

At Post Mahiravani, Trimbak Road, Nashik-422213, Maharashtra https://www.sandipuniversity.edu.in

School of Computer Sciences and Engineering

Department of Computer Science & Application

- NEP-2020 Course Structure-Level 4.5

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality (Hons. / Hons. with Research)

Semester – I For the Batch: AY 23-24 onwards

sem	ester –	1		F'O	r tn	е в	atch	AY 23-	24 on	wards		
	Teaching Scheme (Hrs./Week) Examination				on Scheme		Total					
Sr. No.	Category	Course Code	e Course Name	L	т	P	С	Forma Assess CIA	ment		native sment E	Marks
								Course	Lab	Course	Lab	
Majo	or (Mandato	ory + Electives	s)									
1	Major		Problem Solving Technique using C	3			3	50		100		100
2	Major	NYMT101	Mathematical Foundation for Computer Science	2	1		3	50		100	-	100
Min	or: NA											
				NA								
Ope	n Elective	(OE) *										
3	OE		Open Elective – I	4	-		4	50		100	-	100
Voca	ational and	Skill Enhance	ement (VSEC)									
4	SEC	NCAS01	Office 365 Laboratory			4	2		50		50	100
5	VSC	NYCI111	C Programming Laboratory			4	2		50		50	100
Abil	ity/ Value	Education Co	ırses / Indian Knowledge Sys	stem(AEC/	VEC	/IKS) *					•
6	AEC		Ability Enhancement Courses – I			4	2		50		50	100
7	VEC		Value Education Course – I			4	2		50		50	100
8	IKS		Indian Knowledge System – I			4	2		50		50	100
ОЈТ	/FP/CEP/C	CC/RP										
9	CC	NYUCI111	Yoga and Meditation			4	2		50		50	100
	TOTAL			9	1	24	22	150	300	300	300	900

BoS	Dean	Associate Dean	Registrar
Chairperson	SOCSA	Academics	SUN

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School of Computer Sciences and Engineering

Department of Computer Science & Application

CIA: Continuous Internal Assessment	OJT – On Job Training FP – Field Project CEP – Community	CIA	Weightage	Description
ESE : End Semester Theory Exam.	Engagement Projects CC – Co-Curricular Course	CIA 1	10%	Home Assignment
L: Theory Lecture,	RP – Research Project AEC - Ability Enhancement	CIA 2	20%	Written Exam
T: Tutorial, P: Practical	Courses IKS- Indian Knowledge System	CIA 3	10%	Activity /Project and Research Based Learning along with Seminar Presentations
	VEC - Value Education Courses	CIA 4	10%	Behavioral Attitude +General Discipline Theory +Practical attendance
	* - Refer University Notification	CIA TOTAL	50%	
W	ester Exam (ESE)	50%		
		TOTAL	100%	

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School of Computer Sciences and Engineering

Department of Computer Science & Application

- NEP-2020 Course Structure-Level 4.5

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality (Hons. / Hons. with Research)

Semester - II

For the Batch: AY 23-24 onwards

Semester – II			For the Batch: AY 23-24 onwards									
			Teaching Scheme (Hrs./Week) Examination Scheme Formative Summat	e	- Total							
Sr. No.	Category	Course Code		L	т	P	С	Asses	sment Ass		sment	Marks
								Course	Lab	Course	Lab	
Мајо	r(Mandato	ry + Electives)										
1	Major	NYCI201	Object Oriented Programming using C++	3			3	50		100		100
2	Major	NYCI202	Discrete Mathematics	3			3	50		100		100
Mino	r:						I			L		
3	Minor		Minor-I	2			2	50		100		100
Open	Electives	(OE) *										
4	OE		Open Elective – II	4			4	50		100		100
Voca	tional and	Skill Enhancen	nent (VSEC)									
5	VSC	NYCI211	Object Oriented Programming using C++ Laboratory			4	2		50		50	100
6	SEC	NCAS04	Web Application Development Technologies Laboratory	-	1	4	2		50		50	100
Abili	ty/ Value	Education Cour	ses / Indian Knowledge	Syst	em(AE	C/VE	C/IK	S) *				
7	AEC		Ability Enhancement Courses - II			4	2		50		50	100
8	VEC		Value Education Course - II			4	2		50		50	100
OJT/	FP/CEP/C	CC/RP										
9	CC		Co-Curricular Course-I			4	2		50		50	100
		TOTAL		12		20	22	200	300	400	300	1000

