

Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)

Curriculum Structure and Evaluation Scheme

To be implemented for 2022-26

Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

B. Tech. in Computer Science & Engineering (Artificial Intelligence and Machine Learning)

with

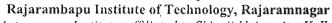
Multidisciplinary

Minor





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(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)
Curriculum Structure and Evaluation Scheme

To be implemented for 2022-26

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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

Class: S. Y. B. Tech

Semester: III

		Tea	ching	Sche	eme			Evalu	ation	Scheme	
Course Code	Course	L	Т	P	Credits	Scheme		heory arks %)	Practic	al (Marks %)
Coue		L	1	2,	Cre		Max	Min. for passing		Max.	Min. for passing
	Discrete					ISE	20	0000			
AI201	Mathematics	3			3	UT1	15	40	40		
					_	UT2 ESE	15 50	40			
AI203	Data structure &		1	_		ISE	20	40			****
A1203	Algorithms			A.	_	UT1	15	40	-		
	Aigoriums	3	-	-	3	UT2	15	† '°	40		
						ESE	50	40			
AI205	Computer Organization			ů. IV	2	ISE	20	40			
	and Architecture	2				UT1	15		40		
			-			IJT2	15		40		
						ESE	50	40			
AI207	Principles of Artificial			-	2	ISE	20	40			*****
	Intelligence	2				UT1	15		40		
	_					UT2	15		70		
	to come and of the following the contraction of the					ESE	50				
						ISE	20				
	Multidisciplinary Minor-I		5	-	3	UTI	15	40	40		
		·		3.50	.,	UT2	15		ļ '`		
~~~~						ESE	50	40			
SH2174	Environmental Science	I	1	2	2	ESE ESE	50	40	40		
	Object Oriented					181	****	<u> </u>		50	50
AI209	Programming using JAVA	2	3	2	3	ESE		T		50	50
	Data structure &					ISE				50	50
AI211	Algorithms Lab	**		2	1	ESE				50	50
AI213	Desktop Publishing	-	-	2	1	ISE		_	-	100	50
AI215	Technical Aptitude-I	_	-	- 2	1	ESE			-	100	50
	Professional Skills Development and Foreign Languages-I	-	-	2	1	ISE	-		-	100	50
	TOTAL	16	-	12	22						
	TOTAL CONTACT HOURS		28								

ISE-In Semester Evaluation, UT-I = Unit Test-I, UT-II = Unit Test-II, ESE = End Semester Exam

Total Contact Hours/week : 28 Total Credits : 22

Technical Aptitude Courses: Discrete Mathematics, Computer Organization and Architecture, Data structure

& Algorithms, Principles of Artificial Intelligence and Object-Oriented Programming





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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

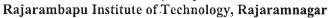
Sr. No.		Subject Name	Course Code		
1.	Professional Skills	Professional Leadership Skills	SH2634		
2.	Development and Foreign	Interpersonal Skills	SH2614		
3.	Languages	Innovation Tools and Methods for Entrepreneurs	SH2694		
4.		Personal Effectiveness and Body Language	SH2594		
5.		German Language – Level III	SH2734		
6.		Japanese Language – Level III	SH2714		

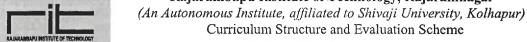
# Note:

- 1. A student has to complete any two courses out of six choices offered under Choice Based Professional Skills Development Programme. A course in each semester will be allocated without any repetition.
