

SCHOOL OF SCIENCE

Department of Microbiology

CRITERIA 1

SUB CRITERIA 1.3.3

Percentage of students undertaking field projects / research projects / internships

Academic Year

2021-2022





SCHOOL OF SCIENCE Department Of Microbiology

Total Number of Research Projects/Internships in UG

	Program	Total Number of students involved in Internship
Internships/Research Projects	BSc Microbiology	02

In the Microbiology disciplines, there is mandatory Internship. In the curriculum design it has been incorporated into the programme and complete it as a mandatory part of final year training.

Total Number of Field Project/Industry visits in UG and PG

	Program	Total Number of students
		involved in field projects
Expert Lecture/Industry visits/Hands on Training	BSc Microbiology	02

Field visits / Industry Visits Field/ Industrial visits during the course of any programme gives students an insight on the internal working environment of the company. Microbiology, students undertake field visits to research institutes, industries, sewage treatment plants, water treatment plants, etc. to enhance knowledge and enrich skills.

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4.	Field Project/Industry visits in UG	14-20

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School of Sciences

NAME OF COURSE: B. SC. MICROBIOLOGY

SESSION 2019 ONWARDS

SEMESTER: VI

SUBJECT WISE DISTRIBUTION OF MARKS AND CORRESPONDING CREDITS

					Maxin	num Ma	rks Allotted			C		Total
~				Theory Slo	t		Practical Slo	t		Crec	nts	Credit s
Sr. No.	Subject Code	Subject Name	End Sem.	Mid Sem. MST (Two tests average)	Class Particip ation	End Sem.	Progressi ve Evaluatio n	Intern al viva	Total Marks	L	Р	
1	BSMB-601	Medical Microbiology	40	30	30	40	30	30	200	3	1	04
2		Food and Dairy Microbiology	40	30	30	40	30	30	200	3	1	04
3	BSMB-603	Environmental Microbiology	40	30	30	-	-	-	100	4	0	04
4	BSMB-604	Marine Microbiology	40	30	30	40	30	30	200	3	1	04
5	BSMB-605	Agriculture Microbiology	40	30	30	40	30	30	200	1	1	02
6	BSMB 606	Major Project + Seminar				200+ 100	-	-	300	2	-	02
7	BSMB-607	Microbiology Lab	-	-	-	40	30	30	100	2	-	02
8	BSMB 608	NCC*/MOOC*	40	30	30	40	30	30	200	2	1	3
	Total								1200			22+3

*Additional credit only for those students who opt for NCC/MOOC

List of Open Electives: 2 Subjects BSMB 606 A: Introduction to Nanobiotechnology BSMB 606 B: Frontiers in Biotechnology and Microbiology

Dr. Y.C. Goswami (Chairman & Dean)

Dr. Rita Sharma (Coordinator &member)

1/

Dr. Santosh Kumar (Exam Superintendent)





Syllabus-2021-2022

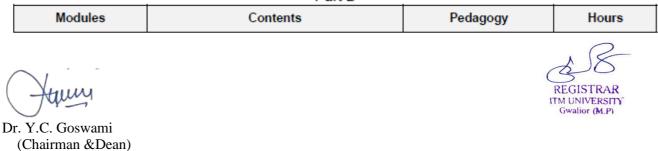
(SOS)(Bsc_Microbiology)

Title of the Course	Major Project	
Course Code	BSMB 607 (P)	I

Part A

			Part A					
Year	3rd	Semester	6th	Credits	L	Т	Р	С
					0	0	6	6
Course Type	Project							
Course Category	Projects	and Internship						
Pre-Requisite/s	instrume	must have basic know nts, good laboratory p e knowledge		Co-Requisite/s				
Course Outcomes & Bloom's Level	well as o CO2- Th analysis result of CO3- Fo addressi realistic t CO4- De objective CO5- Pro	n personal developme e planning and organi of inputs, activities, re strategy analysis and rmulate a project that ing identified problems time frame.(BL6-Creat signing a project fram s, expected results an	ent and skills.(BL2- zing of project fram sults, purpose or or selection.(BL3-App is capable of achiev , of managing pote te) ework that respond d activities(BL6-Cr	ework in the Logframe t utcome, and overall obje oly) ving its intended purpos ntial risks, of designing a ls to particular problem v	hrou ective e/obj activi	gh th e or g jectiv ities a	e Joal a e, of and	is a
Coures Elements	Entrepre Employa	onal Ethics × × /alues ×	SDG (Goals)	SDG3(Good health an SDG4(Quality education SDG8(Decent work an growth)	on)		-	

