SANDIP UNIVERSITY

School of Science
Department of Mathematics

NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(Honours / Honours with Research)

Semester – I (Level 4.5) **Batch: AY 25-26 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMT102	Algebra & Calculus-I	3	-	-	3	50	--	100	--	100
2	Major	NYMT103	Statistics-I	3	-	-	3	50	--	100	--	100
MINOR: NA												
NA												
Open Electives (OE)*												
3	Mandatory		Open Elective-I	4	--	--	4	50	--	100	--	100
Vocational and Skill Enhancement (VSEC)												
4	VSC	NYMT111	Python Programming - I	--	--	4	2	--	50	--	50	100
5	SEC	NYMT112	Data Analysis in MS Excel	--	--	4	2	--	50	--	50	100
Ability/Value Education Courses/ Indian Knowledge System(AEC/VEC/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/CEP/CC/RP												
9	CC		CC-I	--	--	4	2	--	50	--	50	100
Total				10		24	22	150	300	300	300	900

CIA: Continuous Internal Assessment
ESE: End Semester Theory Exam.
L: Theory Lecture,
T: Tutorial,
P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

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SANDIP UNIVERSITY

School of Science
Department of Mathematics
NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(Honours / Honours with Research)
Semester – II (Level 4.5) **For the Batch: AY 25-26 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMT201	Algebra & Calculus-II	3	-	-	3	50	--	100	--	100
2	Major	NYMT203	Inferential Statistics	3	-	-	3	50	--	100	--	100
MINOR												
3	Minor	NYCIM06	Minor - I	2	--		2	50	--	100	--	100
Open Electives (OE)*												
4	Mandatory		Open Elective - II	4	--		4	50	--	100	--	100
Vocational and Skill Enhancement (VSEC)												
5	SEC	NYMT211	R-Programming	--	--	4	2	--	50	--	50	100
6	VSC	NYMT212	Python Programming -II	--	--	4	2	--	50	--	50	100
Ability/Value Education Courses/ Indian Knowledge System(AEC/VEC/IKS)*												
7	AEC		Ability Enhancement Courses - II	--	--	4	2	--	50	--	50	100
8	VEC		Value Education Courses- II	2	--	--	2	50	--	100	--	100
OJT/FP/CEP/CC/RP												
9	CC		CC-II	--	--	4	2	--	50	--	50	100
TOTAL				14	-	16	22	250	200	500	200	900

CIA: Continuous Internal Assessment
ESE: End Semester Theory Exam.
L: Theory Lecture,
T: Tutorial,
P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

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

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SANDIP UNIVERSITY

School of Science
Department of Mathematics

NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(Honours / Honours with Research)

Semester – III (Level 5.0) **For the Batch: AY 24-25 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMT301	Abstract Algebra	3	-	-	3	50	--	100	--	100
2	Major	NYMT302	Multivariate Calculus	3	-	-	3	50	--	100	--	100
3	Major	NYMT313	Abstract Algebra & Multivariate Calculus Lab	-	-	4	2	--	50	--	50	100
MINOR												
4	Minor	NYCIM07	Minor - II	4	--		4	50	--	100	--	100
Open Electives (OE)*												
5	Mandatory		Open Elective - III	2	--		2	50	--	100	--	100
Vocational Skill Course (VSC)												
6	VSC	NYMT311	Data Analytics Lab-I	--	--	4	2	--	50	--	50	100
Ability/Value Education Courses/ Indian Knowledge System (AEC/VEC/IKS)*												
7	AEC		Ability Enhancement Courses - III	_	--	4	2	--	50	--	50	100
OJT/FP/CEP/CC/RP												
8	FP	NYMT312	Field Project	--	--	4	2	--	50	--	50	100
9	CC		CC-III	--	--	4	2	--	50	--	50	100
TOTAL				12	-	20	22	200	250	400	250	900

CIA: Continuous Internal Assessment
ESE: End Semester Theory Exam.
L: Theory Lecture,
T: Tutorial,
P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

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SANDIP UNIVERSITY

School of Science
Department of Mathematics

NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(Honours / Honours with Research)

Semester – IV (Level 5.0) **For the Batch: AY 24-25 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMT401	Linear Algebra	3	-	-	3	50	--	100	--	100
2	Major	NYMT402	Discrete Mathematics	3	-	-	3	50	--	100	--	100
3	Major	NYMT413	Linear Algebra and Discrete Mathematics Lab	-	-	4	2	--	50	--	50	100
MINOR												
4	Minor	NYCIM08	Minor - III	4	--		4	50	--	100	--	100
Open Electives (OE)*												
5	Mandatory		Open Elective - IV	2	--		2	50	--	100	--	100
Skill Enhancement Course (SEC)												
6	SEC	NYMT411	Data Analytics Lab-II	--	--	4	2	--	50	--	50	100
Ability/Value Education Courses/ Indian Knowledge System (AEC/VEC/IKS)*												
7	AEC		Ability Enhancement Courses - IV	2	--	--	2	--	50	--	50	100
OJT/FP/CEP/CC/RP												
8	CEP	NYMT412	Community Engagement Project	--	--	4	2	--	50	--	50	100
9	CC		CC-IV	--	--	4	2	--	50	--	50	100
TOTAL				16	-	16	22	200	250	400	250	900

