

NEP 2020 - Course Structure

 $\begin{tabular}{lll} Programme Name: Bachelor of Science (Microbiology) Honos. / Honos with Research) \\ Semester-I & Batch: AY 23-24 onwards \\ \end{tabular}$

Sr. No.	Core	Course Code	Course Name		Teaching Scheme (Hrs./Week) L T P C		Examinati Formative Assessment CIA		Summative Assessment ESE		Total Marks	
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	r NYMI10	1 Microbial Diversity	3	-	-	3	50		100		100
2	Major	r NYMI10	2 Principles of Microbiology	3	-	-	3	50		100		100
MIN	OR: N	A										
				NA								
Oper	Electi	ives (OE)*		1	ı			1			T	ı
3	Ma	andatory	Open Elective I	4			4	50		100		100
Voca	tional	and Skill En	hancement (VSEC)									
4	VSC	NYMI111	Bioinstrumentation - I			4	2		50		50	100
5	SEC	NSSS01	Biofertilizers			4	2		50		50	100
Abili	ty/Valı	ue Education	Courses/ Indian Knowledge Sy	stem	(AE	C/V	EC/	IKS)*				
6	AEC		Ability Enhancement Courses - I			4	2		50		50	100
7	VEC		Value Education Courses- I			4	2		50		50	100
8	IKS		Indian Knowledge System - I	-		4	2		50		50	100
OJT	FP/CF	EP/CC/RP										
9	СС	NYMI12	Yoga and Meditation			4	2		50		50	100
			Total				22					

CIA: Continuous Internal Assessment ESE: End Semester Theory Exam.	OJT – On Job Training FP – Field Project	CIA	Weightage	Description
1	CEP - Community	CIA 1	10%	Home Assignment
L: Theory Lecture,	Engagement Project	CIA 2	20%	Mid-Term Exam (MTE)
T: Tutorial,	CC – Curricular Course			Activity/Project and
P: Practical	RP – Research Project * - Refer University	CIA 3	10%	research based learning
	Notification	CIA 3	10%	along with seminar
				presentation
				Behavioural Attitude
		CIA 4	10%	+General Discipline
		CIA 4	10%	Theory +Practical
				attendance
		CIA TOTAL	50%	
_	Written Examination - End S	Semester Exam (ESE)	50%	
	_	TOTAL	100%	



NEP 2020 - Course Structure

 $\begin{tabular}{ll} Programme Name: Bachelor of Science (Microbiology) Honos. / Honos with Research) \\ Semester-II & For the Batch: AY 23-24 onwards \\ \end{tabular}$

2					S	each schei	ne)	E	xamina	tion Schem	e	Total
Sr. No.	Core	Course Code		Course Name		T P		P C	-	native ssment A	Asses	Summative Assessment ESE	
									Course	Lab	Course	Lab	
MAJ	OR (M	ANDATO	RY + ELEC	CTIVES)									
1	Major	NYMI201	Technic	ques in Microbiology	3			3	50		100		100
2	Major	NYMI202	Fundame	entals of Biochemistry	3	•	-	3	50		100		100
MIN	OR		1										
3	Minor	NYMI		Minor - I	2			3	50		100		100
Open	en Electives (OE)*												
4	Maı	ndatory	Op	Open Elective - II				3	50		100		100
Voca	tional a	nd Skill E	hancemen	at (VSEC)							•		
5	SEC	NYMI211	Bioinstrumen	tation - II			4	2		50		50	100
6	VSC	NSSS02	Wine Techno	logy			4	2		50		50	100
Abili	ty/Valu	e Education	on Courses	/ Indian Knowledge Sy	stem	(AE	C/ V]	EC/	IKS)*				
7	AEC		Ability Er	nhancement Courses - II			4	2		50		50	100
8	VEC		Value E	ducation Courses- II		1	4	2		50		50	100
OJT/	FP/CE	P/CC/RP											
9	CC	NYMI212		SUN Clubs			4	2		50		50	100
				TOTAL	12	-	20	22	200	250	400	250	900
CIA: Continuous Internal Assessment OJT – On Job Training FP – Field Project						C	CIA		Weight	tage	Des	cription	
	ESE: End Semester Theory Exam. L: Theory Lecture, CEP – Community Engagement Project					A 1		10%			Assignmer n Exam (M		
T: Tutorial, CC - Curricular Course RP - Research Project * - Refer University						A 3		10%		Activity/Proj based learning	ect and re along with	esearch	
Notification					C	A 4		10%	ó	presentation Behavioural Attitude +General Discipline Theory +Practical attendance			
						CIA 1			50%		rneory +Pra	cucai attei	папсе
				Written Examination - End	Seme		xam TAL	(ESE) 50% 100°				