Part B



			Theory		
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
			Practical		
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation

Part D/Marke Distribution)

Part E

	FaitE
Books	Sustainable solid waste management: issues, policies, and structures. Academic Foundation, New Delhi. Dhamija, U., (2009). Virendra Kumar Pandey Textbook of Food Microbiology 1st Edition Research methodology, C. R. Kothari, 6th Edition
Articles	https://www.sciencedirect.com/science/article/pii/S2666049020300244 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7150063/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5037945/
References Books	Handbook of solid waste management, McGraw-Hill Publication, USA Kreith F, Tchobanoglous G (2002) John C. Ayres Microbiology of foods-2nd Edition Research methodology, Panneerselvam, R., Prentice Hall of India, New Delhi
MOOC Courses	https://nptel.ac.in/courses/105103205 https://nptel.ac.in/courses/126105013 https://nptel.ac.in/courses/121106007
Videos	https://nptel.ac.in/courses/105103205 https://nptel.ac.in/courses/126105013 https://nptel.ac.in/courses/121106007

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	1	-	1	-	-	-	-	-	-	-	2	-	1
CO2	1	1	3	1	-	-	2	-	-	-	-	-	-	1	3
CO3	1	3	-	2	3	-	-	-	-	-	-	-	1	1	-
CO4	1	-	1	2	2	-	1	-	-	-	-	-	2	3	1
CO5	1	-	1	2	1	-	-	-	-	-	-	-	2	3	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Dr. Y.C. Goswami (Chairman & Dean)

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Details of UG Research projects/Internship

Name of the School: School Science, ITM University, Gwalior. Name of the Course and Branch: B.Sc. Microbiology Session: 2021–2022 Total No. of Students enrolled: 02 Duration: 45 Days

List of Students

S.N	o Roll No	Name Students	Of Name of Industry/Institute	Торіс	Supervisor
	BSBN1BT19001	Vishal Sahu	MDD X 10	Industrial training on state of art lectures on specialized biotech techniques	Ms. Pallavi Jaiswal
	BSBN1BT19003	Priyanka Kumari	Science,	Industrial training on state of art lectures on specialized biotech techniques	Ms. Pallavi Jaiswal

Prof Of Wagesh C Goswami -Dean Dean School of Science ITM University Prof. Y. C. Gasykami NDIA-473(8)]

School of Sciences

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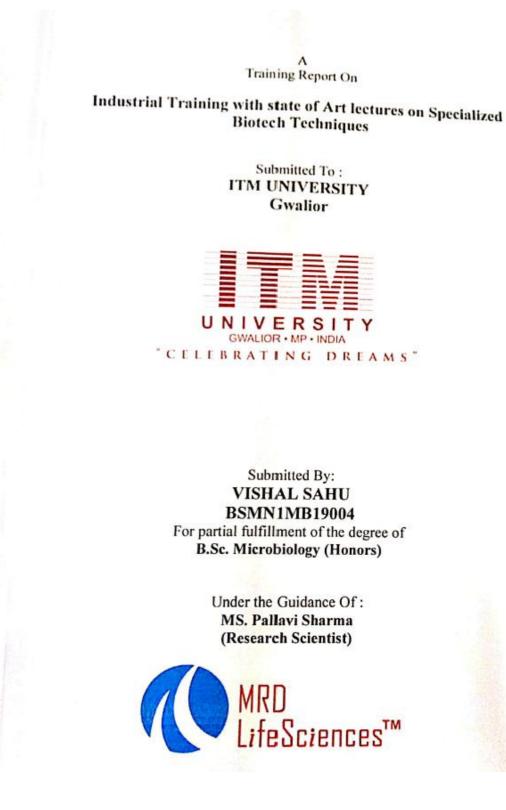
List of Students of BSc Microbiology 6th Semester

S.No	Roll Number	Name of student
1		
	BSBN1BT19001	Vishal Sahu
2	BSBN1BT19003	Priyanka Kumari

Prof. (Dr.) Yogesh C Goswami

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Proff (Dr.) Yogesh C Goswami School of A Prédisciences School of Science ITM University Gwalior (M.P.)-INDIA-474001

