



Department of Computer Engineering

CURRICULUM

Second Year B.Tech. Engineering Program With effect from 2025-26

Institute

Vision

To be a reputed Technological and Management Institute imparting Quality Education and developing Core Human Values (H3).

(H3): Honest - Humble - Human Being

Mission

We are committed for Enrichment of the Institute by disseminating the knowledge to achieve academic excellence and develop industry ready technical manpower

Department

Vision

To be a well-known and reputed Computer Engineering department to impart technical and moral quality education

Mission

M1- To prepare technically and professionally competent engineers by imparting quality education

M2- Grooming students for employment, higher studies, entrepreneurial ventures & research activities

M3- Strengthening relationship with industry & Society for continuous development.

M4- To inculcate leadership skills to develop core human values (h3)

Program Outcomes (POs)

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4).
3. **Design/development of solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5).
4. **Conduct investigations of complex problems:** Conduct investigations of complex engineering problems using research- based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).
5. **Modern tool usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6).
6. **The engineer and The world:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).
7. **Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9).
8. **Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

9. **Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences.
10. **Project management and finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
11. **Life-long learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8).

Department of Computer Engineering

Program Specific Outcomes (PSOs)

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

1. Apply the knowledge of computer system principles in designing software and hardware system components
2. Apply the knowledge of network models, their protocols and technologies in building secured network and Internet based applications.
3. Design and develop the application systems to meet the automation needs of society and industry.

B.Tech. Program with one Major and one Minor (174 Credits)
Semester wise Indicative Credit Distribution

Semester		I	II	III	IV	V	VI	VII	VIII	Total Credits
Basic Science Course (BSC)	BSC/ESC	08	08	--	--	--	--	--	--	16
Engineering Science Course (ESC)		06	09	03	--	--	--	--	--	18
Programme Core Course (PCC)	Programme Courses	03	--	12	14	10	11	08	--	58
Programme Elective Course (PEC)		--	--	--	--	03	03	03	08	17
Multidisciplinary Minor (MDM)	Multi-disciplinary Courses	--	--	02	02	03	03	02	02	14
Open Elective (OE)		--	--	--	--	02	02	02	04	10
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	01	02	--	02	02	--	--	--	07
Ability Enhancement Course (AEC -01), Modern Indian Language (AEC-02)	Humanities Social Science and Management (HSSM)	03	--	--	02	--	01	--	--	07
Entrepreneurship/Economics/Management Courses (EEM)		--	--	02	--	--	--	--	--	02
Indian Knowledge System (IKS)		--	02	--	--	--	--	--	--	02
Value Education Course (VEC)		--	--	02	02	--	--	--	--	04
Internship / OJT (Int/OJT)		--	--	--	--	--	--	01	02	03
Project (Proj)		--	--	--	--	--	--	04	04	08
Community Engagement Activity (CEA) / Field Project (FP)		--	--	01	--	01	02	--	--	04
Co-curricular & Extracurricular Activities (CCA)	Liberal Learning Course (LLC)	01	01	--	--	--	--	02	--	04
Total Credits (Major)		22	22	22	22	22	22	22	20	174

Shri Ambabai Talim Sanstha's
SANJAY BHOKARE GROUP OF INSTITUTES, MIRAJ

Teaching and Evaluation Scheme
Program: B. Tech. Computer Engineering

Class.: **Second Year, B. Tech.**

Semester: **SEM - III**

W.E.F.: **2025-2026**

Sr. No.	Course Code	Course Title	Course Category	Teaching Scheme				Course Credits	Evaluation scheme						
				L	T	P	Contact Hrs/wk		Theory			Practical		Total	
									CIE			ESE	CIE		ESE
									CA-I	MSE	CA-II				
01	25CE301T	Applied Mathematics for Computing	ESC	3	-	-	3	3	15	20	15	50	--	--	100
02	25CE302T	Data Structure	PCC	3	-	-	3	3	15	20	15	50	--	--	100
03	25CE303T	Software Engineering	PCC	2	-	-	2	2	15	20	15	50	--	--	100
04	25CE304T	Computer Architecture & Organization	PCC	3	-	-	3	3	15	20	15	50	--	--	100
05	25CE305T	MDM-I	MDM	2	-	-	2	2	15	20	15	50	--	--	100
06	25UV306T	Universal Human Values	HSSM-VEC	2	-	-	2	2	15	20	15	50	--	--	100
07	25CE307T	Project Management	HSSM-EEM	2	-	-	2	2	25	--	25	--	--	--	50
08	25CE308L	Data Structures Lab	PCC	-	-	4	4	2	--	--	--	--	30	20	50
09	25CE309L	Python Programming	PCC	1	-	2	3	2	--	--	--	--	60	40	100
10	25CE310L	Seminar-I	ELC	-	-	2	2	1	--	--	--	--	30	20	50
Total							26	22	115	120	115	300	120	80	850