CIA: Continuous Internal Assessment
ESE: End Semester Theory Exam.
L: Theory Lecture,
T: Tutorial,
P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

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

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SANDIP UNIVERSITY

School of Science
Department of Mathematics

NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(Honours / Honours with Research)

Semester – V (Level 5.5) **For the Batch: AY 24-25 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMT501	Real Analysis	3	1	-	4	50	--	100	--	100
2	Major	NYMT502	Data Science-I	4	-	-	4	50	--	100	--	100
3	Major	NYMT511	Data Science-I Lab	-	-	4	2	--	50	--	50	100
Major Elective - I												
4	NYMTE_		Major Elective - I	4	-	-	4	50	-	100	-	100
Minor												
5	Minor	NYCIM09	Minor - IV	4	--		4	50	--	100	--	100
Vocational Skill Courses (VSC)/ Ability Enhancement course (AEC)												
6	VSC	NYMT512	Data Analytics with Python	-	-	4	2	--	50	--	50	100
7	AEC		Ability Enhancement Courses - V	--	--	4	2	--	50	--	50	100
FP/CEP												
8	FP / CEP	NYMT513	Filed Project /Community Engagement Project	--	--	4	2	--	50	--	50	100
TOTAL				15	01	12	24	200		400	200	800

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P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

Major Electives – I

S.No.	Course Code	Course Name
1	NYMTE01	Integral Transforms
2	NYMTE02	Linear Programming and Game Theory
3	NYMTE03	Data Structures and Algorithms

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School of Science
Department of Mathematics

NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(Honours / Honours with Research)

Semester – VI (Level 5.5) **For the Batch: AY 24-25 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMT601	Complex Analysis	3	1	-	4	50	--	100	--	100
2	Major	NYMT602	Data Science-II	4	-	-	4	50	--	100	--	100
3	Major	NYMT611	Data Science-II Lab	-	-	4	2	--	50	--	50	100
Major Elective - II												
4	NYMTE_		Major Elective - II	4	-	-	4	50	-	100	-	100
Minor												
5	Minor	NYCIM10	Minor - V	4	--		4	50	--	100	--	100
Ability Enhancement course (AEC)												
6	AEC		Ability Enhancement Courses - V	--	--	4	2	--	50	--	50	100
OJT (On Job Training)												
7	OJT	NYMT612	On Job Training	--	--	8	4	--	50	--	50	100
			TOTAL	15	1	16	24	200	150	400	150	700

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P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

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

Major Elective – II		
S. No.	**Course Code**	**Course Name**
1	NYMTE04	Information Theory
2	NYMTE05	Number Theory
3	NYMTE06	Machine Learning
4	NYMTE13	Vector Calculus

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SANDIP UNIVERSITY

School of Science
Department of Mathematics
NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(UG Honours)
Semester – VII (Level 6.0) **For the Batch: AY 24-25 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	Major	NYMT701	Differential Equations	3	1	-	4	50	--	100	--	100
2	Major	NYMT702	Linear Algebra for Machine Learning	2	-	-	2	50	--	100	--	100
3	Major	NYMT712	Linear Algebra for Machine Learning Lab	-	-	4	2	-	50	-	50	100
4	Major	NYMT703	Introduction to AI	4	-	-	4	50	-	100	-	100
5	Major	NYMT711	Introduction to AI Lab	-	-	4	2	-	50	-	50	100
Major Elective - III												
6	NYMTE_		Major Elective - III	4	-	-	4	50	-	100	-	100
Minor												
7	Minor	17RDP101	Research Methodology	4	--		4	50	--	100	--	100
			TOTAL	20	-	4	22	250	50	500	50	600

CIA: Continuous Internal Assessment
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L: Theory Lecture,
T: Tutorial,
P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

Major Elective – III		
S.No.	**Course Code**	**Course Name**
1	NYMTE07	Design and Analysis of Algorithms
2	NYMTE08	Field Theory
3	NYMTE09	Data Mining

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SANDIP UNIVERSITY

School of Science
Department of Mathematics
NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(UG Honours)

