Mohanlal Sukhadia University

Udaipur

Department of Microbiology

Syllabus and Scheme of Examination

For

M.Sc. CBCS Programme Microbiology

M.Sc. (CBCS) Microbiology

Total Seats: 20

(All Seats are Self Finance Seats)

*** Eligibility**: B Sc. with a minimum of 50% marks**. Candidates from outside the state of Rajasthan should possess a minimum of 60% marks to seek admission. A candidate should have studied any two of the following subjects for at least two years at the under graduate level: Botany, Zoology, Chemistry, Microbiology, Biochemistry and Biotechnology. Candidates with B.Sc in Biotechnology, Genetics, Microbiology, Biochemistry, Biomedical Science, Biomedical Technology,Genetic engineering, Genetics, Agriculture, Life Sciences, Biosciences, Food Science, Food Technology, Forensic Science, B.Pharmaand other relevant subjects are also eligible for admission.

Department of Microbiology

Mohanlal Sukhadia University

Syllabus for M. Sc. Microbiology CBCS Scheme

Type of course	Course code	Title of the Course	L-T-P/Week	No. of credits	University exam	Internal assessment	Total
Semester I							
Core course 1	M1MB01CT01	Instrumentation and Analytical Techniques	3-1-0	4	80	20	100
Core course 2	M1MB02CT02	Cell Biology and Molecular Genetics	3-1-0	4	80	20	100
Core course 3	M1MB03CT03	Fundamentals of Microbiology	3-1-0	4	80	20	100
Core course 4	M1MB04CT04	Biomolecules and Metabolism	3-1-0	4	80	20	100
Core course practical 1	M1MB05CP01	Instrumentation and Analytical Techniques + Cell Biology and Molecular Genetics	0-0-8	4	80	20	100
Core course practical 2	M1MB06CP02	Fundamentals of Microbiology + Biomolecules and Metabolism	0-0-8	4	80	20	100
Skill course 1	M2MB07SEC01	Any one from the given list	1-0-2	2	80	20	100
				26	**560**	**140**	**700**
Semester II							
Core course 5	M2MB01CT05	Molecular Biology	3-1-0	4	80	20	100
Core course 6	M2MB02CT06	Immunology and Enzymology	3-1-0	4	80	20	100
Core course 7	M2MB03CT07	Bioinformatics and Biostatistics	3-1-0	4	80	20	100
Core course 8	M2MB04CT08	Genetic Engineering	3-1-0	4	80	20	100
Core course practical 3	M2MB05CP03	Molecular Biology + Immunology and Enzymology	0-0-8	4	80	20	100
Core course practical 4	M2MB06CP04	Bioinformatics and Biostatistics + Genetic Engineering	0-0-8	4	80	20	100
				24	**480**	**120**	**600**
Semester III							
Core course 9	M3MB01CT09	Microbial Genetics	3-1-0	4	80	20	100
Core course 10	M3MB02CT10	Industrial Microbiology	3-1-0	4	80	20	100
Core course 11	M3MB03CT11	Microbial Ecology	3-1-0	4	80	20	100

Core course 12	M3MB04CT12	Microbial Physiology and Metabolism	3-1-0	4	80	20	100
Core course practical 5	M3MB05CP05	Microbial Genetics + Industrial Microbiology	0-0-8	4	80	20	100
Core course practical 6	M3MB06CP06	Microbial Ecology + Microbial Physiology and Metabolism	0-0-8	4	80	20	100
Skill course 2	M3MB07SEC02	Any one from the given list	1-0-2	2	80	20	100
				26	**560**	**140**	**700**
Semester IV Choice of A or B							
A.	**Industrial Training**	Major Research Project (at research laboratory or institute of repute (5 months)	**0-0-8**	**24**	**480***	**120**	**600**
B.	**DSE**						
Discipline Specific Elective 1	M4MB01ET01	Minor Research Project	3-1-0	4	80	20	100
Discipline Specific Elective 2	M4MB02ET02 (a/b)	Choose any one from the given list	3-1-0	4	80	20	100
Discipline Specific Elective 3	M4MB03ET03 (a/b)	Choose any one from the given list	3-1-0	4	80	20	100
Discipline Specific Elective 4	M4MB04ET04 (a/b)	Choose any one from the given list	3-1-0	4	80	20	100
Discipline Specific Elective practical	M4MB05EP01	Practical 1 DSE	0-0-8	4	80	20	100
Discipline Specific Elective practical	M4MB06EP02	Practical 2 DSE	0-0-8	4	80	20	100
				24	**480**	**120**	**600**
GRAND TOTAL				**100**	**2080**	**520**	**2600**

***480 :** (Project dissertati1on 200 + Presentation 150 + Viva Voce 100, Scientific Paper 30)

SYLLABUS
for
M. Sc. Microbiology

Structure of M. Sc. Microbiology under CBCS Scheme

Core Course

Semester I

CC1(M1MB01CT01): Instrumentation and Analytical Techniques
CC2(M1MB02CT02): Cell Biology and Molecular Genetics
CC3(M1MB03CT03): Fundamentals of Microbiology
CC4 (M1MB04CT04): Biomolecules and Metabolism
(Practical) CC1,2 (M1MB05CP01): Instrumentation and Analytical Techniques + Cell Biology and Molecular Genetics
(Practical) CC3,4 (M1MB06CP01): Fundamentals of Microbiology + Biomolecules and Metabolism2
SEC1 (M2MB07SEC01): Techniques of Microbiology

Semester II

CC5(M2MB01CT05): Molecular Biology
CC6(M2MB02CT06): Immunology and Enzymology
CC7(M2MB03CT07): Bioinformatics and Biostatistics
CC8(M2MB04CT08): Genetic Engineering
(Practical) CC5, 6 (M2MB05CP03): Molecular Biology + Immunology and Enzymology
(Practical) CC7, 8(M2MB06CP04): Bioinformatics and Biostatistics + Genetic Engineering

Semester III

CC9 (M3MB01CT09): Microbial Genetics
CC10(M3MB02CT10): Industrial Microbiology
CC11(M3MB03CT11): Microbial Ecology
CC12(M3MB04CT12):Microbial Physiology and Metabolism
(Practical) CC9,10 (M3MB05CP05): Microbial Genetics + Industrial Microbiology
(Practical) CC11, 12(M3MB06CP06): Microbial Ecology + Microbial Physiology and Metabolism
SEC2 (M3MB07SEC02): Probiotics, Air and Water Microbiology

Semester IV : Choice of A or B

A : Industrial Training : Major Research Based Project including Practical work at research laboratory or institute of repute other than parent university (5 Months)

B : Discipline Specific Electives

DSE1(M4MB01ET01): Minor Research Project (Compulsory for all students)

(Any 3 out of the given list)

DSE2(M4MB02ET02) (a/b): a. Environmental Microbiology
b. Virology