NEP 2020 - Course Structure

	MINOR - I									
Sr. No	Semester	Course Code	Name of the course (Choose any One)							
1		NYMIM01 - 10	Biotechnology (I – V)							
2		NYMIM11 -20	Chemistry (I – V)							
3	II - VI	NYMIM21 -30	Forensic Sciences (I – V)							
4		NYMIM31-40	Mathematics (I – V)							
5		NYMIM41-50	Physics (I – V)							

Exit Option: Award of UG certificate in Major with 44 credits and additional 4 credits of Internship or Continue with Major and Minor.



NEP 2020 - Course Structure

Programme Name: Bachelor of Science (Microbiology) Honos. / Honos with Research)
Semester – III For the Batch: AY 23-24 onwards

			Course		Teaching Scheme (Hrs./Week)			E	Total			
Sr. No.	Core Course Code		Course Name	L	Т	P	C		native ssment	Summative Assessment ESE		Marks
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMI301	Bacterial Cytology and Biochemistry	4	-	-	4	50	-	100		100
2	Major	NYMI302	Air, Water and Soil Microbiology	4	-	-	4	50		100		100
MINOR												
3	Minor	NYMI	Minor - II	4			4	50		100		100
Oper	ı Electi	ves (OE)*		I	ı					L		
4	Mai	ndatory	Open Elective – III(SWAYAM)	2			2	50		100		100
Voca	tional S	Skill Cours	se (VSC)									
5	VSC	NYMI311	Basic Techniques in Microbiology			4	2		50		50	100
Abili	ty/Valu	ie Educatio	on Courses/ Indian Knowledge Sys	stem ((AE	C/ V]	EC/	IKS)*				
6	AEC		Ability Enhancement Courses - III			4	2		50		50	100
OJT/	FP/CE	P/CC/RP		ı	ı			T I		T	ı	
7	FP		Field Project			4	2		50		50	100
8 CC Co – curricular course				4	2		50		50	100		
			TOTAL	14	-	16	22	200	200	400	200	800

CIA: Continuous Internal Assessment	OJT – On Job Training FP – Field Project	CIA	Weightage	Description
ESE : End Semester Theory Exam.	CEP – Community	CIA 1	10%	Home Assignment
L: Theory Lecture,	Engagement Project	CIA 2	20%	Mid-Term Exam (MTE)
T: Tutorial,	CC - Curricular Course			Activity/Project and research
P: Practical	RP - Research Project	CIA 3	10%	based learning along with seminar
	* - Refer University			presentation
	Notification			Behavioural Attitude +General
		CIA 4	10%	Discipline
				Theory +Practical attendance
		CIA TOTAL	50%	
	Written Examination - End S	Semester Exam (ESE)	50%]
		TOTAL	100%	



NEP 2020 - Course Structure

			MINOR - II
Sr. No	Semester	Course Code	Name of the course (Choose any One)
1		NYMIM01 - 10	Biotechnology (I – V)
2		NYMIM11 -20	Chemistry (I – V)
3	II - VI	NYMIM21 -30	Forensic Sciences (I – V)
4		NYMIM31-40	Mathematics (I – V)
5		NYMIM41-50	Physics (I – V)



NEP 2020 - Course Structure

 $\begin{tabular}{lll} Programme Name: Bachelor of Science (Microbiology) Honos. / Honos with Research)) \\ Semester-IV & For the Batch: AY 23-24 onwards \\ \end{tabular}$