BoS Chairperson Dean SOCSA Associate Dean Academics

Registrar SUN

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ESE : End Semester Theory Exam.	Engagement Projects CC – Co-Curricular Course	CIA 1	10%	Home Assignment
L: Theory Lecture,	RP – Research Project AEC - Ability Enhancement	CIA 2	20%	Written Exam
T: Tutorial, P: Practical	Courses IKS- Indian Knowledge System	CIA 3	10%	Activity /Project and Research Based Learning along with Seminar Presentations
	VEC - Value Education Courses	CIA 4	10%	Behavioral Attitude +General Discipline Theory +Practical attendance
	* - Refer University Notification	CIA TOTAL	50%	
V	ester Exam (ESE)	50%		
		TOTAL	100%	

Exit option: Award of UG Certificate in Major with 40-44 credits and an additional 4 credits core NSQF course/Internship OR Continue with Major and Minor.

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TOTAL

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School of Computer Sciences and Engineering

Department of Computer Science & Application

- NEP-2020 Course Structure-Level 5.0

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality (Hons. / Hons. with Research)

Semester - III For the Batch: A.Y. 23-24 onwards **Teaching Scheme** (Hrs./Week) **Examination Scheme Formative Summative** Sr. Catego Course Total Course Name Assessment Assessment Marks No. Code ry Т P C CIA ESE Course Lab Course Lab Major (Mandatory) 1 Major NYCI301 Python Programming 4 4 50 100 100 Database Management NYCI302 4 2 Major 4 50 100 100 System Minor 3 Minor Minor-II 4 50 100 100 4 Open Elective (OE) * OE Open Elective – III 2 2 50 100 100 Vocational and Skill Enhancement (VSEC) Lab Course Based on Python Programming & 5 **VSC** NYCI311 4 2 50 100 50 Database Management System Ability/ Value Education Courses / Indian Knowledge System (AEC/VEC/IKS) * Ability Enhancement 6 **AEC** 4 2 50 50 100 Courses - III OJT/FP/CEP/CC/RP 7 CC Co-Curricular Course-II 4 2 50 50 100 FP 8 NYCI312 Field project 4 2 50 50 100 ----

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14

16

22

200

200

400

200

800

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L: Theory Lecture,	Engagement Projects CC – Co-Curricular Course	CIA 1	10%	Home Assignment
T: Tutorial,	RP – Research Project AEC - Ability Enhancement	CIA 2	20%	Written Exam
P: Practical	Courses IKS- Indian Knowledge System VEC- Value Education Courses * - Refer University Notification	CIA 3	10%	Activity / Project and Research Based Learning along with Seminar Presentations
		CIA 4	10%	Behavioral Attitude +General Discipline Theory +Practical attendance
		CIA TOTAL	50%	
W	ritten Examination – End Semo	ester Exam (ESE)	50%	
		TOTAL	100%	

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Department of Computer Science & Application

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Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality (Hons. / Hons. with Research)