- 2. Foreign Language course selected in F. Y. B. Tech Sem-I will remain the same with next levels in Sem-III & IV. (No new entries in S. Y. B. Tech Sem-III)









To be implemented for 2022-26

Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

Class: S. Y. B. Tech Semester: IV

Course	Course	Te	achin	g Scl	ieme	Evaluation Scheme						
Code		L	T	P	,	G)	Theory	(Marks	s %)	Practi (Marl		
				.,	Credits	Scheme	Max Min. for passing			Max.	Min. for passing	
						ISE	20					
AI202	Statistics and Fuzzy	-3		·_	3	UTI	15	40	40			
111202	systems	2.			,,	UT2	15		1 70			
						ESE	50	40	_			
					1	ISE	20					
AI204	Machine Learning	}	_	11/4	3	UTI	15	40	40			
			5			UT2	15	10				
	Confidence on about the confidence to the confidence of the confid			+		ESE	50	40	-			
						ISE	20	40				
AI206	Computer Networks	1	1.00		3	UTI	15	40	40			
						U'I'2	15	40	-			
				-	-	ISE	50 20	40	-			
	Database Management Systems					UTI	15	40				
AI208		3	-		3	UT'2	15	40	40			
	Systems			1		ESE	50	40	1			
		1	-			ISE	20	40	_			
	Multidisciplinary Minor-					UTI	15					
		3	-	-	3	UT2	15		40			
				124		ESE	50					
	Modern Indian Language	2	-	-	2	ISE	100	50				
AI210						ISE				50	50	
A1210	Machine Learning Lab	-	-	4	2	ESE				50	50	
A TO 10	Database Management			,		ISE			_	50	50	
AI212	Systems Lab	-	-	2	1	ESE				50	50	
AI214	Computer Hardware Networking	-	-	.2	1	ISE		_	-	100	50	
AI216	Technical Aptitude-II	-	-	. 2	1	ESE		-	_	100	50	
	Professional Skills Development and Foreign Languages-II	-	-	.2	1	ISE	-	-		100	50	
	TOTAL	17	-	12	23			•		1.		
	TOTAL CONTACT HOURS	29										

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Total Contact Hours/week : 29 Total Credits : 23

Technical Aptitude Courses : Statistics and Fuzzy systems, Computer Networks, Machine learning and

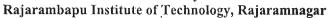
Database Management Systems

Note: Students are required to undergo industrial / field training of minimum two weeks in the vacation of Semester-IV and its evaluation will be carried out in the Semester-V





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Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

Sr. No.		Subject Name	Course Code		
1.	Professional Skills	Professional Leadership Skills	SH2634		
2.	Development and Foreign	Interpersonal Skills	SH2614		
3,	Languages	Innovation Tools and Methods for	SH2694		
		Entrepreneurs			
4.		Personal Effectiveness and Body Language	SH2594		
5.		German Language - Level IV	SH2644		
6.		Japanese Language - Level IV	SH2624		

Sr. No.		Subject Name	Course Code
1	Modern Indian Language	मराठी भाषिक कोशल्यविकास	SH202
2	Modern Indian Language	हिंदी कथा साहित्य एवं प्रयोजमूलक हिंदी	SH204









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To be implemented for 2022-26

Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning) Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

T. Y. B. Tech Class:

Semester: V

Course Code	Course	,	Feac Sch-			This water of military of		Evalu	ation	Schem	e
		i,	T	þ	Credits	Scheme	(1)	Theory Marks ?	/o)		Practical Marks %)
					Cre		Max	Min. f passin		Max.	Min. for passing
				ľ		ISE	20				
AI301	Deep Learning	3	_	H	3	UT1 UT2	15	40	40		
211301	Beep Bearining	'	-	, -	'	ESE	15 50	40	10		
		-	-	ł		ISE	20	40			
17000						UT1	15	40			
AI303	Software Engineering	2	-	-	2	UT2	15		40		
				1		ESE	50	40	1		
						ISE	20				
	Program Elective -I	3	_	١.	3	UT1	15	40	40		
						UT2	15	10			
		-	-	7		ESE ISE	50 20	40			
						UTI	15	40	40		
	Open Elective-I	3	-	-	3	UT2	15	10	40		
						ESE	50	40			