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Enroll. No. MRDLS/022/02/4721

Certificate of Training

February 08, 2022 - March 24, 2022

Mr. Vishal Sahu

This is to certify that Mr. Vishal Sahu, student of B.Sc. (Hons.) Microbiology from ITM University, Gwalior, has successfully completed 45 days of rigorous hands-on industrial training with state of art lectures on Specialized Biotech Techniques. This curriculum included training on various Microbiological Techniques, SDS-PAGE, Western Blotting, Restriction digestion, Ligation and Transformation, Cloning L Gene expression, DNA/RNA Isolation and Analysis, Gel Electrophoresis, Southern/Northern Blotting, Fermentation, Downstream Processing, Salt Precipitation, Dialysis, Chromatography, Polymerase Chain Reaction (PCR), Gel Documentation System L Iligh Performance Liquid Chromatography (HPLC).

Mr. Vishal Sahu is a sincere and diligent student. We wish him every success for his bright future.

Chitranshu Pandey Research Scientist

Manoj Verma Director

MRD LifeSciences Pvt. Ltd.

B-3/46 & 47, 2nd Floor, Vibhuti Khand, Near-State Bank of India, Gomti Nagar, Lucknow – 226010 (U.P.) Tel: +91-522-4012130/31/32/33, Fax: +91-522-4304333 E-mail: info@mrdlifesciences.com, www.mrdlifesciences.com

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Goswami

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ITM UNIVERSITY Gwalior (M.P)

A Training Report On

Industrial Training with state of Art lectures on Specialized Biotech Techniques

> Submitted To : ITM UNIVERSITY Gwalior



Submitted By: PRIYANKA KUMARI BSMN1MB19002 For partial fulfillment of the degree of B.Sc. Microbiology (Honors)

> Under the Guidance Of : MS. Pallavi Sharma (Research Scientist)



Prof. (Dr.) Yogesh C Goswami School of Appret Sciences School of Science ITM University

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REGISTRAR ITM UNIVERSITY Gwalior (M.P)

5/13/24.



Enroll. No. MRDLS/022/02/4722

Certificate of Training

Tebruary 08, 2022 - March 24, 2022

Ms. Priyanka Kumari

This is to certify that Ms. Priyanka Kumari, student of B.Sc. (Hons.) Microbiology from ITM University, Gevalior, has successfully completed 45 days of rigorous hands-on industrial training with state of art lectures on Specialized Biotech Techniques. This curriculum included training on various Microbiological Techniques, SDS-PAGE, Western Blotting, Restriction digestion, Ligation and Transformation, Cloning & Gene expression, DNA/RNA Isolation and Analysis, Gel Electrophoresis, Southern/Northern Blotting, Fermentation, Downstream Processing. Salt Precipitation, Dialysis, Chromatography, Polymerase Chain Reaction (PCR), Gel Documentation System & High Performance Liquid Chromatography (HPLC).

Ms. Priyanka Kumari is a sincere and diligent student. We wish her every success for her bright future.

Libonshy

Chitranshu Pandey Research Scientist

Manoj Verma Director

MRD LifeSciences Pvt. Ltd.

B-3/46 & 47, 2nd Floor, Vibhuti Khand, Near-State Bank of India, Gomti Nagar, Lucknow – 226010 (U.P.) Tel: +91-522-4012130/31/32/33, Fax: +91-522-4304333 E-mail: info@mrdlifesciences.com, www.mrdlifesciences.com

Prof. (Dr.) Yogesli C Goswami

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Details of One day awareness workshop (UG/PG) On "World Soil Health Day" On Agroforestry: Current Scenario

II Year B.Sc Biotechnology/Microbiology & I & Yr M. Sc Biotechnology – Brief Summary

Objective

The **object of the program is** to focus attention on the importance of Agroforestry. Trees and flowering plants within agroforestry systems provide food and shelter for pollinators like bees, butterflies and birds. This boosts pollination of both crops and wild plants, ensuring reproductive success. Agroforestry fosters a healthy soil ecosystem that increases microbial diversity

Dr A.K. Handa delivers a lecture on the topic "Agroforestry: Current Scenario"