Semester – IV For the Batch: A.Y. 23-24 onwards

	nester -			Т	eaching	Schem		Date	,11. 11.	1. 23-2	71 011	Warus
				_	_	Week)		Exa	aminati	on Schen	ne	
Sr. No.	Core	Course Code	Course Name	L T P		С	_	native ssment IA		native sment E	Total Marks	
								Course	Lab	Course	Lab	
Majo	or (Mand	latory)										
1	Major	NYCI401	Python For Data Science	4	-	-	4	50	-	100	-	100
2	Major	NYCI402	Relational Database Management System	4	-	-	4	50	-	100	-	100
Min	Minor											
3	Minor		Minor III	4	ı	-	4	50	ı	100	-	100
Ope	n Electi	ves (OE)										
4	OE		Open Elective IV	2	-	-	2	50	-	100	-	100
Voca	ational a	nd Skill E	nhancement (VSEC)								•	
5	SEC	NYCI411	Lab Course based on Python & Relational Database Management System	-	-	4	2		50		50	100
Abili	ity/Voca	ational En	hancement Courses / Indian	Kno	wledge	e Syst	em (A	EC/VI	EC/IK	S)		
6	AEC		Ability Enhancement Course-IV	-	-	4	2		50		50	100
OJT	/FP/CE	P/CC/RP						!				
7	CEP	NYCI412	Community Engagement Project	-	-	4	2		50		50	100
8	CC		Co-Curricular Course-III	-	ı	4	2		50		50	100
		1	POTAL	14	-	16	22	200	200	400	200	800

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ESE : End Semester Theory Exam.	Engagement Projects CC – Co-Curricular Course	CIA 1	10%	Home Assignment
L: Theory Lecture,	RP – Research Project AEC - Ability Enhancement	CIA 2	20%	Written Exam
T: Tutorial, P: Practical	Courses IKS- Indian Knowledge System VEC- Value Education	CIA 3	10%	Activity / Project and Research Based Learning along with Seminar Presentations
	Courses * - Refer University Notification	CIA 4	10%	Behavioral Attitude +General Discipline Theory +Practical attendance
		CIA TOTAL	50%	
W	/ritten Examination – End Semo	ester Exam (ESE)	50%	
		TOTAL	100%	

Exit option: Award of UG Diploma in Major and Minor with 80-88 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor

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BoS

Chairperson

Sandip University, Nashik (MS), India

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School of Computer Sciences and Engineering

Department of Computer Science & Application

- NEP-2020 Course Structure-Level 5.5

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality (Hons. / Hons. with Research)

Semester – V For the Batch: A.Y. 2023-24 onwards

				Teach (Hr	ing S s./W		ne	Exa	ıminati	ion Scher	ne	То
Sr. No.	Core	Course Code	Course Name	L	т	P	c		native sment A	Summ Assess ESI	ment	tal Ma rks
								Course	Lab	Course	Lab	
			MAJO	OR								
1	Major	NYCI501	Java Programming	4			4	50		100		10 0
2	Major	NYCI502	Augmented Reality and Introduction to Virtual Reality with unity	4			4	50		100		10 0
3	Major	NYCI503	R Programming	2			2	50		100	_	10 0
MINOR: N	IA.				T		1	, <u>, , , , , , , , , , , , , , , , , , </u>				
3	Minor	NYCIM	Minor IV	4			4	50		100		10 0
		·	Major Elect	ives (M	E)							
4	ME		Major Elective I	4			4	50		100		10 0
			Vocational and Skill E	nhance	ment	t (VS	EC)					
5	VSC		Lab Course based on Java and Augmented Reality and Introduction to Virtual Reality with unity			4	2		50		50	10 0
Ability/V	ocational	Enhancer	nent Courses / Indian Knowl	edge S	ysten	n(AE	C/VE	C/IKS)				
6	AEC		Ability Enhancement Courses - V			4	2		50		50	10 0
OJT/FP/	CEP/CC/	RP										

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Associate Dean

Academics

Registrar

SUN

Dean

SOCSA



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Department of Computer Science & Application

7	FP	Field Project			4	2		50		50	10 0
		TOTAL	18	1	12	24	250	150	500	150	8 0 0

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

List of Minor IV:

Sr.No Course Code Course Name		Course Name
1	NYCIM04	Cloud Computing
2	NYCIM09	Artificial Neural Network

List of Major Electives (ME):

Sr.No	Course Code	Course Name
1	NYCIE01	Deep Learning
2	NYCIE02	Mobile Application Development

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School of Computer Sciences and Engineering

Department of Computer Science & Application

- NEP-2020 Course Structure-Level 5.5

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality (Hons. / Hons. with Research)