Semester – VIII (Level 6.0) **For the Batch: AY 24-25 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	**Major**	**NYMT801**	Numerical Analysis	**4**	**-**	**-**	**4**	**50**	**--**	**100**	**--**	**100**
2	**Major**	**NYMT802**	Operation Research .	**3**	**1**	**-**	**4**	**50**	**--**	**100**	**--**	**100**
3	**Major**	**NYMT803**	Deep Learning	**4**	**-**	**-**	**4**	**50**	**-**	**100**	**-**	**100**
4	**Major**	**NYMT811**	Numerical Analysis Lab	**-**	**-**	**4**	**2**	**-**	**50**	**-**	**50**	**100**
Major Elective - IV												
5	**NYMTE_**		Major Elective - IV	**4**	**-**	**-**	**4**	**50**	**-**	100	**-**	100
On Job Training												
6	OJT	**NYMT812**	**On Job Training**	**-**	**--**	8	**4**	**--**	**50**	--	50	100
			TOTAL	**20**	**-**	**4**	**22**	**200**	**100**	**500**	**100**	**600**

CIA: Continuous Internal Assessment
ESE: End Semester Theory Exam.
L: Theory Lecture,
T: Tutorial,
P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

Major Elective – IV		
S.No.	**Course Code**	**Course Name**
1	**NYMTE10**	Big Data
2	**NYMTE11**	Coding Theory
3	**NYMTE12**	Web Designing

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SANDIP UNIVERSITY

School of Science
Department of Mathematics

NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(UG Honours with Research)

Semester – VII (Level 6.0) **For the Batch: AY 24-25 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	**Major**	**NYMT701**	Differential Equations	**3**	**1**	**-**	**4**	**50**	**--**	**100**	**--**	**100**
2	**Major**	**NYMT702**	Introduction to AI	**4**	**-**	**-**	**4**	**50**	**--**	**100**	**--**	**100**
4	**Major**	**NYMT711**	Introduction to AI Lab	**-**	**-**	**4**	**2**	**-**	**50**	**-**	**50**	**100**
Major Elective - III												
5	**NYMTE_**		Major Elective - III	**4**	-	-	**4**	**50**	-	100	-	100
Minor												
6	Minor	**17RDP101**	Research Methodology	**4**	--		**4**	**50**	--	100	--	100
Research Project												
7	RP	**NYMT712**	Research Project Stage-I	**--**	--	8	**4**		50		50	100
			TOTAL	**20**	**-**	**4**	**22**	**250**	**50**	**500**	**50**	**600**

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ESE: End Semester Theory Exam.
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T: Tutorial,
P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

Major Elective – III

S.No.	Course Code	Course Name
1	**NYMTE07**	Design and Analysis of Algorithms
2	**NYMTE08**	Field Theory
3	**NYMTE09**	Data Mining

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SANDIP UNIVERSITY

School of Science
Department of Mathematics
NEP 2020 - Course Structure

Program: Bachelor of Science (B.Sc. Computational Mathematics and Data Science)
(UG Honours with Research)

Semester – VIII (Level 6.0) **For the Batch: AY 24-25 onwards**

Sr. No.	Core	Course Code	Course Name	Teaching Scheme (Hrs./Week)				Examination Scheme				Total Marks
				L	T	P	C	Formative Assessment CIA		Summative Assessment ESE		
								Course	Lab	Course	Lab	
MAJOR (MANDATORY + ELECTIVES)												
1	**Major**	**NYMT801**	Numerical Analysis	**4**	**-**	**-**	**4**	**50**	**--**	**100**	**--**	**100**
2	**Major**	**NYMT802**	Deep Learning	**4**	**-**	**-**	**4**	**50**	**--**	**100**	**--**	**100**
3	**Major**	**NYMT811**	Numerical Analysis lab	**-**	**-**	**4**	**2**	**-**	**50**	**-**	**50**	**100**
Major Elective - IV												
4	**NYMTE_**		Major Elective - IV	**4**	**-**	**-**	**4**	**50**	**-**	100	**-**	100
Research Project												
5	RP	**NYMT813**	Research Project Stage-II	**-**	**--**	16	**8**	**-**	50	**--**	50	100
			TOTAL	**20**	**-**	**4**	**22**	**150**	**100**	**300**	**100**	**500**

CIA: Continuous Internal Assessment
ESE: End Semester Theory Exam.
L: Theory Lecture,
T: Tutorial,
P: Practical

OJT – On Job Training
FP – Field Project
CEP – Community Engagement Project
CC – Curricular Course
RP – Research Project
* - Refer University Notification
AEC-Ability Enhancement Course
VEC- Value Education Course
SEC- Skill Enhancement Course
IKS- Indian Knowledge System