Dr. A.K. Handa gave an expert lecture on the on the topic "**Agroforestry: Current Scenario**". He briefed about the Agroforestry Department. The Department of Agroforestry was started in 1979 to benefit the farmers of the Nation. In the year 1983, it was established in Jhansi.While giving information about agroforestry, discussed the benefits of planting trees in the forest simultaneously with agriculture. Dr. Handa also emphasized the significance of Three " I's" in Agroforestry: Intensive, Interactive, and Integrated. Scientist Dr. Indradev, as the second speaker, narrated the verse of Matsya Purana and highlighted the importance of trees by accepting a tree equal to ten sons. The emphasis was laid on the conservation of earth and soil In the end, Pro-Vice-Chancellor Dr. S.K.N. Khedkar and Dean Dr. Richa Kothari expressed their gratitude to the guests by presenting the mementos. At the end of the session Coordinator, Dr. Rita Sharma proposed the vote of thanks.

Dr.) Yogesh C Goswami chool of Apprentices chool of Science ITM University Gwalior (M.P.)-INDIA-474001

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OUTCOMES

Theme of this year "Agroforestry: Current Scenario" of World Soil Health Day, Agroforestry projects combine crop fields and trees, optimizing land use and health. These practices offer economic and ecological benefits for sustainable agriculture. The challenge for agroforestry arises from managing diverse species and complex farming systems

There are also some new global challenges and risks such as **industrialization**, **increased construction sites**, **ethical concerns related to artificial intelligence**, and the potential **misuse of biotechnology**. It is therefore important for society to have a deep understanding of soil health and its potential impact on our lives, and to ensure that agroforestry is used worldwide to overcome the current soil issues and to improve soil health through agroforestry.

In this manner this year WSHD celebrations highlighted that **by promoting agroforestry and** advanced agriculture technologies, we can ensure a better future for ourselves and for generations to come.

(Dr.) Yogesh C Goswami

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"CELEBRATING DREAMS"

List of Students -Attended Awareness workshop on World soil health day 6th December 2021

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	Attendance of Students o	f BSc & M. Sc (BT/MB/I	FT) II, IV, VI
		Semester stry: Current Scenario"	
		n the occasion of	
	World Soil H	ealth Day 6th December 2021	
	World Son IX		
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1	Imran Khan	BSBN1BT21002 BSBN1BT21003	D. IR halabe.
2	Jigyanshu Khalate	BSBN1BT21005	Bhagat.
3	Parth Ajit Bhagat	BSBN1BT21006	etichens .
5	Shivangi Chauhan	BSBN1BT21008	(unday)
6	Uday Pratap Deepti Parmar	BSBN1BT21009	a Stand
7	Shweta Rajput	BSBN1BT21011	50 240
8	Raj Sharma	BSBN1BT21013	Rat
10	Vivek Rajouriya	BSBN1BT21014	male
11	Mehak Ganglani	BSBN1BT21015	all fedal
12	Amit Yadav	BSBN1BT21018	the thit.
13	Ojaswini Kothari	BSBN1BT21019	ale . Rottag.
	Aparna Shandilya	BSBN1BT21022	for fores.
15	Kumkum Yadav	BSBN1BT21023	At sign.
16	Aswabendra singh	BSBN1BT21024	Acy V.
17	Nandini Raj	BSBN1BT21025	Nog A.A.
18	Yashasvi Shrivastava	BSBN1BT21026	Jashan .
19	Md Tausif Alam	BSBN1BT21027	Suma !!!
20	Surbhi Mandal	BSBN1BT21028	gi Mariay.
21	Veeranki Sai Kiran	BSBN1BT21029	Var Firman !!
22	Shruti Gupta	BSBN3BT22T01	1 Kipring
23	Awkash Bhadouriya	BSBN3BT22T02	Jel m me
24	Saikat Mondal	BSMN1MB21003	The orland
25		BSMN1MB21006	0 pr Ray
26	Mohini Rajak	BSMN1MB21007	Cultert
27	Akansha Gupta	BSMN1MB21008	Prillwayth'
28	Gagan Awasthi	BSBN1BT20001	C Dinay 18
29	Anuj Shrivastava	BSBN1BT20002	Children,
30	Harsh Choudhary		Plenation
31	Priyanka Sharma	BSBN1BT20004	
32	Samridhi Sonker	BSBN1BT20005	Set any
33	Somya Sharma	BSBN1BT20006	
120.20	Tushant Wats	BSBN1BT20007	1 mil
34		BSBN1BT20008	your
35	Yaser Khan	BSBN1BT20009	Allath.
36	Srijita Rauth	BSBN1BT20010	Carphas
37	Monalisa Aktar		(m) Jacken.
38	Meenakshi Jadhav	BSBN1BT20(11	he hich
39	Kashish Jain	BSBN1BT20012	Cheller
40	Deepika Goyal	BSBN1BT20013	Det, what

