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RAJARSHI SHAHU COLLEGE OF ENGINEERING
TATHAWADE, PUNE-33
(An Autonomous Institute Affiliated to Savitribai Phule Pune University, Pune)

DEPARTMENT OF COMPUTER ENGINEERING

Department of Computer Engineering
B. Tech Structure
(2023 Pattern)

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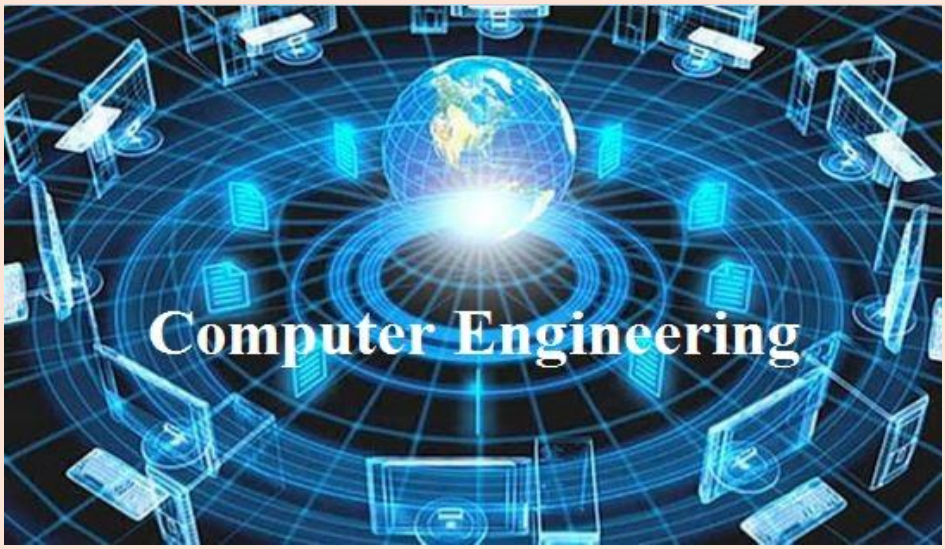
Department of Computer Engineering

Vision

To create quality computer professionals through an excellent academic environment.

Mission of Department

1. To empower students with the fundamentals of Computer Engineering for being successful professionals.
2. To motivate the students for higher studies, research, and entrepreneurship by imparting quality education.
3. To create social awareness among the students.



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Dean Academics

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Director RSCOE, Pune

Department of Computer Engineering

Program Outcomes (POs)

Engineering Graduates will be able to:

1.Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2.Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3.Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4.Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5.Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7.Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8.Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9.Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10.Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11.Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12.Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Department of Computer Engineering

Program Specific Outcomes (PSOs)

Upon successful completion of UG course in Computer Engineering Technology, the students will attain following Program Specific Outcomes:

PSO1:Domain Specialization - The ability to understand, analyze and develop computer programs related to algorithms, system software, multimedia, web design, data science, and networking for efficient design of computer-based systems.

PSO2: Problem-Solving Skills - Applying standard practices and strategies in software project development using open-ended programming environments to deliver advanced computing systems.

PSO3:Professional Career and Entrepreneurship -The ability to employ modern computer languages, operating environments, and platforms in creating innovative career paths to be an entrepreneur.

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Highlights of the Syllabus

Curriculum of UG program for Computer Engineering is designed in association with

Academic Experts

Industry/Corporate Experts

Distinguished Alumni

Features of **Computer Engineering** curriculum are designed in association with the **Tata Consultancy Services, Veritas** and **ForceArk.**

Two Tracks in B. Tech

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Unique features of the curriculum

1. **Curriculum centered at Outcome Based Education:**

The new Curriculum is based on student-centered instruction models that focus on measuring student performance through outcomes. The outcomes include subject knowledge, industry required skills and attitudes.

2. **Emphasize on Fundamentals:**

The nature of the new curriculum is rigorous and well prescribed so that the students can spend more time on preparation and self-study. The students have to learn core subjects, solve practical based assignments and must attempt periodical quizzes. This will benefit them to grasp and keep a strong hold on fundamentals of Engineering in the most effective way.