Semester – VI For the Batch: A.Y. 24-25 onwards

						Scho Week		Examination Scheme				Tot
Sr. No.	Core	Course Code	Course Name	L	т	P	С	Formative Assessment CIA		Summative Assessment ESE		al Ma rks
								Course	Lab	Course	Lab	
			Мај	or								
1	Major	NYCI601	Advanced Java	4	-	-	4	50	-	50	-	100
2	Major	NYCI601	Data Visualization Using Power BI	4	-	-	4	50	-	50	-	100
	ı	1	Min	or				<u>'</u>		1		
3	Minor	NYCIM_	Minor V	4	-	-	4	50	-	50	-	100
			Major Elec	tives(ME)							
4	ME		Major Elective II	3			4	50	-	50	-	100
	1		Vocational and Skill E	nhan	ceme	nt (V	SEC)	1			•	
5	vsc		Lab Course based on Advanced Java and Data Visualization			4	2		50		50	100
Ability	y/Vocatio	onal Enh	ancement Courses / Indian Knowl	edge (Syste	m(AE	C/VE	C/IKS)			1	
6	AEC		Ability Enhancement Courses - VI			4	2		50		50	100
OJT/I	FP/CEP/	CC/RP			1							
7	ОЈТ		Internship I				4		50		50	100
	BoS Chai	Sirperson	Dean SOCSA		ociate demic	Dean		I		egistrar JN	1	

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School of Computer Sciences and Engineering

Department of Computer Science & Application

			TOTAL	15	-	8	24	200	150	200	150	700
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Continuous Internal Assessment	OJT – On Job Training FP – Field Project	CIA	Weightage	Description
ESE : End Semester Theory Exam.	CEP – Community Engagement	CIA 1	10%	Home Assignment
L: Theory Lecture,	Projects	CIA 2	20%	Written Exam
T : Tutorial,	CC – Co-Curricular Course RP – Research Project			Activity /Project and Research Based
P: Practical	* - Refer University Notification	CIA 3	10%	Learning along with Seminar Presentations
				Behavioural Attitude +General
		CIA 4	10%	Discipline
				Theory +Practical attendance
		CIA TOTAL	50%	
	Written Examination – Er	nd Semester Exam (ESE)	50%	
		TOTAL	100%	

List of Minor V:

Sr.No	Course Code	Course Name				
1	NYCIM10	Knowledge Representation Using AI				

List of Major Electives (ME):

Sr.No	Course Code	Course Name			
1 NYCIE03		Natural Language Processing			
2	NYCIE04	Computer Vision			

Exit option: Award of UG Degree in Major with 120-132 credits OR Continue with Major and Minor

- NEP-2020 Course Structure-Level 6.0

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TOTAL

Sandip University, Nashik (MS), India

At Post Mahiravani, Trimbak Road, Nashik-422213, Maharashtra https://www.sandipuniversity.edu.in

For the Batch: A.Y. 23-24 onwards

School of Computer Sciences and Engineering

Department of Computer Science & Application

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality (Honours)

Semester - VII

				Т	eachine) (Hrs./	g Schen Week)	1e	Ex	aminat	ion Schen	ne	
Sr. No.	Core	Course Code	e Course Name	L	т	P	c		ative sment A	Sumn Assess ESI	sment	Total Marks
								Course	Lab	Course	Lab	
Majo	Major (Mandatory)											
1	Major		Unsupervised Learning and Neural Network	4	-	-	4	50	_	100	-	100
2	Major	LNYCT702	Statistics for Machine Learning	4	-	-	4	50	-	100	-	100
3	Major	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Software Project Management	2	-	-	2	50	-	100	-	100
4	Major		Artificial Intelligence and Knowledge Presentation	4	-	-	4	50	-	100	-	100
Majo	r Elect	ives (ME)						•				
5	ME	NYCIE_	Major Elective III	4			4	50	-	100	-	100
Mino	or				1	1		•			1	_
6	Minor		Minor VI	4		-	4	50		100		100
I				l	l	l	l	1			l	ĺ

22

300

600

600

BoS	Dean	Associate Dean	Registrar
Chairperson	SOCSA	Academics	SUN

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School of Computer Sciences and Engineering