				Vi.		ISE	20				
	Multidisciplinary Minor-III				_	UTI	15	40			
	Withdiscipinary Winor-III	3	-	2₹	3	UT2	15		40		
				F		ESE	50	40			
			-			ISE	20	40	40	l	
	Multidisciplinary Minor-IV					UT1	15				
	interest sorphitary winter-1	2		4	2	UT2	15				
						ESE	50	40			
						ISE	20	10		-	
SH3034	Scholastic Aptitude – I	2		SC.	2	UT1	15	40	40		
3П3034	Scholastic Aprillude – I	4	-	ļ., -	4	UT2	15		40		
						ESE	50	40			
AI313	Deep Learning Lab	-	-	2	1	ISE				100	50
AI315	Big Data Analytics Lab	1	-	2	2	ISE				50	50
711313	Big Data Atlatytics Eau	-	-	2	4	ESE				50	50
AI317	Technical Aptitude – III	_	-	2	1	ESE	-	-	-	100	50
AI319	Summer Internship/ Professional Certification	_	-		2	ISE				100	50
	TOTAL	19	-	6	24						
	TOTAL CONTACT HOURS		25	, <u> </u>							

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Total Contact Hours/week : 25 **Total Credits** 

: 24

Technical Aptitude Courses : Deep Learning, Software Engineering, Big Data Analytics

> AIRMLI Engg. Department 415 414



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Curriculum Structure and Evaluation Scheme

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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AL&ML) Course Structure/RIT/02/2022-26

Program Elective-I

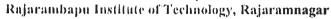
Sr. No.	No. Course Domain		Course
1	A1305	Internet of Things	Sensor Actuated Technology
2	AI307	Computer Vision	Computer Graphics and Vision
3	AI309	Networking	Ad-hoc Network
4	AI311	Natural Language Processing	Text and Speech Analysis

Open Elective - I

	Course		
Sr. No	Code	Course Name	Offered By Department
1	OE345	Soft Computing	Computer Science & Information Technology
2	OE361	Object Oriented Modeling and Design	Computer Science & Information Technology
3	OE343	Data Science	Computer Science & Engineering (Artificial Intelligence and Machine Learning)
4	OE347	New Product Design & Development	Mechanical Engineering
5	OE349	Non-Conventional Energy Sources	Mechanical Engineering
6	OE351	Hydrogen & Fuel Cell Technology	Mechanical Engineering
7	OE3044	Renewable Energy Sources	Automobile Engineering
8	OE353	Factory Automation	Mechatronics Engineering
9	OE355	Cyber Physical Systems	Mechatronics Engineering
10	OE3104	Network Administration	Computer Science & Engineering
11	OE3064	Environmental Impact Assessment	Civil Engineering
12	OE350	Operations Research	Civil Engineering
13	OE341	Energy Auditing and Management	Electrical Engineering
14	OE357	Internet of Things	Electronics & Telecommunication Engineering
15	OE359	Drone Technology	Electronics & Telecommunication Engineering









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To be implemented for 2022-26

Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(Al&ML) Course Structure/RIT/02/2022-26

Class: T. Y. B. Tech

Semester: VI

		Т	eaching	Schen	ne			Evalua	tion :	Scheme	
Course	Course					4)	Theory	(Marks %		Practical (M	arks %)
Code	Course	L	Т	Pr	Cred	Sche	Max	Min. for passing		Max.	Min. for passing
						ISE	20				
AI302	Optimization Techniques	3			3	UTI	15	40	40		
A1302	for AI	)	-	-	3	UT2	15	1	40		
						ESE	50	40			
	Automata Theory			**	3	ISE	20				
AI304		3	_			UTI	15	40	40		
A1504	Automata Theory	3	ļ -	- 1	3	UT2	15		40		
				1		ESE	50	40			
				,		ISE	20				
AI306	Research Methodology	2	_	-	2	UTI	15	40	40		
Albuu	Research Weinodology	2	-	-		UT2	15		40		
						ESE	50	40			
			-	٩.	3	ISE	20	40			
	Program Elective-II	3		75		UTI	15		40		
		)				UT2	15		40		
				()		ESE	50				
	Open Elective - II		_	- G		ISE	20	40	40	w	