CIA	Weightage	Description
CIA 1	10%	Home Assignment
CIA 2	20%	Mid-Term Exam (MTE)
CIA 3	10%	Activity/Project and research based learning along with seminar presentation
CIA 4	10%	Behavioural Attitude +General Discipline Theory +Practical attendance
CIA TOTAL	**50%**	
Written Examination – End Semester Exam (ESE)	50%	
TOTAL	**100%**	

Major Elective – IV		
S.No.	**Course Code**	**Course Name**
1	**NYMTE10**	Big Data
2	**NYMTE11**	Coding Theory
3	**NYMTE12**	Web Designing

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ABILITY ENHANCEMENT COURSE (AEC) BASKET

S. No.	COURSE CODE	NAME OF THE COURSE	SEMESTER
1	NHSA01	Communicative English	I
2	NHSA06	Organizational Behavior	
3	NHSA07	Journalistic writing	
4	NHSA05	Elementary Marathi	
5	NHSA09	Linguaskills 1	
6	NHSA02	Personality Development and Soft Skills	II
7	NHSA08	Creative Writing	
8	NHSA03	Value Education	
9	NHSA04	Introduction to Sanskrit	
10	NHSA10	Linguaskills 2	
11	NSSA01	IP and Scientific writing	III
12	NSSA02	Data analysis and interpretation	
13	NSSA03	Publication Ethics	
14	NHSA11	Key Competencies for Career Growth	
15	NSSA04	Scientific policies and practices	IV
16	NSSA05	Literature and Publication	
17	NSSA06	Scientific media	
18	NHSA12	Strategic Communication for Professionals (Advanced)	
19	NHSA13	Essential Aptitude Skills	V
20	NHSA14	Employability Skills and Career Advancement	VI

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VALUE EDUCATION COURSE (VEC) BASKET

S.No.	COURSE CODE	NAME OF THE COURSE	SEMESTER
1	NSSV02	Sustainable Development	I
2	NLWV01	The Constitution and Human Rights	
3	NSSV03	Scientific Ethics	
4	NSSV04	Science and Society	II
5	NSSV05	Waste to Wealth	
6	NSSV01	Environmental Studies	

INDIAN KNOWLEDGE SYSTEM (IKS) BASKET

Sr.No.	COURSE CODE	NAME OF THE COURSE	SEMESTER
1	NSSI01	Ethnomedicine	I
2	NSSI02	Vedic Mathematics	
3	NSSI03	Nature as Medicine	
4	NSSI04	Ancient World and Modern Science	
5	NSSI05	Science and Spirituality	

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CO-CURRICULAR COURSE (CC) BASKET

Sr.No.	COURSE CODE	NAME OF THE COURSE	SEMESTER
1	NSSC01	Physical Education and Mental Health	I
2	NYCM112	Yoga Meditation	
3	NSSC02	Ethics and Human Rights	II
4	NSSC03	Science Clubs	
5	NSSC04	Food Adulteration	
6	NSSC05	Bio-media	
7	NSSC06	Wild Life Photography	III
8	NSSC07	Awareness and Recycling of Plastic	
9	NSSC08	Health and Hygeine	
10	NSSC13	Mathematics for Environmental Studies	
11	NSSC09	Courtroom Strategies and Tactics	IV
12	NSSC10	Scientific Journalism	
13	NSSC11	Organic and Residue Free Farming	
14	NSSC12	Soil and water analysis	

OPEN ELECTIVE (OE) BASKET

Sr.No.	COURSE CODE	NAME OF THE COURSE	SEMESTER
1	NSSO01	Fundamentals of Statistics	I
2	NSSO02	Introduction to Nano science and Nanotechnology	
3	NSSO03	Diseases and Control Measures	II
4	NSSO04	Horticulture	

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MINOR

Note: Student from B.Sc. (Computational Mathematics and Data Science) with minor in Artificial Intelligence (AI) shall choose from following:

Sr. No.	COURSE CODE	NAME OF THE COURSE	SEMESTER
1	NYCIM06	Introduction to AI Fundamentals	II
2	NYCIM07	Basics of Machine Learning	III
3	NYCIM08	Fundamental of AI & ML	IV
4	NYCIM09	Artificial neural network	V
5	NYCIM10	Knowledge representation using AI	VI

Note: Student from B.Sc. (Computational Mathematics and Data Science) shall choose from following:

S. No.	COURSE CODE	NAME OF THE COURSE	SEMESTER
1	NYMTM01	Data Science Fundamentals	II
2	NYMTM02	Data Management	III
3	NYMTM03	Data Security and Privacy	IV
4	NYMTM04	Data Handling and Visualization	V
6	NYMTM05	Techniques And Tools for Data Science	VI

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