Department of Computer Science & Application

OJT – On Job Training FP – Field Project CEP – Community	CIA	Weightage	Description
3	CIA 1	10%	Home Assignment
RP – Research Project	CIA 2	20%	Written Exam
Courses IKS- Indian Knowledge System	CIA 3	10%	Activity /Project and Research Based Learning along with Seminar Presentations
Courses * - Refer University Notification	CIA 4	10%	Behavioral Attitude +General Discipline Theory +Practical attendance
	CIA TOTAL	50%	
l /ritten Examination – End Semo	ester Exam (ESE)	50%	
	TOTAL	100%	
	FP - Field Project CEP - Community Engagement Projects CC - Co-Curricular Course RP - Research Project AEC- Ability Enhancement Courses IKS- Indian Knowledge System VEC- Value Education Courses * - Refer University Notification	FP - Field Project CEP - Community Engagement Projects CC - Co-Curricular Course RP - Research Project AEC- Ability Enhancement Courses IKS- Indian Knowledge System VEC- Value Education Courses * - Refer University Notification CIA 4 CIA 4 CIA 4 CIA 4 CIA TOTAL	FP - Field Project CEP - Community Engagement Projects CC - Co-Curricular Course RP - Research Project AEC - Ability Enhancement Courses IKS - Indian Knowledge System VEC - Value Education Courses * - Refer University Notification CIA 1 10% CIA 2 20% CIA 3 10% CIA 3 10% CIA 4 10% CIA TOTAL 50%

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School of Computer Sciences and Engineering

Department of Computer Science & Application

- NEP-2020 Course Structure-Level 6.0

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual

Reality (Honours)

Semester - VIII For the Batch: A.Y. 23-24 onwards

						Sche Week)		Ex	aminat	ion Scher	ne	
Sr. No.	Core	Course Code	Course Name	L	т	P	С		ative sment A		mative ssment SE	Total Marks
								Course	Lab	Course	Lab	
Majo	or (Mand	latory)										
1	Major	NYCI801	Fuzzy Logic and Neural Networks	4	-	-	4	50	-	100	-	100
2	Major	NYCI802	Pattern Recognition	4	-	-	4	50	-	100	-	100
3	Major	NYCI803	Cyber Security Essentials	2	-	-	2	50	-	100	-	100
4	Major	NYCI804	Principles of Management	4	-	-	4	50	-	100	-	100
Majo	or Electi	ives (ME)										
5	ME	NYCIE_	Major Elective IV	4	-	-	4	50	-	100	-	100
OJT	/FP/CE	P/CC/RP		ı	ı	ı		1				
6	OJT		Internship II	_	-	8	4	-	50		50	100
			TOTAL	18	-	8	22	250	50	500	50	600

BoS Chairperson Dean SOCSA Associate Dean Academics

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ESE : End Semester Theory Exam.	Engagement Projects CC – Co-Curricular Course	CIA 1	10%	Home Assignment
L : Theory Lecture,	RP – Research Project AEC - Ability Enhancement	CIA 2	20%	Written Exam
T: Tutorial, P: Practical	Courses IKS- Indian Knowledge System	CIA 3	10%	Activity /Project and Research Based Learning along with Seminar Presentations
	VEC - Value Education Courses	CIA 4	10%	Behavioral Attitude +General Discipline Theory +Practical attendance
	* - Refer University Notification	CIA TOTAL	50%	
V	Vritten Examination – End Seme	ester Exam (ESE)	50%	
		TOTAL	100%	

Four Year B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality Honours in Major & Minor with 160-176 Credits

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Department of Computer Science & Application

- NEP-2020 Course Structure-Level 6.0

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and

Virtual Reality (Honours with Research)