L:Lecture, T:Tutorial, P:Practical, CA-I: Continuous Assessment-I, CA-II: Continuous Assessment-II, CIE: Continuous in Semester Evaluation, ESE: End Semester Examination

	BSC/ESC		Program Courses		Multidisciplinary Courses		Skill Courses	Humanities Social Science and Management (HSSM)				Experiential Learning Courses (ELC)			Liberal Learning Courses (LLC)
Course Category	BSC	ESC	PCC	PEC	MDM	OE	VSEC	AEC-01, AEC-02	EEM	IKS	VEC	Int/OJT	Proj.	CEA/FP	CCA
Credits		03	12	--	02	--	--	--	02	--	02	--	--	01	--
Cum. Sum	16	18	15		02		03	03	02	02	02			01	02

SANJAY BHOKARE GROUP OF INSTITUTES, MIRAJ**Teaching and Evaluation Scheme**

Program: B. Tech. Computer Engineering

Class.: Second Year, B. Tech.

Semester: SEM - IV

W.E.F.: 2025-2026

Sr. No.	Course Code	Course Title	Course Category	Teaching Scheme				Course Credits	Evaluation scheme						
				L	T	P	Contact Hrs/wk		Theory				Practical		Total
									CIE			ESE	CIE	ESE	
									CA-I	MSE	CA-II				
01	25CE401T	Discrete Mathematics and Graph Theory	PCC	3	--	--	3	3	15	20	15	50	--	--	100
02	25CE402T	Operating System	PCC	3	--	--	3	3	15	20	15	50	--	--	100
03	25CE403T	Computer Network	PCC	2	--	--	2	2	15	20	15	50	--	--	100
04	25CE404T	Object Oriented Programming Using JAVA	PCC	2	--	--	2	2	15	20	15	50	--	--	100
05	25CE405T	MDM-II	MDM	2	--	--	2	2	15	20	15	50	--	--	100
06	25CI406T	Constitution of India	HSSM VEC	2	--	--	2	2	25	--	25	--	--	--	50
07	25CE407L	Web Technology	VSEC	1	--	2	3	2	--	--	--	--	30	20	50
08	25CE408L	Operating System - Lab	PCC	--	--	2	2	1	--	--	--	--	30	20	50
09	25CE409L	Object Oriented Programming Using JAVA Lab	PCC	--	--	4	4	2	--	--	--	--	60	40	100
10	25CE410L	Computer Network - Lab	PCC	--	--	2	2	1	--	--	--	--	30	20	50
11	25CE411T	Design Thinking & Innovation	AEC	2	--	0	2	2	--	--	--	--	50	--	50
Total				18	--	10	27	22	100	100	100	250	180	120	850
Exit Requirements for Certificate Program															
12	25CE412L	Computer Hardware & Networking	VSEC	--	--	16		08	--	--	--	--	60	40	100

L: Lecture, T:Tutorial, P:Practical, CA-I: Continuous Assessment-I, CA-II: Continuous Assessment-II, CIE: Continuous in Semester Evaluation, ESE: End Semester Examination

	BSC/ESC		Program Courses		Multidisciplinary Courses		Skill Courses	Humanities Social Science and Management (HSSM)				Experiential Learning Courses (ELC)			Liberal Learning Courses (LLC)
Course Category	BSC	ESC	PCC	PEC	MDM	OE	VSEC	AEC-01, AEC-02	EEM	IKS	VEC	Int/OJT	Proj.	CEA/FP	CCA
Credits	--	--	14	--	02	--	02	02	--	--	02	--	--	--	--
Cum. Sum	16	18	29		04		05	05	02	02	04			01	02

SANJAY BHOKARE GROUP OF INSTITUTES, MIRAJ**Teaching and Evaluation Scheme****Program: B. Tech. Computer Engineering****Class.: Third Year, B. Tech.****Semester: SEM - V****W.E.F.: 2025-2026**