			Teaching Scheme (Hrs./Week)		E	Examination Scheme						
Sr. No.	Core	Code		P C Formative Assessment CIA				mative sment E	Total Marks			
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMI401	Cell Biology & Genetics	4	-		4	50	-	100		100
2	Major	NYMI402	Molecular Biology	4	-		4	50		100		100
MINOR											<u> </u>	
3	Minor	NYMI	Minor - III	4			4	50		100		100
Oper	Electi	ves (OE)*								<u>'</u>		
4	Mai	ndatory	Open Elective – IV(SWAYAM)	2			2	50		100		100
Skil	l Enha	ncement C	ourse (SEC)									
5	SEC	NYMI411	Genetics and Molecular Biology Laboratory			4	2		50		50	100
Abili	ty/Valu	e Educatio	on Courses/ Indian Knowledge Sys	stem (AE	C/VI	EC/l	IKS)*				
6	AEC		Ability Enhancement Courses - IV			4	2		50		50	100
OJT/	FP/CE	P/CC/RP								T	ı	
7	CEP		Community Engagement Project			4	2		50		50	100
8	CC	CC Co – curricular course				4	2		50		50	100
			TOTAL	14	-	16	22	200	200	400	200	800

CIA: Continuous Internal Assessment	OJT – On Job Training	CIA	Weightage	Description
ESE: End Semester Theory Exam.	FP – Field Project CEP – Community	CIA 1	10%	Home Assignment
L: Theory Lecture,	Engagement Project	CIA 1	20%	Mid-Term Exam (MTE)
T: Tutorial,	CC - Curricular Course	- '		Activity/Project and research
P: Practical	RP - Research Project	CIA 3	10%	based learning along with seminar
	* - Refer University			presentation
	Notification			Behavioural Attitude +General
		CIA 4	10%	Discipline
				Theory +Practical attendance
		CIA TOTAL	50%	
	Written Examination - End	Semester Exam (ESE)	50%	
		TOTAL	100%	



NEP 2020 - Course Structure

			MINOR - III
Sr. No	Semester	Course Code	Name of the course (Choose any One)
1		NYMIM01 - 10	Biotechnology (I – V)
2		NYMIM11 -20	Chemistry (I – V)
3	II - VI	NYMIM21 -30	Forensic Sciences (I – V)
4		NYMIM31-40	Mathematics (I – V)
5		NYMIM41-50	Physics (I – V)

Exit Option: Award of UG Diploma in Major and Minor with 88 credits and additional 4 credits core NSQF Course / Internship or Continue with Major and Minor



NEP 2020 - Course Structure

 $\begin{tabular}{lll} Programme Name: Bachelor of Science (Microbiology) Honos. / Honos with Research) \\ Semester-V & For the Batch: AY 23-24 onwards \\ \end{tabular}$

Sr.		Course			S	each	me	;)			tion Schem		Total Marks
No.	Core	Code	•	Course Name	L	Т	P	С		native ssment	Asses	Summative Assessment ESE	
									Course	Lab	Course	Lab	
MAJ	OR (MA	NDATOR	Y + ELEC	CTIVES)									
1	Major	NYMI501	Med	lical Microbiology	4	-	-	4	50	1	100		100
2	Major	NYMI502		Immunology	4	-	-	4	50		100		100
3	Major	NYMI511	Med	lical Microbiology Laboratory	•	-	4	2		50		50	100
Majo	r Elective	e - I											
4	4 NYMI50 Major Elective - I			4	-	-	4	50	-	100	-	100	
Mino	or												
5	Minor	NYMI.		Minor - IV	3			3	50		100		100
Voca	tional Ski	ill Course	s (VSC)								•		
6	VS	SC	Immu	nology Laboratory	-	-	4	2		50		50	100
FP/C	EP												
7	FP / CEP			Project /Community agagement Project			4	2		50		50	100
				TOTAL	16	-	12	22	200	150	400	150	700
CIA:	Continuous	Internal Ass	essment	OJT – On Job Training			CIA		Weigh	taga	Doo	cription	
	ESE: End Semester Theory Exam. FP - Field Project CEP - Community					IA 1		10%			Assignmen	nt	
	L: Theory Lecture, T: Tutorial, P: Practical Engagement Project CC - Curricular Course RP - Research Project * - Refer University			C	IA 2		20%	6		n Exam (M	ITE)		
				C	IA 3		10%	6 t	pased learning pres	along witl sentation	h seminar		
	Notification			C	IA 4		10%	6	Behavioural Attitude +Gen Discipline Theory +Practical attendar				
<u> </u>					Sa	CIA '			50 %		·		
-				Written Examination - End	Seme		xam TAL	(ESE)	100				