		3			3	UT1	15				
		3		-	3	UT2	15		40		
						ESE	50	40			
			-	-	3	ISE	20	40			
	Multidisciplinary Minor-V	3				UT1	15		40		
		)				UT2	15		40		
						ESE	50	40			
						ISE	20				
SH3064	Scholastic Aptitude – II	2			2	UTI	15	40	40		
5115004	Scholastic Aprillide - II	2	-	-	2	UT2	15		40		
						ESE	50	40			
AI316	Web Technology Lab	-	_	4	2	ISE				50	50
FIJIU				4	۷	ESE			_	50	50
AI318	Mobile Application Development Lub			2	1	1816	•••			100	50
AI320	Technical Aptitude - IV			2	1	1:81:				100	50
AI322	Capstone project Phase - I			2		ISE				100	50
	TOTAL	19	_	10	24					100	
	TOTAL CONTACT HOURS		29	111							

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Total Contact Hours/week : 29 Total Credits : 24

Technical Aptitude Courses: Optimization Techniques for AI, Automata Theory, Web Technology,

Mobile Application Development





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Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

# Program Elective-II

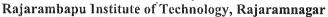
Sr. No.	Course Code	Domain	Course
1	AI308	Internet of Things	Smart Cities
2	AI310	Computer Vision	Augmented & Virtual Reality
3	AI312	Networking	Wireless & Mobile Nets
4	AI314	Natural Language Processing	Sentiment Analysis

# Open Elective - II

Sr. No.	Course Code	Course Name	Offered By Department
1	OE3401	Cyber security	Computer Science & Information Technology
2	OE360	Distributed Systems	Computer Science & Information Technology
3	OE342	Data Mining	Computer Science & Engineering (Artificial Intelligence and Machine Learning)
4	OE3024	Reliability Engineering	Automobile Engineering
5	OE344	Supply Chain Analytics	Mechatronics Engineering
6	OE346	Mobile Robotics	Mechatronics Engineering
7	OE348	Information Technology Foundation Program	Computer Science & Engineering
8	OE3381	Disaster Management	Civil Engineering
9	OE3084	Materials Management	Civil Engineering
10	OE358	Plumbing (Water and Sanitation)	Civil Engineering
11	OE3182	Industrial Drives	Electrical Engineering
12	OE352	Image Processing	Electronics & Telecommunication Engineering
13	OE354	Fuzzy logic and Neural Network	Electronics & Telecommunication Engineering
14	OE356	Project Management	Mechanical Engineering
15	OE3284	Supply Chain Management	Mechanical Engineering
16	OE3324	Entrepreneurship Development	Mechanical Engineering









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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

Class: Final Year B. Tech

		Tea	chin	g Sch	eme	Evaluation Scheme							
Course Code	Course	L	Т	Р	Credits	Scheme		heory	y		l (Marks %)		
Code		L	•	r	Cre	Sch	Max	Min	. for sing	Max.	Min. for passing		
	Social and Ethical issues in			-		ISE	20	40					
AI401	AI	2	-	-	2	MSE	30	40	40				
	Al					ESE	50	40					
	Cryptography and Network					ISE	20	40					
AI403	Security Security	3	-	-	3	MSE	30		40				
	Security					ESE	50	40					
AI405						ISE	20	40					
	Cloud Computing	3	-	-	3	MSE	30_		40				
						ESE	50	40					
			-			ISE	20	40			_		
	Program Elective-III	3		_,	3	MSE	30	40	40	_	_		
				90.		ESE	50	40			_		
				. <u>-</u>	3	ISE	20	40	40				
	Program Elective-IV	3	-			MSE	30	40					
						ESE	50	40	,				
	Program Elective Lab -I	1 _		2	1	ISE		_	_	50	50		
	Trogram Elective Elab -1					ESE		-		50	50		
AI423	Cloud Computing Lab	_	l . l	2	1	ISE		-		50	50		
717123						ESE	_			50	50		
AI425	Blockchain Technologies		_	2	,	ISE		_	_	50	50		
A1423	Lab	_	-	<u> </u>	١,	ESE		_	-	50	50		
AT425				6	3	ISF			_	50	50		
AI435	Capstone Project Pluse - II	-	-	7		ESE				50	50		