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1		BSBN1BT20018	Tang
41	Tanya Bhadoriya	BSBN1BT20019	Cicl
42	Gabou Jonathan Levy Pallavi Sharma	BSMN1MB20001	Pa
43	Anushree Kamthan	BSMN1MB20002	Amiliece
44	Sakshi Rathore	MSBN1BT20001	sea_
45	Neha Verma	MSBN1BT20003	NB
40	Priyanka Achra	MSBN1BT20004	Pritelo-
47	Deeksha Chandra	MSBN1BT20005	Deeler
49	Raksha Gupta	MSBN1BT20006	R
50	Kamini Rajput	MSBN1MB20001	Kins
51	Kumari Aruna	MSBN1BT20002	AL
52	Pranshu Sharma	MSBN1BT20003	Pranchis
53	Saloni Mankele	MSBN1BT20004	2
54	Shivani Agarwal	MSBN1BT20005	chings_
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55	Aashi Jain	BSBN1BT19001	A
56	Aman Sharma	BSBN1BT19003	ASE
		BSBN1BT19004	AF
58	Atharva Agrawal	BSDIVID119004	OR.
59	Bharti Arora	BSBN1BT19006	JAP
60	Devansh Singh Bais	BSBN1BT19007	
61	Dishee Mittal	BSBN1BT19008	PM-
62	Divya Shrivas	BSBN1BT19009	DS
	Divya Surivas		Deshart
63	Dushyant Singh	BSBN1BT19010	2 ini
64	Gargi Rathore	BSBN1BT19011	Dershart Gereji
65	Gaurangi Bhadouriya	BSBN1BT19012	GE
66	Khushi Kaushal	BSBN1BT19014	KE
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67	Lalit Prajapati	BSBN1BT19015	Kohnel.
68	Mayank Tripathi	BSBN1BT19017	
			Materia
69	Muskan Jayaswal	BSBN1BT19018	Mutan
70	Neha Sharma	BSBN1BT19019	An
71	Neha Sharma	BSBN1BT19020	
	Prayanshu Verma	BSBN1BT19021	Pleus
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73	Pujan Ghimire	DSDITIDITIOLL	yr. w

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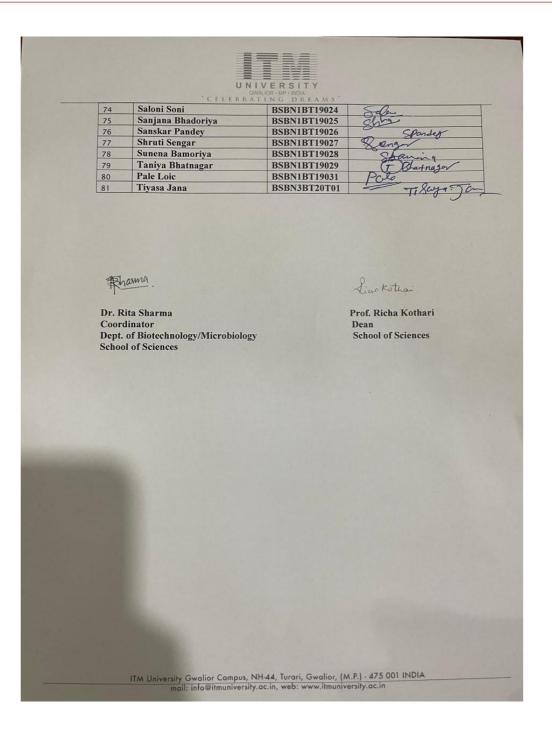
uW Prof. (Dr.) Yogesh C Goswami

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"CELEBRATING DREAMS"





World Soil Health Day Celebration on 6th December 2021 in Madhu Limay Seminar Hall, ITM University, Gwalior









Students attending One Day awareness workshop on "World Soil Health Day"



Students and Faculty members attending One Day awareness workshop on "World Soil Health Day"