3. **Experiential Learning:**

The curriculum emphasizes on hands-on sessions along with theoretical information. The new curriculum considers Problem Based Learning (PBL) as a teaching pedagogy and includes different subjects that encourage the students for hands on learning through virtual labs, mini-projects, etc. Accordingly, the curriculum maintains good balance between theory and laboratory credits.

4. **Promote Creativity and Innovation:**

Along with experiential learning, the curriculum also motivates the students to inculcate creativity and innovation. Apart from conventional lab, the curriculum provides a freedom for students to perform industry assignments, pilot projects, innovative development, etc.

5. **Inculcating Ethics and Values:**

To improvise student's behaviour, the curriculum has included systematic courses on ethics and values. The moral principles can help students to make right decisions, lead their professional lives and become ethical citizen.

6. **Blend of Curricular and Noncurricular Activities**

The curriculum also gives importance of different activities like co-curricular, extra-curricular, sports, culture, etc. This will help to do all round development of students in

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all possible ways.

7. Two Tracks in B-Tech:

By offering various courses flexibility in choosing mentoring at work in specified field as:

I. Regular II. Internship and Training

8. Global Competence:

The curriculum provides a unique opportunity for students to learn and engage in open and effective interaction with people from diverse and interconnected world. The combination of foreign languages (German, Japanese, English) and international internships in the curriculum help the students to build a capacity to examine global and intercultural issues and to propose perspectives and views.

9. Industry Induced Internship Program

To support ever demanding industry requirements, the curriculum has included an industry internship with an objective to learn technologies pertaining to their discipline and enhance their technical knowledge with a support of the live platform of Industry.

10. Motivation for Self-Learning:

The curriculum also offers a freedom to students to take the initiatives in their learning needs and set the goals with the help of online learning platforms like MOOCs, NPTEL, Swayam, etc.

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Course Type Abbreviations

BSC: Basic Science Course

ESC: Engineering Science Course

PCC: Programme Core Course

PEC: Programme Elective Course

MD M: Multidisciplinary Minor

OE: Open Elective

VSEC: Vocational and Skill Enhancement Course

HSSM: Humanities Social Science and Management

AEC: Ability Enhancement Course

IKS: Indian Knowledge System

VEC: Value Education Course

CEP: Comm. Engg. Project

FP: Field Project

CC: Co-curricular Courses

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S. Y. B. Tech (Computer Engineering)
Academic Year -2025-2026 (Semester –III)
Proposed Structure Semester -III
(Level 5 - UG-Diploma/ Diploma-Eng) -Semester III

Course Type	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
PCC	CS2201T	Formal Language & Automata Theory	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS2202T	Software Engineering	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS2203T	Data structures	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS2203L	Data structures Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
PCC	CS2204T	Operating Systems	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS2204L	Operating Systems Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
Skill Course (VSEC)	CS3213L	Web Technologies	-	-	2	2	1	ISCE: 30		20	-	50	Computer
PCC	HS2207T	Innovation and Entrepreneurship	2	-	-	2	2	20	30	50	-	100	Computer
HSSM (VEC)	HS2203T	Universal Human Values	2	-	-	2	2	20	30	50	-	100	Humanities
(VEC)	CS2206L	Data Science using Python	-	1	2	3	2	ISCE: 30		20	50	100	Computer
Project	CS2214L	Engineering Innovation and Society-I (Project I)	-	-	2	2	1	ISCE: 30		20	-	50	Computer
	Total		**16**	**2**	**8**	**26**	**22**				**-**	**900**	

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S. Y. B. Tech (Computer Engineering)
Academic Year -2025-2026 (Semester –IV)
Proposed Structure Semester -IV
(Level 5 - UG-Diploma/ Diploma-Eng) -Semester IV