	TOTAL	14	-	12	20								
	TOTAL CONTACT HOURS	26											

ISE = In Semester Evaluation, MSE = Mid Semester Exam, ESE = End Semester Exam

Total Contact Hours/week : 26 Total Credits : 20



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Semester: VII



# Rajarambapu Institute of Technology, Rajaramnagar

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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

# **Program Elective-III**

Sr. No.	Course Code	Domain	Course
1	AI407	Internet of Things	Intelligent Transportation System
2	AI409	Computer Vision	Pattern Recognition
3	AI411	Networking	Next-Generation IP Networks
4	AI413	Natural Language Processing	Chatbot

# Program Elective-IV

Sr. No.	Course Code	Domain	Course	
1	AI415	Internet of Things	Robotics	
2	Al417	Computer Vision	Game designing	
3	A1419	Networking	Wireless Sensor Network	
4	A1421	Natural Language Processing	Natural language processing	

# Program Elective Lab- I

Sr. No.	Course Code	Domain	Course
1	AI427	Internet of Things	Robotics Lab
2	AI429	Computer Vision	Game designing Lab
3	AI431	Networking	Wireless Sensor Network Lab
3	AI433	Natural Language Processing	Natural language processing Lab







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Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

# Choice based Internship Model Model I: Industry Internship (II)

Class: Final Year B. Tech Semester: VIII

				chin ieme		Evaluation Scheme						
Course Code	Course		т	P	Credits	Scheme	11	Theory Iarks ?		Practical (Mar %)		
		L			Cre	Sch	Max.	Min. passi		Max.	Min. for passing	
OE4382	Finance for Engineers (Online Course)	2		1	2	ISE	25	40	40			
	(Online Course)					ESE	75	40				
OE4362	Engineering Management &	2		4	2	ISF	25	40	40			
	Economics (Online Course)				_	ESE	75	40				
IP4024	Industry Internship &			1)	12	ISE		-		50	50	
	Project	_			12	ESE		-		50	50	
	TOTAL			_	16							

ISE = In Semester Evaluation, ESE = End Semester Exam

**Total Contact Hours/week** 

week . -

**Total Credits** 

: 16

# Note:

- 1] Weekly Contact hours are not mentioned as student is expected to be in industry regularly for 20 weeks. However, student needs to report to Institute mentors as and when required.
- 2] For online course, lecture videos of each unit will be made available through college platform to the students. For each unit there will be separate assignment. Students need to submit all assignments within specified time.

Weightage: 25% weightage for unit wise assignments + 75% weightage for final exam. Final exam will be held at college campus.





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# Model II: Research Internship (RI)

Class: Final Year B. Tech Semester: VIII

				chin teine	*. *	Evaluation Scheme						
Course Code	Course		7,	P	Credits	me	Theory (Marks %)			Practical (Marks		
		1,	'		Cre	Scheme	Max.	Min. passi		Max.	Min. for passing	
OE4382	Finance for Engineers (Online Course)	2			2	ISE	ISE 25	25 40	40			
	(Online Course)					ESE	75	40	1			
OE4362	Engineering Management &	2	_		2	ISE	25	40	40			
	Economics (Online Course)			,		ESE	75	40				
RE4044	Dagagrah Internahin				12	ISE		-		50	50	
KE4044	Research Internship	-	-	-	12	ESE		_		50	50	
	TOTAL	-	-	-	16							

ISE = In Semester Evaluation, ESE = End Semester Exam

**Total Contact Hours/week** 

**Total Credits** 

: 16

- 1] Weekly Contact hours are not mentioned as student is expected to be in outside research organization regularly for 20 weeks. However, student needs to report to Institute mentors as and when required.