Sr. No.	Course Code	Course Title	Course Category	Teaching Scheme				Course Credits	Evaluation scheme						
				L	T	P	Contact Hrs/wk		Theory			Practical		Total	
									CIE			ESE	CIE		ESE
									CA-I	MSE	CA-II				
01	25CE501T	Database Management	PCC	3	--	--	3	3	15	20	15	50	--	--	100
02	25CE502T	Computer Algorithm	PCC	3	--	--	3	3	15	20	15	50	--	--	100
03	25CE503T	Theory of Computation	PCC	3	--	--	3	3	15	20	15	50	--	--	100
04	25CE504T	Program Elective -I	PEC	3	--	--	3	3	15	20	15	50	--	--	100
05	25CE505T	MDM-III	MDM	2	--	--	2	2	15	20	15	50	--	--	100
06	25CE506T	Open Elective –I	OE	2	--	--	2	2	15	20	15	50	--	--	100
07	25CE507L	Database Management -Lab	PCC	--	--	2	2	1	--	--	--	--	30	20	50
08	25CE508L	MDM-III Lab	MDM	--	--	2	2	1	--	--	--	--	30	20	50
09	25CE509L	Mobile Application Development	VSEC	01	--	2	3	2	--	--	--	--	30	20	50
10	25CE510L	Mini Project-I	ELC	--	--	4	4	2	--	--	--	--	60	40	100
Total				17		10	27	22	90	120	90	300	150	100	850

L:Lecture, T:Tutorial, P:Practical, CA-I: Continuous Assessment-I, CA-II: Continuous Assessment-II, CIE: Continuous in Semester Evaluation, ESE: End Semester Examination

	BSC/ESC		Program Courses		Multidisciplinary Courses		Skill Courses	Humanities Social Science and Management (HSSM)				Experiential Learning Courses (ELC)			Liberal Learning Courses (LLC)
Course Category	BSC	ESC	PCC	PEC	MDM	OE	VSEC	AEC-01, AEC-02	EEM	IKS	VEC	Int/OJT	Proj.	CEA/FP	CCA
Credits	--	--	10	03	03	02	02	--	--	--	--	--	02	--	--
Cum. Sum	16	18	39	03	07	02	07	05	02	02	04		02	01	02

Teaching and Evaluation Scheme**Program: B. Tech. Computer Engineering****Class.: Third Year, B. Tech.****Semester: SEM - VI****W.E.F.: 2025-2026**

Sr. No.	Course Code	Course Title	Course Category	Teaching Scheme				Course Credits	Evaluation scheme						
				L	T	P	Contact Hrs/wk		Theory			Practical		Total	
									CIE			ESE	CIE		ESE
									CA-I	MSE	CA-II				
01	25CE601T	Machine Learning	PCC	3	--	--	3	3	15	20	15	50	--	--	100
02	25CE602T	Compiler Design	PCC	3	--	--	3	3	15	20	15	50	--	--	100
03	25CE603T	Data Analytics	PCC	3	--	--	3	3	15	20	15	50	--	--	100
04	25CE604T	Program Elective -II	PEC	3	--	--	3	3	15	20	15	50	--	--	100
05	25CE605T	MDM-IV	MDM	2	--	--	2	2	15	20	15	50	--	--	100
06	25CE606T	Open Elective -II	OE	2	--	--	2	2	15	20	15	50	--	--	100
07	25CE607L	Machine Learning Lab	PCC	--	--	2	2	1	--	--	--	--	30	20	50
08	25CE608L	Data Analytics Lab	PCC	--	--	2	2	1	--	--	--	--	30	20	50
09	25CE609L	MDM-IV LAB	MDM	--	--	2	2	1	--	--	--	--	30	20	50
10	25CE610L	Soft Skill	AEC	--	--	2	2	1	--	--	--	--	30	20	50
11	25CE610L	Mini Project-II	ELC	--	--	4	4	2	--	--	--	--	60	40	100
Total				16		12	28	22	90	120	90	300	180	120	900

L:Lecture, T:Tutorial, P:Practical, CA-I: Continuous Assessment-I, CA-II: Continuous Assessment-II, CIE: Continuous in Semester Evaluation, ESE: End Semester Examination

	BSC/ESC		Program Courses		Multidisciplinary Courses		Skill Courses	Humanities Social Science and Management (HSSM)				Experiential Learning Courses (ELC)			Liberal Learning Courses (LLC)
Course Category	BSC	ESC	PCC	PEC	MDM	OE	VSEC	AEC-01, AEC-02	EEM	IKS	VEC	Int/OJT	Proj.	CEA/FP	CCA
Credits	--	--	11	03	03	02	--	01	--	--	--	--	02	--	--
Cum. Sum	16	18	50	06	10	04	07	06	02	02	04		04	01	02

SANJAY BHOKARE GROUP OF INSTITUTES, MIRAJ**Teaching and Evaluation Scheme****Program: B. Tech. Computer Engineering****Class.: Final Year, B. Tech.****Semester: SEM - VII****W.E.F.: 2025-2026**