Course Type	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
ESC	ES2203T	Calculus and Transforms	3	-	-	3	3	20	30	50	-	100	Mathematics
PCC	CS2208T	Advance Data Structures	3	-	-	3	3	20	30	50	-	100	Computer
Skill Course (VSEC)	CS2208L	Advance Data Structures Laboratory	-	-	2	2	1	ISCE: 30		20		50	Computer
PCC	CS2209T	Database Management Systems	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS2209L	Database Management Systems Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
PCC	CS2210T	Software Testing and Quality Assurance	3	-	-	3	3	20	30	50	-	100	Computer
MDM		Multi-Disciplinary Minor-I	3	-	-	3	3	20	30	50	-	100	Other department
HSSM (VEC)	ES2206T	Environmental Science and Engineering	2	-	-	2	2	20	30	50	-	100	Humanities
Skill Course (VSEC)	CS2211L-A / CS2211L-B	Programming Lab I: Java / Programming Lab I: Swift Programming	-	-	2	2	1	ISCE: 30		20	-	50	Computer
CC	CS2212L	Co-curricular Course-II	-	-	2	2	1	ISCE: 50			-	50	Computer
Project	CS2215L	Engineering Innovation and Society-II (Project II)	-	-	2	2	1	ISCE: 30		20	-	50	Computer
	Total		17	0	10	27	22					850	

Abbreviations:

L – Lecture, **T** – Tutorial, **P** – Practical, **Hr** – Hours, **C** – Credits, **TuT** – Tutorial, **ISE** – In Semester

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Evaluation, **MSE** – Mid Semester Evaluation, **ESE** – End Semester Evaluation

Notes:

For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.
For Lab courses: There shall be continuous assessment (ISCE consists of ISE and MSE). The ESE is a separate head of passing.

List of Exit Courses after completion of Semester III and IV

1. Exit option is available for students those who have earned the total 88 credits at the End of fourth Semester.
2. Student who wants to avail the exit option after second year have to earn additional 8 credits from the list of courses shown below.
3. These courses student have to complete within summer vacation after 2nd Year.
4. After fulfilment as mentioned in 1 to 3 above, Students can earn **UG-Diploma/ Diploma-Eng** and same will be issued by the Institute.

Sr. No.	Course code	Name	Credits
1.	**EX-CS2201**	Certification in core Java	**2**
2.	**EX-CS2202**	Certification in Database Management Systems	**2**
3.	**EX-CS2203**	Certified Python Developer	**2**
4.	**EX-CS2204**	Certified Software Tester	**2**
5.	**EX-CS2205**	Minor Project	**2**
6.	**EX-CS2206**	Certification in Adobe Photoshop	**2**

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T. Y. B. Tech (Computer Engineering)
Academic Year -2026-2027 (Semester –V)
Proposed Structure Semester -V
(Level 5.5 - B.Voc./ B.Sc. Engg) -Semester V

Course Type	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
PCC	CS3201T	Machine Learning	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS3201L	Machine Learning Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
PCC	CS3202T	Computer Networks	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS3202L	Computer Networks Laboratory	-	-	2	2	1	ISCE:30		20	-	50	Computer
PEC	CS3203T	Professional Elective-I	3	-	-	3	3	20	30	50	-	100	Computer
PEC	CS3203L	Professional Elective-I Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
OE		Open Elective I	3	-	-	3	3	20	30	50	-	100	Other department
MDM		Multi-Disciplinary Minor-II	3	-	-	3	3	20	30	50	-	100	Other department
MDM		Multi-Disciplinary Minor-II Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Other department
Skill Course (VSEC)	CS3204L	Programming Lab II (Advance Java or App development using swift Programmming)	-	-	2	2	1	ISCE: 30		20	-	50	Computer
CC	CS3205L	Co-curricular Course-III	-	-	2	2	1	ISCE: 50			-	50	Computer
Project	CS3206L	Engineering Innovation and Society-III (Project III)	-	-	2	2	1	ISCE: 30		20	-	50	Computer
	Total		**15**	**1**	**12**	**28**	**22**					**850**	

Professional Elective I		Professional Elective I Lab	
Course Code	**Course Name**	**Course**	**Course Name**
CS3203T-A	Data Mining and Analytics	CS3203-A	Data Mining and Analytics Laboratory
CS3203T-B	Cryptography and Data Security	CS3203L-B	Cryptography and Data Security Laboratory
CS3203T-C	Image Processing and Pattern Recognition	CS3203L-C	Image Processing and Pattern Recognition Laboratory

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T. Y. B. Tech (Computer Engineering)