- 2] For online course, lecture videos of each unit will be made available through college platform to the students. For each unit there will be separate assignment. Students need to submit all assignments within specified time.
- 3] Students who opt for a research internship need to undergo a minimum of one month of research internship in outside research organizations or laboratories.

Weightage: 25% weightage for unit wise assignments + 75% weightage for final exam. Final exam will be held at college campus.





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Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

# Model III: Entrepreneurial Internship (EI)

Class: Final Year B. Tech Semester: VIII

			Teaching Scheme		2	V	Evaluation Scheme							
Course Code	Course				Credits	e m	Theory (Marks %)			Practical (Marks %				
		L	Т	P	0	Schem	Max		. for sing	Max	Min. for passing			
ED4104	Project Management	2	_	_	2	ISE	25	40	40	-	-			
	(Online Course)	-			_	ESE	75	40	10	-	-			
	Commercial Aspects of the			40	-	-								
ED4044	Project (Online Course)	2	-	-	2	ESE	75	40		-	-			
ED4064	Entrepreneurship Development Program (EDP)	-	-	-	1	ISE				100	50			
ED4084	Entrepreneurial Internship	1 - 1 - 1   111			50 50	50								
		-	-	-	16					30				

ISE = In Semester Evaluation, ESE = End Semester Exam

Total Contact Hours/week

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**Total Credits** 

: 16

## Note:

1] Weekly Contact hours are not mentioned as student is expected to be in outside research organization regularly for 20 weeks. However, student needs to report to Institute mentors as and when required.

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2] For online course, lecture videos of each unit will be made available through college platform to the students. For each unit there will be separate assignment. Students need to submit all assignments within specified time.

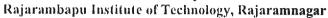
Weightage: 25% weightage for unit wise assignments + 75% weightage for final exam. Final exam will be held at college campus.

- 3] A one week Entrepreneurship Development Program (EDP) will be conducted after completion of  $7^{th}$  semester and before start of  $8^{th}$  semester.
- 4] Students who opt for an entrepreneurial internship need to undergo a one-month internship at an outside reputed organization or firm

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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

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# Multidisciplinary Minor

- Student should choose any one specialization given by the department and complete all the five courses under the specialization to earn 170 Credits.
- Following are the baskets of multidisciplinary minor courses

			Multidisciplinary Minor Bask	cets			
MDM Basket Name	Sr. No.	Course Code	Course Name	Semester	Offered by Department		
	1	ATMD201	Automobile Systems	Ш			
	2	ATMD202	1. C. Engines	IV			
Automobile Engineering	3	ATMD301	Automotive Safety & Ergonomics	V	Automotive Technology		
	4	ATMD303	Automobile Engineering Lab.	V			
	5	ATMD302	Electric Vehicles	VI			
	1	CEMD201	Building Construction and Planning	III			
Construction	2	CEMD202	Building Estimation and Valuation	IV			
Engineering	3	CEMD301	Infrastructure Engineering	V	Civil Engineering		
	4	CEMD303	Smart Cities and Sustainable Development	v			
	5	CEMD302	Environmental Engineering	VI			
	1	CSMD201	Introduction to Data Structures	III			
	2	CSMD202	Problem solving using JAVA	IV			
Software Programming	3	CSMD301	Fundamentals of Database Systems	V	Computer Science & Engineering		
	4	CSMD303	Object-oriented Programming in Python	V			
	5	CSMD302	Artificial Intelligence	VI			
	1	EEMD201	Electrical Power Generation	III	9		
Electrical Power	2	EEMD202	Power System	IV			
System	3	EEMD301	Electrical Machines	V	Electrical Engineering		
	4	EEMD303	Electrical Technology	V			





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Eveldence	5	EEMD302	Smart Grid		cture/R11/02/2022-26			
	3	EEMD302		VI				
	1	ECMD201	Electronics Devices and Applications	III				
Electronica System	2	ECMD202	D202 Electronics Communication Systems		Electronics			
Electronics System Design	3	ECMD301	Advanced Communication Systems	V	&Telecommunication Engineering			