NEP 2020 - Course Structure

	MINOR - IV									
Sr. No	Semester	Course Code	Name of the course (Choose any One)							
1		NYMIM01 - 10	Biotechnology (I – V)							
2		NYMIM11 -20	Chemistry (I – V)							
3	II - VI	NYMIM21 -30	Forensic Sciences (I – V)							
4		NYMIM31-40	Mathematics (I - V)							
5		NYMIM41-50	Physics $(I - V)$							

	Major Electives – I							
S.No.	Course Code	Course Name						
1	NYMI501	Pathology						
2	NYMI502	Biomedical Nanotechnology						
3	NYMI503	Bioinformatics						
4	NYMI504	Computational Biology						



NEP 2020 - Course Structure

 $\begin{tabular}{lll} Programme Name: Bachelor of Science (Microbiology) & Honos. / Honos with Research) \\ Semester-VI & For the Batch: AY 23-24 onwards \\ \end{tabular}$

			Teaching Scheme (Hrs./Week)		Examination Scheme				Total			
Sr. No.	Core	Course Code	Course Name	L	Т	P	C		native ssment A		mative ssment E	Marks
								Course	Lab	Course	Lab	
MAJ	OR (MAI	NDATOR	Y + ELECTIVES)									
1	Major	NYMI601	Enzymology	4	1	-	4	50		100		100
2	Major	NYMI602	Food and Dairy Microbiology	4	-	-	4	50		100		100
3	Major	NYMI611	Food and Enzymology Laboratory	-	•	4	2		50		50	100
Majo	r Elective	e - II										
4	NYMI	60	Major Elective - II	4	-	-	4	50	-	100	-	100
Mino	r											
5	Minor	NYMI.	Minor - V	3	1		3	50		100		100
OJT												
6	OJT		On Job Training			8	4		50		50	100
			TOTAL	16	•	12	22	200	100	400	50	600

CIA: Continuous Internal Assessment ESE: End Semester Theory Exam.	OJT – On Job Training FP – Field Project	CIA	Weightage	Description
,	CEP - Community	CIA 1	10%	Home Assignment
L: Theory Lecture,	Engagement Project	CIA 2	20%	Mid-Term Exam (MTE)
T: Tutorial,	CC - Curricular Course			Activity/Project and research
P: Practical	RP – Research Project	CIA 3	10%	based learning along with seminar
	* - Refer University Notification			presentation
	Notification			Behavioural Attitude +General
		CIA 4	10%	Discipline
				Theory +Practical attendance
		CIA TOTAL	50%	
	Written Examination – End S	Semester Exam (ESE)	50%	
	_	TOTAL	100%	



School of Science Department of Biological Sciences NEP 2020 - Course Structure

	MINOR - V								
Sr. No	Semester	Course Code	Name of the course (Choose any One)						
1		NYMIM01 - 10	Biotechnology (I – V)						
2		NYMIM11 -20	Chemistry (I – V)						
3	II - VI	NYMIM21 -30	Forensic Sciences (I – V)						
4		NYMIM31-40	Mathematics (I - V)						
5		NYMIM41-50	Physics (I – V)						

	Major Elective – II							
S.No.	Course Code	Course Name						
1	NYMI601	Genetic Engineering						
2	NYMI602	Nanotechnology						
3	NYMI603	Aquatic Biology						
4	NYMI604	Molecular phylogeny						

Exit Option: Award of UG Degree in Major with 132 credits or Continue with Major and Minor



NEP 2020 - Course Structure

Programme Name: Bachelor of Science (Microbiology) Honos. / Honos with Research)
Semester – VII For the Batch: AY 23-24 onwards