Semester – VII For the Batch: A.Y. 23-24 onwards

					aching (Hrs./V		ıe	Exa	minatio	on Sche	me	
Sr. No.	Core	Course Code	Course Name	L	L T	T P	С	Formative Assessment CIA		Summative Assessment ESE		Total Marks
								Course	Lab	Course	Lab	
Major	(Mandato	ory)										
1	Major	NYCI701	Statistics for Machine Learning	4	-	-	4	50	-	100	-	100
2	Major	NYCI702	Artificial Intelligence and Knowledge Presentation	4	-	ı	4	50	ı	100	ı	100
3	Major	NYCI703	Software Project Management	2	-	ı	2	50	1	100	ı	100
Major	Electives	(ME)		1	1			1				
4	ME	NYCIE_	Major Elective III	4	-	-	4	50	-	100	-	100
Minor	•		•									
5	Minor		Minor VI	4	-	-	4	50		100		100
OJT/	OJT/FP/CEP/CC/RP											
6	RP	NYCI711	Research Project-I	-	-	8	4	-	100		100	200
		тота	L	18	-	8	22	250	100	500	100	700

BoS	
Chair	person

Dean SOCSA Associate Dean Academics

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CIA: Continuous Internal Assessment FOR End Separator Theory	OJT – On Job Training FP – Field Project CEP – Community	CIA	Weightage	Description
ESE : End Semester Theory Exam.	Engagement Projects CC – Co-Curricular Course	CIA 1	10%	Home Assignment
L: Theory Lecture,	RP – Research Project AEC- Ability Enhancement	CIA 2	20%	Written Exam
T: Tutorial, P: Practical	Courses IKS- Indian Knowledge System VEC- Value Education	CIA 3	10%	Activity /Project and Research Based Learning along with Seminar Presentations
	Courses * - Refer University Notification	CIA 4	10%	Behavioral Attitude +General Discipline Theory +Practical attendance
		CIA TOTAL	50%	
W	l /ritten Examination – End Semo	ester Exam (ESE)	50%	
		TOTAL	100%	

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- NEP-2020 Course Structure-Level 6.0

Programme Name: B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual

Reality (Honours with Research)

Semester - VIII For the Batch: A.Y. 23-24 onwards

					aching ((Hrs./W		е	Examination S		on Scheme		
Sr. No.	Core	Course Code	Course Name	L	т	P	С	Forma Assess: CL	ment	Summative Assessment ESE		Total Marks
								Course	Lab	Course	Lab	
Ma	Major (Mandatory)											
1	Major	NYCI801	Fuzzy Logic and Neural Networks	4	1	-	4	50	-	100	-	100
2	Major	NYCI802	Pattern Recognition	4	-	-	4	50	-	100	-	100
3	Major	NYCI803	Cyber Security Essentials	2	-	-	2	50	-	100	-	100
Ma	jor Elec	tives (ME)										
4	ME	NYCIE_	Major Elective IV	4	-	-	4	50	-	100	-	100
OJ	T/FP/C	EP/CC/RP										
5	RP	NYCI811	Research Project-II	-	-	16	8	_	100		100	200
		ТОТА	L	14	1	16	22	200	100	400	100	600

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	Courses * - Refer University Notification	CIA 4	10%	Behavioral Attitude +General Discipline Theory +Practical attendance
		CIA TOTAL	50%	
W	l /ritten Examination – End Semo	ester Exam (ESE)	50%	
		TOTAL	100%	

Four Year B.Sc. Computer Science in Artificial Intelligence Machine Learning and Virtual Reality Honours with Research in Major & Minor with 160-176 Credits

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NEP 2020- Ability Enhancement Course (AEC) Basket (For the Batch 2025-26 Onwards) Program: BSc. CS AIML & VR

Sr. No.	Course Code	Name of the Course	Semester
1	NHSA01	Communicative English	
2	NHSA05	Elementary Marathi	I
3	NHSA09	Linguaskills I	
4	NHSA02	Personality Development and Soft Skill	
5	NHSA04	Introduction to Sanskrit	II
6	NHSA10	Linguaskills 2	
7	NCAA01	Leadership Skills and Team Management	
8	NCAA02	Sustainable Development	III
9	NHSA11	Key Competencies for Career Growth	
7	NCAA03	Creative Writing	
8	NCAA04	Reading Indian Fiction in English	IV
9	NHSAI2	Strategic Communication for Professionals	
10	NHSA13	Essential Aptitude Skills	V
11	NHSA14	Employability Skills and Career Advancement	VI