	4	ECMD303	Electronic Product Design	V				
	5	ECMD302	Industrial Electronics	VI				
	1	CIMD201	Data Structures	III				
	2	CIMD202	Computer Algorithms	IV				
Software Development	3	CIMD301	Introduction to DBMS	V	Computer Science & Information Technology			
	4	CIMD303	OOP using Java	V	information recinciogy			
	5	CIMD302	Software Engineering	VI				
	1	MEMD201	Materials and Applications	III				
T1	2	MEMD202	Design and Drawing of Machine Components	IV				
Elements of Mechanical Engineering	3	MEMD301	Manufacturing and Assembly Process	V	Mechanical Engineering			
Dismooring	4	MEMD303	Refrigeration and Air Conditioning	V				
	5	MEMD302	Power Plant Engineering	VI				
	1	MCMD201	Fundamentals of Mechatronics	III				
	2	MCMD202	Industrial Fluid Power	IV				
Mechatronics Engineering	3	MCMD301	Sensor and Instrumentation	V	Mechatronics Engineering			
	4	MCMD303	Industrial Automation	V				
	5	MCMD302	Industrial Robotics	VI				
	1	AIMD201	Object Oriented Programming	III				
	2	AIMD202	Data Structures and Algorithms	IV				
Artificial Intelligence	3	AIMD301	Machine Learning	V	Computer Science & Engineering (AI-ML)			
	4	AIMD303	Business Intelligence	V	Digitioning (111-1111)			
	5	AIMD302	Principles of A1	VI				





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(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)

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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

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# B. Tech. in Computer Science & Engineering (Artificial Intelligence and Machine learning) with Double Minor multidisciplinary and Specialization Minor)





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# **Double Minor**

- 1. It is required to complete SIX courses (each of 3 credits) from ONLINE platform to earn total of 18 credits under Double Minor (DM) certification.
- 2. Student must complete and earn the credits, for all the six courses starting from Second Year First semester (3rd semester) to Final Year Second Semester (8th semester).
- 3. Basket of the DM courses and respective semester is mentioned in the following table.

Sr. No.	Semester	Course	Code
1	III	-: DM - I	AIDM3XXX
2	IV	DM – II	AIDM4XXX
3	V	DM – III	AIDM5XXX
4	VI	DM – IV	AIDM6XXX
5	VII	DM – V	AIDM7XXX
6	VIII	DM – VI	AIDM8XXX

- 4. To select course platform, first preference must be given to NPTEL.
- 5. Other than NPTEL, courses from COURSERA and UDEMY platforms are allowed to register only in following cases,
  - a. If timeline of NPTEL course is not in line with timeline of academic calendar.
  - b. The suitable succeeding course in line with previous course is not available on NPTEL.
  - c. If any other unavoidable circumstances occur.
- 6. Platform and course selection must be as per recommendation of BOS of the department.
- 7. Student will get the credits of respective DM course in following conditions,
  - a. In case of course selected from NPTEL platform, student have to complete the timely assignments, PASS the exam and secure the certificate.
  - b. In case of course selected from COURSERA or UDEMY, student have to secure the certificate and appear for VIVA (oral) exam,
- 8. While selecting online course, following points must be taken care of,
  - a. Selected course must be of basic or fundamental level.
  - Contents of the course should not be covered in any of the course offered in regular curriculum or not listed in any elective (open or program elective) or in Multidisciplinary Minor (MDM)
  - c. Duration of each online course must be of EIGHT weeks for NPTEL and 30+ hours for UDEMY, COURSERA courses.





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# B. Tech. in Computer Science & Engineering (Artificial Intelligence and Machine Learning) with Honor and Multidisciplinary





Minor

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# Honors with Multidisciplinary Minors

1. It is required to complete SIX courses (each of 3 credits) from ONLINE platform to earn total of 18 credits under Honor certification.

2. Student must complete and earn the credits for all the six courses starting from Second Year First semester (3rd semester) to Final Year Second Semester (8th semester).