Academic Year -2026-2027(Semester –VI)

Proposed Structure Semester -VI

(Level 5.5 - B.Voc./ B.Sc. Engg) -Semester VI

Course Type	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
PCC	CS3207T	Compiler Design	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS3207L	Compiler Design Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
MDM		Multi-Disciplinary Minor-III	3	-	-	3	3	20	30	50	-	100	Other department
OE		Open Elective II	3	-	-	3	3	20	30	50	-	100	Other department
PEC	CS3208T	Professional Elective-II	3	-	-	3	3	20	30	50	-	100	Computer
PEC	CS3208L	Professional Elective-II Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
PEC	CS3209T	Professional Elective-III	3	-	-	3	3	20	30	50	--	100	Computer
PEC	CS3209L	Professional Elective-III Laboratory	-	-	2	2	1	ISCE: 30		20		50	Computer
Skill Course (VSEC)	**CS3210L**	**UI/UX**	**-**	**1**	**2**	**3**	**2**	**ISCE: 30**		**20**	**50**	**100**	**Computer**
Project	CS3211L	Engineering Innovation and Society-IV (Project IV)	-	-	4	4	2	ISCE: 50		50	-	100	Computer
	Total		**15**	**1**	**12**	**28**	**22**					**850**	

Professional Elective II		Professional Elective II Lab	
Course Code	**Course Name**	**Course Code**	**Course Name**
CS3208T-A	Artificial Intelligence	CS3208L-A	Artificial Intelligence Laboratory
CS3208T-B	Network Security	CS3208L-B	Network Security Laboratory
CS3208-C	Augmented and Virtual Reality	CS3208L-C	Augmented and Virtual Reality Laboratory

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Professional Elective III	
Course Code	**Course Name**
CS3209T-A	Deep Learning
CS3209T-B	Cyber Security and Forensics
CS3209T-C	Soft Computing

Professional Elective III Lab	
Course Code	Course Name
CS3209L-A	Deep Learning Laboratory
CS3209L-B	Cyber Security and Forensics Laboratory
CS3209L-C	Soft Computing Laboratory

Abbreviations:

L – Lecture, **T** – Tutorial, **P** – Practical, **Hr** – Hours, **C** – Credits, **TuT** – Tutorial, **ISE** – In Semester Evaluation, **MSE** – Mid Semester Evaluation, **ESE** – End Semester Evaluation

Notes:

For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.
For Lab courses: There shall be continuous assessment (ISCE consists of ISE and MSE). The ESE is a separate head of passing.

List of Exit Courses after completion of Semester V and VI

1. Exit option is available for students those who have earned the total 132 credits at the End of sixth Semester.
2. Student who wants to avail the exit option after third year have to earn additional 8 credits from the list of courses shown below.
3. These courses student have to complete within summer vacation after 3rd Year.
4. After fulfilment as mentioned in 1 to 3 above, Students can earn **B.Voc./ B.Sc. Engg** and same will be issued by the Institute.

Sr. No.	Course code	Name	Credits
1.	EX-CS3201	Certified Software Engineer	2
2.	EX-CS3202	Certificate Course in Web Designing	2
3.	EX-CS3203	Certified Network Engineer	2
4.	EX-CS3204	Certificate Course in VFX and Animation	2
5.	EX-CS3205	Certificate Course in App development	2
6.	EX-CS3206	Certificate Course in Graphics Designing	2

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B. Tech (Computer Engineering)
Academic Year -2027-2028 (Semester –VII)
Proposed Structure Semester -VII
(Level 6 – B.Tech) -Semester VII

Course Type	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
PCC	CS4201T	Cloud Architecture	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS4201L	Cloud Architecture Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
PCC	CS4202T	Design and Analysis of Algorithms	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS4202L	Design and Analysis of Algorithms Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
MDM		Multi-Disciplinary Minor-IV	3	-	-	3	3	20	30	50	-	100	Other department
MDM		Multi-Disciplinary Minor-IV Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Other department
PEC	CS4203T	Professional Elective-IV	3	-	-	3	3	20	30	50	-	100	Computer
PEC	CS4203L	Professional Elective-IV Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
PCC	CS4204T	Industrial Psychology	2	-	-	2	2	20	30	50	-	100	Computer
PCC	CS4205L	Full-Stack Development with MERN		1	2	3	2	20		30	50	-	100
Project	CS4206L	Engineering Innovation and Society-II (Project II)	-	-	4	4	2	ISCE: 100		100	-	200	Computer
	Total		**14**	**-**	**16**	**30**	**22**					**900**	

