC	MIC52102	Molecular Biology	Theory	04	60L	40	60	100
		Major DSC	MIC52103	Cell Organization and Biochemistry	Theory	04	60L	40	60	100
		Major DSC	MIC52104	Practicals based on Instrumentation and molecular Biophysics, Molecular biology, Cell organization and Biochemistry	Practical	04	30P	40	60	100
		Major elective	MIC52205	Microbial communication, Membrane transport and signal transduction	Theory	02	30L	20	30	50



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	Major elective	MIC52206	Practicals Based on	Practical	02	15P	20	30	50
			Microbial						
			communication,						
			,						
			transport and signal						
			transduction						
	OJT/FP	MIC52307	On job training	Practical	04	30P	40	60	100
	Semester II				No. of		Total	Total	Total
					credits:		CIE	ESE	marks
					22		marks	marks	550
							220	330	
		OJT/FP	Major electiveMIC52206OJT/FPMIC52307	Major elective MIC52206 Practicals Based on Microbial communication, Membrane transport and signal transduction OJT/FP MIC52307 On job training	Major elective MIC52206 Practicals Based on Microbial communication, Membrane transport and signal transduction OJT/FP MIC52307 On job training Practical	Major electiveMIC52206Practicals Based on Microbial communication, Membrane transport and signal transductionPractical02OJT/FPMIC52307On job trainingPractical04Semester IIImage: Communication of the sector of the	Major electiveMIC52206Practicals Based on Microbial communication, Membrane 	Major electiveMIC52206Practicals Based on Microbial communication, Membrane transport and signal transductionPractical0215P20OJT/FPMIC52307On job trainingPractical0430P40Semester IIFracticalImage: semester IIImage: seme	Major electiveMIC52206Practicals Based on Microbial communication, Membrane transport and signal transductionPractical0215P2030OJT/FPMIC52307On job trainingPractical0430P4060Semester IIFracticalNo. ofTotalTotalCIEESEImage: Communication of trainingImage: Communication of trainingCIEESEmarks



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Name of the Board: Department of Microbiology

Class	Sem	Course Type	Course Code	Course Name	Theory/ Practical	No. of Credits	No. of Hours	Total Mark s	CIE Mark s	ESE Mark s
M.Sc- II	III	Mandatory Major	MIC63101	Advanced Immunology	Theory	04	60L	40	60	100
		Mandatory Major	MIC63102	OMICS and transgenic plants and animals	Theory	04	60L	40	60	100
		Mandatory Major	MIC63103	Clinical Microbiology	Theory	02	30L	20	30	50
		Mandatory Major	MIC63104	Practical based on Advanced Immunology, OMICS and transgenic plants and animals and Clinical Microbiology	Practical	04	30P	40	60	100
		Major Elective	MIC63205	Industrial Waste Water Treatment and Industrial Production of vaccines	Theory	02	30L	20	30	50
		Major Elective	MIC63206	Practical based on Industrial Waste Water Treatment and Industrial Production of vaccines	Practical	02	15P	20	30	50
		RP	MIC63307	Research project	Practical	04	30P	40	60	100
		Semester III				No. of credits: 22		Total CIE marks 220	Total ESE marks 330	Total marks 550



IV	Mandatory Major	MIC64101	Pharmaceutical Microbiology	Theory	04	60L	40	60	100
	Mandatory Major	MIC64102	Microbial Technology	Theory	04	60L	40	60	100
	Mandatory Major	MIC64103	Practical based on pharmaceutical microbiology and microbial technology	Practical	04	30P	40	60	100
	Major Elective	MIC64204	Bioinformatics	Theory	02	30L	20	30	50
	Major Elective	MIC64205	Practicals based on bioinformatics	Practical	02	15P	20	30	50
	RP	MIC64306	Research project	Practical	06	45P	60	90	150
	Semester IV				No. of credits: 22		Total CIE marks	Total ESE marks	Total marks 550
		Major Mandatory Major Mandatory Major Elective Major Elective RP Semester	MajorMajorMandatory MajorMandatory MajorMandatory MajorMajorMajorMajor ElectiveMajor ElectiveMajor ElectiveMajor BlectiveMajor Major ElectiveMajor BlectiveMajor BlectiveMajor Blective	MajorMicolMajorMIC64102Microbial TechnologyMajorMIC64103Practical based on pharmaceutical microbiology and microbial technologyMajorMIC64204BioinformaticsMajorMIC64205Practicals based on bioinformaticsMajorMIC64306Research project	MajorMicrobial TechnologyTheoryMandatory MajorMIC64102Microbial TechnologyTheoryMandatory MajorMIC64103Practical based on pharmaceutical microbiology and microbial technologyPracticalMajorMIC64204BioinformaticsTheoryMajorMIC64204BioinformaticsPracticalMajor ElectiveMIC64205Practicals based on bioinformaticsPracticalMajorMIC64306Research projectPractical	MajorMajorMiColMicrobial TechnologyTheory04Mandatory MajorMICol102Microbial TechnologyTheory04Mandatory MajorMICol103Practical based on pharmaceutical microbiology and microbial technologyPractical04Major ElectiveMICol204BioinformaticsTheory02Major ElectiveMICol205Practicals based on bioinformaticsPractical02Major ElectiveMICol205Practicals based on 	MajorMajorMIC64102Microbial TechnologyTheory0460LMajorMIC64103Practical based on pharmaceutical microbiology and microbial technologyPractical0430PMajorMIC64204BioinformaticsTheory0230LMajorMIC64204BioinformaticsTheory0230LMajorMIC64205Practicals based on bioinformaticsPractical0215PMajorMIC64306Research projectPractical0645PImage: No. of credits:Image: No. of credits:No. of credits:No. of credits:	MajorMicrobial TechnologyTheory0460L40Mandatory MajorMIC64102 MajorMicrobial Technology Practical based on pharmaceutical microbiology and microbial technologyPractical0460L40MajorMIC64103 MajorPractical based on pharmaceutical microbiology and microbial technologyPractical0430P40MajorMIC64204 ElectiveBioinformaticsTheory0230L20Major ElectiveMIC64205 bioinformaticsPractical bioinformatics0215P20RPMIC64306Research projectPractical bioinformatics0645P60VVImage: Semester IVImage: Semester IV	MajorMajorMIC64102Microbial TechnologyTheory0460L4060Mandatory MajorMIC64103Practical based on pharmaceutical microbiology and microbial technologyPractical0430P4060Major ElectiveMIC64204BioinformaticsTheory0230L2030Major ElectiveMIC64205Practicals based on pharmaceutical microbiology and microbial technologyTheory0230L2030Major ElectiveMIC64205Practicals based on bioinformaticsPractical0215P2030RPMIC64306Research projectPractical0645P6090VSemester IVIVInterventionInterventionInterventionInterventionInterventionVSemester IVIVInterventionInterventionInterventionInterventionInterventionInterventionVIntervention