3. Basket of the Honor courses and respective semester is mentioned in the following table.

Sr. No.	Semester	Course	Code
I	III	Honor - I	AIH3XXX
2	IV	Honor - H	AIH4XXX
3	V	Honor - III	AIH5XXX
4	VI	Honôr - IV	AIH6XXX
5	VII	Honor - V	AIH7XXX
6	VIII	Honor - VI	AIH8XXX

- 4. To select course platform, first preference must be given to NPTEL.
- 5. Other than NPTEL, courses from COURSERA and UDEMY platforms are allowed to register only in following cases,
  - a. If timeline of NPTEL course is not in line with timeline of academic calendar.
  - b. The suitable succeeding course in line with previous course is not available on NPTEL.
  - c. If any other unavoidable circumstances occurs.
- 6. Platform and course selection must be as per recommendation of BOS.
- 7. Student will get the credits of respective Honor course in following conditions,
  - a. In case of course selected from NPTEL platform, student have to complete the timely assignments, PASS the exam and secure the certificate.
  - b. In case of course selected from COURSERA or UDEMY, student have to secure the certificate and appear for VIVA (oral) exam.
- 8. While selecting online course, following points must be taken care of,
  - a. Selected course must be of advanced level and not basic or fundamental level.
  - b. Contents of the course should not be covered in any of the course offered in regular curriculum or not listed in any elective (open or program elective)
  - c. Duration of each online course must be of EIGHT weeks for NPTEL and 30+ hours for COURSERA, UDEMY courses.



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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

# B. Tech. in Computer Science & Engineering (Artificial Intelligence and Machine Learning) -Honors with Research and Multidisciplinary Minor





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Curriculum Structure and Evaluation Scheme

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Department of Computer Science & Engineering (Artificial Intelligence and Machine Learning)

Rev: CSE(AI&ML) Course Structure/RIT/02/2022-26

# Honors with Research and Multidisciplinary Minor

The student will work on Research Project or Dissertation for 18 Credits in the Fourth Year in respective discipline. The distribution of 18 Credits for Research project in Sem-VII and Sem-VIII is given below. To get B. Tech. in Computer Science & Engineering (Artificial Intelligence and Machine Learning)-Honors with Research and Multidisciplinary Minor degree Student need to earn total 188 Credits which consist 170 credits of regular Multidisciplinary Minor courses and 18 credits of Research courses.

Class: Final Year B. Tech Semester: VII

	Course		Tea	chin temo	* *	Evaluation Scheme						
Course Code			т	p	Credits	Scheme	Theory (Marks %)			Practical (Marks		
				ć.	Cre		Max.	Min. passi		Max.	Min. for passing	
REH401	Intellectual Property Rights	-	-	, ( 	2	ISE	50	40	40			
				Y		ESE	50	40				
REH403	Research project (Synopsis)	_	_	v .	2	ISE				50	50	
	phase - I			1	_	ESE				50	50	
D = 11.10.5	Research Specific core course					ISE	50	40				
REH405	- I (Online NPTEL course)	-	-	-	3	ESE	50	40	40			
TOT 1 0	TOTAL	-	-	-	7							

ISE = In Semester Evaluation, ESE = End Semester Exam

Note: For Evaluation of Online NPTEL course ISE Marks will be marks obtained by students in the assignments given by NPTEL, students who will secure NPTEL certification will be only eligible for ESE of the same course which will be conducted at institute

Class: Final Year B. Tech Semester: VIII

				chin; ieme	_	Evaluation Scheme						
Course Code	Course	ī	Т	P	Credits	Scheme	(	Theory Marks %)	K.	Practi	ical (Marks %	
		L			Cre	Sch	Max.	Min. for passing		Max.	Min. fo	
REH402	Research project	-	-	_	11	ISE				50	50	
	phase - II					ESE				50		
	TOTAL		-	-	11							

ISE = In Semester Evaluation, ESE = End Semester Exam





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