Professional Elective IV	
Course Code	**Course Name**
CS4203T-A	Natural Language Processing
CS4203T-B	Web Security
CS4203T-C	Industrial Robotics
CS4203T-D	DevOps

Professional Elective IV Lab	
Course Code	**Course Name**
CS4203L-A	Natural Language Processing
CS4203L-B	Web Security Lab
CS4203L-C	Industrial Robotics Lab
CS4203L-D	DevOps Lab

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B. Tech. Computer Engineering

Academic Year -2027-2028 (Semester –VIII)

Proposed Structure Semester -VIII

(Level 6 – B.Tech) -Semester VIII

Track I - Regular Track

Course Type	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
PCC	CS4206T	Blockchain Technology	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS4206L	Blockchain Technology Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Computer
PCC	CS4207T	Research Methodology	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS4208T	Human Computer Interface	3	-	-	3	3	20	30	50	-	100	Computer
PCC	CS4209T	Digital and Social Media Marketing	2	-	-	2	2	20	30	50	-	100	Computer
VSEC	CS4210L	SWAYAM Professional Elective Courses	2	-	-	2	2	-	-	-	-	100	Computer
Project	CS4211L	Comprehensive Evaluation	-	-	4	4	2	ISCE: 100				100	Computer
	Total		**13**	**-**	**06**	**19**	**16**					**650**	

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B. Tech (Computer Engineering)
Proposed Structure Semester -VIII
Academic Year -2026-2027 (Semester –VIII)
(Level 6 – B.Tech) -Semester VIII

Track II - Internship and Training

Course Type	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
PCC	CS4212L	Industry Internship / Entrepreneurial Internship/ Training Program	-	-	24	24	12	ISCE: 200		250	-	450	Computer
VSEC	CS4210T	SWAYAM Professional Elective Courses	2	-	-	2	2	-	-	-	-	100	Computer
Project	CS4211L	Comprehensive Evaluation	-	-	4	4	2	ISCE: 100				100	Computer
	Total		**02**	**-**	**28**	**30**	**16**					**650**	

Abbreviations:

L – Lecture, **T** – Tutorial, **P** – Practical, **Hr** – Hours, **C** – Credits, **TuT** – Tutorial, **ISE** – In Semester Evaluation, **MSE** – Mid Semester Evaluation, **ESE** – End Semester Evaluation

Notes:

For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.
For Lab courses: There shall be continuous assessment (ISCE consists of ISE and MSE). The ESE is a separate head of passing.

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Professional Elective Bucket

Micro Specialization	Elective-I SEM V	Elective-II SEM VI	Elective-III SEM VI	Elective-IV SEM VII
AI/ML	Data Mining and Analytics	Artificial Intelligence	Deep Learning	Natural Language Processing
Security	Cryptography and Data Security	Network Security	Cyber Security and Forensics	Web Security
Interactive Technologies	Image Processing and Pattern Recognition	Augmented and Virtual Reality	Soft Computing	Industrial Robotics

Multidisciplinary Minor (Offered to all Departments other than Computer, CSBS and IT)

Multidisciplinary Minor I SEM IV	Multidisciplinary Minor II SEM V	Multidisciplinary Minor III SEM VI	Multidisciplinary Minor IV SEM VII
CSM2201T: Introduction to Object Oriented Programming	CSM3201T: Data Structures CSM3201L: Data Structures Laboratory	CSM3202L: Database Management Systems	CS4206T: Computer Network CS4206L: Computer Network Laboratory

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TATHAWADE, PUNE-33
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Department of Computer Engineering
Multidisciplinary Minor (offered to other Departments)
Structure (Effective from 2024-25)

Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks
		L	T	P	Hr	C	ISE	MSE	ESE	
S. Y. Sem IV										
CSM2201T	Introduction to Object Oriented Programming	3	-	-	3	3	20	30	50	100
T. Y. Sem V										
CSM3201T	Data Structures	3	-	-	3	3	20	30	50	100
CSM3201L	Data Structures Laboratory	-	-	2	2	1	ISCE: 30		20	50
T. Y. Sem VI										
CSM3202T	Database Management Systems	3	-	-	3	3	20	30	50	100
B.Tech. Sem VII										
CSM4201T	Computer Network	3	-	-	3	3	20	30	50	100
CSM4201L	Computer Network Laboratory	-	-	2	2	1	ISCE: 30		20	50
Total		**12**	**-**	**4**	**16**	**14**				**500**

Abbreviations:

L – Lecture, **T** – Tutorial, **P** – Practical, **Hr** – Hours, **C** – Credits, **TuT** – Tutorial, **TW**- Term work, **ISE** – In Semester Evaluation, **MSE** – Mid Semester Evaluation, **ESE** – End Semester Evaluation

Notes:

For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.
For Lab courses: There shall be continuous assessment (ISCE consists of ISE and MSE). The ESE is a separate head of passing.

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Department of Computer Engineering
Minor in Emerging Area
Data Science
Structure (Effective from 2024-25)

Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks
		L	T	P	Hr	C	ISE	MSE	ESE	TW	
	S. Y. Sem IV										
CSH2201T	Introduction to Data Science	3	-	-	3	3	20	30	50	-	100
CSH2201L	Introduction to Data Science Laboratory	-	-	2	2	1	ISCE: 30		20	-	50
	T. Y. Sem V										
CSH3201T	Data Visualization	3	-	-	3	3	20	30	50	-	100
CSH3201L	Data Visualization Laboratory	-	-	2	2	1	ISCE: 30		20		50
	T. Y. Sem VI										
CSH3202T	Predictive Analytics	3	1	-	3	4	20	30	50	50	150
	B.Tech. Sem VII										
CSH4201T	Big Data Analytics	3	-	-	3	3	20	30	50	-	100
CSH4202L	Mini Project	-	-	6	6	3	ISCE: 50		50	-	100
Total		**12**	**1**	**10**	**22**	**18**					**650**

Eligibility for admission to the UG Bachelor's Degree with Double Minor: Minimum CGPA/CPI of 7.5 or minimum 75% after second semester for UG Bachelor's Degree

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Department of Computer Engineering
Honors with Research
Structure (Effective from 2024-25)

Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks
		L	T	P	Hr	C	ISE	MSE	ESE	
B. Tech. Sem VII										
CSR4101T	Research Specific core course (Online NPTEL course)	4	-	-	4	4	20	30	50	100
CSR4102T	Design Thinking and Innovation (online/offline)	4	-	-	4	4	20	30	50	100
CSR4103L	Research Project Stage I	-	-	4	4	2	ISCE: 50		50	100
B.Tech. Sem VIII										
CSR4104L	Comprehensive Evaluation	-	-	4	4	2	ISCE: 100			100
CSR4105L	Research Project Stage II	-	-	12	6	6	ISCE: 100		100	200
Total		**6**	**2**	**20**	**22**	**18**				**600**

Eligibility for admission to the UG Bachelor's Degree with Research: Minimum CGPA/CPI of 7.5 or minimum 75% after sixth semester for UG Bachelor's Degree

Abbreviations:

L – Lecture, **T** – Tutorial, **P** – Practical, **Hr** – Hours, **C** – Credits, **TuT** – Tutorial, **TW**- Term work, **ISE** – In Semester Evaluation, **MSE** – Mid Semester Evaluation, **ESE** – End Semester Evaluation

Notes:

For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.
For Lab courses: There shall be continuous assessment (ISCE consists of ISE and MSE). The ESE is a separate head of passing.

Note: For Evaluation of Online NPTEL course ISE Marks will be marks obtained by students in the assignments given by NPTEL, MSE will be the marks obtained in NPTEL certification.

Students who will secure NPTEL certification will be only eligible for ESE of the same course which will be conducted at institute.

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