

B.Sc. Microbiology (Hons) 4 Year Final Marks Structure syllabus

1st Year 1st Semester

1.	CHY101	Chemistry-1	2+0
2.	BCC101	Biology: Concepts and Connections	3+0
3.	MPE101	Microbiology: Principle and Exploration 1	0+4
4.	BBB101	Biochemistry -The Building Blocks of Life	2+0
5.	MSI101	Microbial Structure, Identification and Distribution	2+0
6.	MBB101	Micro building Block Lab	0+3
7.	ENG101	English	2+0
8.	MHP101	Microbiology Historical 20 Turning Persons and 20 Turing discoveries	2+0
9.	OPE101	Open Courseware	0+1=21

Non- Credit Courses

BIS101	Biostatistics	1+2
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Sr No	Subject Name	Course code	Total Credits	Theory(T)		Total Marks (T)	Practical (P)		Total Marks (P)	Total Marks (T+P)
				External Marks	Internal Marks		External Marks	Internal Marks		
1	Chmistry-1	CHY101	2+0	60	40	100	00	00	00	100
2	Biology: Concepts and Connections	BCC101	3+0	90	60	150	00	00	00	150
3	Microbiology: Principle and Exploration 1	MPE101	0+4	00	00	00	120	80	200	200
4	Biochemistry -The Building Blocks of Life	BBB101	2+0	60	40	100	00	00	00	100
5	Microbial Structure, Identification and Distribution	MSI101	2+0	60	40	100	00	00	00	100
6	Micro building Block Lab	MBB101	0+3	00	00	00	90	60	150	150
7	English	ENG101	2+0	60	40	100	00	00	00	100
8	Microbiology Historical 20 Turning Persons and 20 Turing discoveries	MHP101	2+0	60	40	100	00	00	00	100
10	Open Elective	OPE101	0+1	00	00	00	30	20	50	50
			13+08							
	Non-Credit Course									
9	Biostatistics (NCC)	BIS101	(1+2)	30	20	50	60	40	100	150

1st Year 2nd Semester

1.	CHY202	Chemistry-2	2+0
2.	MPE202	Microbiology: Principle and Exploration 2	0+4
3.	MPM201	Microbial Physiology and Metabolism	2+0
4.	GAC201	Genes and Cells	2+0
5.	ISH201	Immune System in Health and Disease	2+0
6.	BSL201	Bio-skill sets laboratory	0+4
7.	MSP201	Micro Skill Mini Projects	0+2
8.	ENG201	English	2+0
9.	OPC201	Open Courseware	0+2=22

Non-Credit Course

BMA201	Biomathematics	1+2
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Sr No	Subject Name	Course code	Total Credits	Theory(T)		Total Marks (T)	Practical (P)		Total Marks (P)	Total Marks (T+P)
				External Marks	Internal Marks		External Marks	Internal Marks		
1	Chemistry-2	CHY202	2+0	60	40	100	00	00	00	100
2	Microbiology: Principle and Exploration 2	MPE202	0+4	00	00	00	120	80	200	200
3	Microbial Physiology and Metabolism	MPM201	2+0	60	40	100	00	00	00	100
4	Genes and Cells	GAC201	2+0	60	40	100	00	00	00	100
5	Immune System in Health and Disease	ISH201	2+0	60	40	100	00	00	00	100
6	Bio-skill sets laboratory	BSL201	0+4	00	00	00	120	80	200	200
7	Micro Skill Mini Projects	MSP201	0+2	00	00	00	60	40	100	100
8	English	ENG201	2+0	60	40	100	00	00	00	100
9	Open Courseware	OPC201	0+2	00	00	00	60	40	100	100
	Non-Credits Course									
10	Biomathematics	BMA201	1+2	30	20	50	60	40	100	150

3rd Year 2nd Semester

1.	GHD601	Genome and Human Disease	2+0
2.	PIM601	Pharmaceutical and industrial Microbiology	2+0
3.	DIM601	Diagnosis and Industrial Microbiology Lab	0+3
4.	SPI601	Symbiosis, Plant Immunity and Disease	2+0
5.	GET601	Gene editing technologies for Microbiology & therapeutic	2+0
6.	ABG601	Analysis of bacterial gene expression	2+0
7.	PGE601	Plant, Genome editing and analysis Laboratory	0+3
8.	DBF601	Design Biomanufacturing Facilities, Critical Utilities, Process & equipment	2+0
9.	BML601	Biomanufacturing Laboratory	0+2
10.	MGA601	Microbial genome analysis	0+2
11.	OPC601	Open courseware	0+2=24

Sr No	Subject Name	Course code	Total Credits	Theory(T)		Total Marks (T)	Practical (P)		Total Marks (P)	Total Marks (T+P)
				External Marks	Internal Marks		External Marks	Internal Marks		
1	Genome and Human Disease	GHD601	2+0	60	40	100	00	00	00	100
2	Pharmaceutical and industrial Microbiology	PIM601	2+0	60	40	100	00	00	00	100
3	Diagnosis and Industrial Microbiology Lab	DIM601	0+3	00	00	00	90	60	150	150
4	Symbiosis, Plant Immunity and Disease	SPI601	2+0	60	40	100	00	00	00	100
5	Gene editing technologies for Microbiology & therapeutic	GET601	2+0	60	40	100	00	00	00	100
6	Analysis of bacterial gene expression	ABG601	2+0	60	40	100	00	00	00	100
7	Plant, Genome editing and analysis Laboratory	PGE601	0+3	00	00	00	90	60	150	150
8	Design Biomanufacturing Facilities, Critical Utilities, Process & equipment	DBF601	2+0	60	40	100	00	00	00	100
9	Biomanufacturing Laboratory	BML601	0+2	00	00	00	60	40	100	100
10	Microbial genome analysis	MGA601	0+2	00	00	00	60	40	100	100
11	Open courseware	OPC601	0+2	00	00	00	60	40	100	100

4th Year 1st Semester

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| 1. BIB701 | Biosafety, IPR and Bioethics | 2+0 |
| 2. BBB701 | Biofertilizer, Biopesticide, Bioinsecticides | 2+0 |
| 3. MQC701 | Microbial Quality Control | 2+0 |
| 4. PSO701 | Poster/ Seminar/ Oral Presentation | 0+2 |
| 5. RMP701 | Research Mini-Projects | 0+8 |
| 6. OPC701 | Open Courseware | 0+2=18 |

Sr No	Subject Name	Course code	Total Credits	Theory(T)		Total Marks (T)	Practical (P)		Total Marks (P)	Total Marks (T+P)
				External Marks	Internal Marks		External Marks	Internal Marks		
1	Biosafety, IPR and Bioethics	BIB701	2+0	60	40	100	00	00	00	100
2	Biofertilizer, Biopesticide, Bioinsecticides	BBB701	2+0	60	40	100	00	00	00	100
3	Microbial Quality Control	MQC701	2+0	60	40	100	00	00	00	100
4	Poster/ Seminar/ Oral Presentation	PSO701	0+2	00	00	00	60	40	100	100
5	Research Mini-Projects	RMP701	0+8	00	00	00	240	160	400	400
6	Open Courseware	OPC701	0+2	00	00	00	60	40	100	100
7										

4th Year 2nd Semester

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| 1. PJI801 | Project/ Internship | 0+16 |
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Sr No	Subject Name	Course code	Total Credits	Theory(T)		Total Marks (T)	Practical (P)		Total Marks (P)	Total Marks (T+P)
				External Marks	Internal Marks		External Marks	Internal Marks		
1	Project/ Internship	PJI801	0+16	00	00	00	480	320	800	800