				S	each schei	me)	Examination Scheme		e	Total	
Sr. No.	Core	Code Code	Course Name	L	Т	P	C		native ssment A		native sment E	Marks
								Course	Lab	Course	Lab	
MAJ	MAJOR (MANDATORY + ELECTIVES)											
1	Major	NYMI701	Industrial Microbiology	4	-	-	4	50		100		100
2	Major	NYMI702	Food and Beverage Technology	4	-	•	4	50	-	100		100
3	Major	NYMI703	Molecular Biophysics	4	-	-	4	50	-	100	-	100
4	Major	NYMI711	Industrial and Beverage Technology Laboratory	-	-	4	2	-	50	-	50	100
Majo	r Elective	e - III										
5	NYM	⁄II	Major Elective - III	4	-	-	4	50	-	100	-	100
Mino	or											
6	Minor		Research Methodology	4			4	50		100		100
			TOTAL	20	-	4	22	250	50	500	50	600

CIA: Continuous Internal Assessment ESE: End Semester Theory Exam.	OJT – On Job Training FP – Field Project	CIA	Weightage	Description
,	CEP – Community	CIA 1	10%	Home Assignment
L: Theory Lecture,	Engagement Project	CIA 2	20%	Mid-Term Exam (MTE)
T: Tutorial,	CC – Curricular Course			Activity/Project and research
P: Practical	RP – Research Project	CIA 3	10%	based learning along with seminar
	* - Refer University Notification			presentation
	Notification		10%	Behavioural Attitude +General
		CIA 4		Discipline
				Theory +Practical attendance
		CIA TOTAL	50%	
	Written Examination – End S	Semester Exam (ESE)	50%	
		TOTAL	100%	

	Major Elective – III								
S.No.	Course Code	Course Name							
1	NYMI701	Pharmaceutical Microbiology							
2	NYMI702	Biofuels							
3	NYMI703	Marine Biology							
4	NYMI704	Protein Chemistry							



NEP 2020 - Course Structure

Programme Name: Bachelor of Science (Microbiology) Honos. / Honos with Research) Semester – VIII For the Batch: AY 23-24 onwards

				S	each Schei	me)	Examination Scheme		e	Total	
Sr. No.	Core	Code Code	Course Name	L	Т	P	C		native ssment		mative sment E	Marks
								Course	Lab	Course	Lab	
MAJ	MAJOR (MANDATORY + ELECTIVES)											
1	Major	NYMI801	Microbial Technology and Genetic Engineering	4	-	-	4	50		100		100
2	Major	NYMI802	Ecology and Environmental Microbiology	4	-	•	4	50		100		100
3	Major	NYMI803	Pharmaceutical Microbiology	4	-	-	4	50	-	100	-	100
4	Major	NYMI811	Advanced Laboratory Techniques	-	-	4	2	-	50	-	50	100
Majo	r Elective	e - IV										
5	NYM	11	Major Elective - IV	4	-	-	4	50	-	100	-	100
OJT												
6	OJT		On Job Training	1		8	4	50			50	100
			TOTAL	16	-	12	22	250	100	500	50	600

CIA: Continuous Internal Assessment ESE: End Semester Theory Exam.	OJT – On Job Training FP – Field Project	CIA	Weightage	Description
*	CEP – Community	CIA 1	10%	Home Assignment
L: Theory Lecture,	Engagement Project	CIA 2	20%	Mid-Term Exam (MTE)
T: Tutorial,	CC – Curricular Course			Activity/Project and research
P: Practical	RP – Research Project	CIA 3	10%	based learning along with seminar
	* - Refer University Notification			presentation
	Notification			Behavioural Attitude +General
		CIA 4	10%	Discipline
				Theory +Practical attendance
		CIA TOTAL	50%	
	Written Examination - End S	Semester Exam (ESE)	50%	
		TOTAL	100%	

	Major Elective – IV							
S.No.	Course Code	Course Name						
1	NYMI801	Microbial Metabolism						
2	NYMI802	Medical Biotechnology						
3	NYMI803	Virology						
4	NYMI804	Mycology						

Four Year UG Honours Degree in Major and Minor with 176 credits

BOS	Dean	Associate Dean	Registrar
Chairperson	SoS	Curriculum	SUN
		Development	