NEP 2020 Value Education Course (VEC) Basket (For the Batch 2024-25 Onwards) Program: BSc. CS AIML & VR

Sr. No.	Course Code	Name of the Course	Semester
1	NSSV01	Environmental Studies	Ţ
2	NCAV01	Human Values and Professional Ethics	1
3	NLWV01	Constitution and Human Rights	II
4	NCAV02	Science and Society	II

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NEP 2020 Indian Knowledge System (IKS) Basket (For the Batch 2024-25 Onwards) Program: BSc. CS AIML & VR

Sr. No.	Course Code	Name of the Course	Semester
1	NCAI01	Indian Epics	
2	NCAI02	Ancient Indian History and Culture	
3	NCAI03	Vedic Literature	1
4	NCAI04	Ancient Indian Mathematicians	

NEP 2020- Co-Curricular Activity (CC) Basket (For the Batch 2024-25 Onwards) Program: BSc. CS AIML & VR

Sr. No.	Course Code	Name of the Course	Semester
1	NYUC111	Yoga and Meditation	
2	NCAC01	Solid Waste Management	1
3	NCAC02	Health and Wellness	***
4	NCAC03	Essence of Good Governance	II
5	NCAC04	e-Waste Management	111
6	NCAC05	Knowing India's Heritage	III
7	NCAC06	Soil and Water Resource Conservation	17.7
8	NCAC07	Social Responsibilities and Ethics	IV

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NEP 2020- Minor Basket (For the Batch 2024-25 Onwards) Program: BSc. CS AIML & VR

Students from BSc. CS AIML&VR shall Opt. following Minor Courses in Concern semester

Sr. No.	Course Code	Name of the Course	Credits	Semester
1	NYCIM01	Web Application Development Technologies	2	II
2	NYCIM02	Data Structure Using C	4	III
3	NYCIM03	Theoretical computer science	4	IV
4	NYCIM04	Cloud Computing	4	V
5	NYCIM05	Software Testing	4	VI

NEP 2020- Minor Basket (For the Batch 2024-25 Onwards) Program: BSc. CS AIML & VR

Students from BSc. Computational Mathematics and Data Science with Minor in Artificial Intelligence (AI) shall Opt. following Minor Courses in Concern semester

Sr. No.	Course Code	Name of the Course	Credits	Semester
1	NYCIM06	Introduction to AI Fundamental	2	II
2	NYCIM07	Basics of Machine Learning	4	III
3	NYCIM08	Fundamentals of AI & ML	4	IV
4	NYCIM09	Artificial Neural Network	4	V
5	NYCIM10	Knowledge Representation using AI	4	VI

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NEP 2020- Open Elective Basket (For the Batch 2024-25 Onwards)

Program: BSc. CS AIML & VR

Sr. No.	Course Code	Name of the Course	Semester
1	NCAO01	Fundamental of Computers	
2	NCAO02	IT Security	I
3	NCAO03	Applications of Artificial Intelligence	
4	NCAO04	Computer Hardware	
5	NCAO05	Introduction to IOT	II
6	NCAO06	Digital Fluency	
7	NCAO07	Fundamentals of Artificial Intelligence and Machine Learning	III
8	NCAO08	Operating System	_ ···
9	NCAO09	Digital Electronics	IV
10	NCAO10	Big Data Analytics	

NEP 2020- Major Elective Basket (For the Batch 2024-25 Onwards) Program: BSc. CS AIML & VR

Sr. No.	Course Code	Name of the Course	Semester
1	NYCIE01	Deep Learning	V
2	NYCIE02	Mobile Application Development	V
3	NYCIE03	Natural Language Processing	371
4	NYCIE04	Computer Vision	VI
5	NYCIE05	DevOps in Machine Learning	
6	NYCIE06	Artificial Intelligence in Business	VII
7	NYCIE07	Reinforcement Learning	X 7777
8	NYCIE08	Data Visualization using Tensor flow	VIII

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