Sr. No.	Course Code	Course Title	Course Category	Teaching Scheme				Course Credits	Evaluation scheme						
				L	T	P	Contact Hrs/wk		Theory			Practical		Total	
									CIE			ESE	CIE		ESE
									CA-I	MSE	CA-II				
01	25CE701T	Cloud Computing	PCC	3	--	--	3	3	15	20	15	50	--	--	100
02	25CE702T	Artificial Intelligence	PCC	3	--	--	3	3	15	20	15	50	--	--	100
03	25CE703T	Program Elective -III	PEC	3	--	--	3	3	15	20	15	50	--	--	100
04	25CE704T	MDM-V	MDM	2	--	--	2	2	15	20	15	50	--	--	100
05	25CE705T	Open Elective-III	OE	2	--	--	2	2	15	20	15	50	--	--	100
06	25CE706L	Cloud Computing Lab	PCC	--	--	2	2	1	--	--	--	--	30	20	50
07	25CE707L	Artificial Intelligence Lab	PCC	--	--	2	2	1	--	--	--	--	30	20	50
08	25CE708L	Community Services	LLC	--	--	4	4	2	--	--	--	--	60	40	100
09	25CE709L	Internship	ELC	--	--	2	2	1	--	--	--	--	30	20	50
10	25CE710L	Project-I	ELC	--	--	8	8	4	--	--	--	--	60	40	100
Total				13		18	31	22	75	100	75	250	210	140	850

L:Lecture, T:Tutorial, P:Practical, CA-I: Continuous Assessment-I, CA-II: Continuous Assessment-II, CIE: Continuous in Semester Evaluation, ESE: End Semester Examination

	BSC/ESC		Program Courses		Multidisciplinary Courses		Skill Courses	Humanities Social Science and Management (HSSM)				Experiential Learning Courses (ELC)			Liberal Learning Courses (LLC)
Course Category	BSC	ESC	PCC	PEC	MDM	OE	VSEC	AEC-01, AEC-02	EEM	IKS	VEC	Int/OJT	Proj.	CEA/FP	CCA
Credits	--	--	08	03	02	02	--	--	--	--	--	01	04	--	02
Cum. Sum	16	18	58	09	12	06	07	06	02	02	04	01	08	01	04

Teaching and Evaluation Scheme

Program: B. Tech. Computer Engineering

Class.: **Final Year, B. Tech.**

Semester: **SEM - VIII**

W.E.F.: **2025-2026**

Sr. No.	Course Code	Course Title	Course Category	Teaching Scheme				Course Credits	Evaluation scheme						
				L	T	P	Contact Hrs/wk		Theory			Practical		Total	
									CIE			ESE	CIE		ESE
									CA-I	MSE	CA-II				
01	25FCE801T	Program Elective -IV	PEC	3	1	-	4	4	15	20	15	50	--	--	100
02	25FCE802T	Program Elective -V	PEC	3	1	-	4	4	15	20	15	50	--	--	100
03	25FCE803T	Open Elective-IV	OE	3	1	-	4	4	15	20	15	50	--	--	100
04	25FCE804T	MDM-VI	MDM	2	-	--	2	2	15	20	15	50	--	--	100
05	25FCE805I	Internship	ELC	-	-	04	4	2	--	--	--	--	60	40	100
06	25FCE806P	Project-II	ELC		-	08	8	4	--	--	--	--	60	40	100
Total				11	3	12	26	20	60	80	60	200	120	80	600

L:Lecture, T:Tutorial, P:Practical, **CA-I**: Continuous Assessment-I, **CA-II**: Continuous Assessment-II, **CIE**: Continuous in Semester Evaluation, **ESE**: End Semester Examination

	BSC/ESC		Program Courses		Multidisciplinary Courses		Skill Courses	Humanities Social Science and Management (HSSM)				Experiential Learning Courses (ELC)			Liberal Learning Courses (LLC)
Course Category	BSC	ESC	PCC	PEC	MDM	OE	VSEC	AEC-01, AEC-02	EEM	IKS	VEC	Int/OJT	Proj.	CEA/FP	CCA
Credits	--	--	--	8	2	4	--	--	--	--	--	02	04	--	--
Cum. Sum	16	18	58	17	14	10	07	06	02	02	04	03	12	01	04



DTE CODE: 6644
MSBTE CODE : 1552

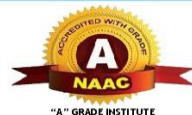
Shri Ambabai Talim Sanstha's

SANJAY BHOKARE GROUP OF INSTITUTES, MIRAJ

Tilak Nagar, Sangli-Miraj Road Miraj - 416 410 Dist. Sangli

Faculty of Engineering

An Autonomous Institute



"A" GRADE INSTITUTE

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Approved By AICTE New Delhi, Recognized by Government of Maharashtra and DTE Mumbai.