D. Y. Patil College of Engineering and Technology,

Kasaba Bawada Kolhapur

(An Autonomous Institute)

NBA Accredited

NAAC Accredited with 'A' Grade

Structure

of

M. Tech. in Computer Science & Engineering

Department of Computer Science & Engineering

2023-24

M. Tech. CSE Scheme of Teaching and Examination w. e. f. A. Y. 2023-2024

(As Per National Education Policy 2020)

D. Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, KOLHAPUR
Teaching and Evaluation Scheme from Year 2023-24
First Year M. Tech. – Computer Science & Engineering
SEMESTER-I

Sr. No.	Course Code	Course Type	Name of the Course	TEACHING SCHEME			Credits	Total Marks	Evaluation Scheme			
				L	T	P			Type	Max. Marks	Minimum Marks For Passing	
1	231CSEL501	PCC	Mathematical Foundations of Computer Science	3	-	-	3	100	ISE	20	20	40
									MSE	30		
									ESE	50	20	
2	231CSEL502	PCC	Advanced Data Structures	3	-	-	3	100	ISE	20	20	40
									MSE	30		
									ESE	50	20	
3	231CSEL551-231CSEL560	PEC	Program Elective-I	3	-	-	3	100	ISE	20	20	40
									MSE	30		
									ESE	50	20	
4	231CSEL561-231CSEL575+	PEC	Program Elective-II (SWAYAM/NPTEL)	-	2	2	3	100	ESE	100	40	40
5	231CSEL503	PCC	Research Methodology	2	-	-	2	50	ISE	50	20	20
6	231CSEP504	PCC	Laboratory-I (Based on Program Core subjects)	-	-	4	2	50	ISE	50	20	20
7	231CSEP505	VSEC	Skill Laboratory-I	-	-	2	1	25	ISE	25	10	10
8	231CSEP506	ELC	Seminar-I	-	-	2	1	50	ISE	50	20	20
9	231CSEP507	LLC	Stress Management by Yoga	1	-	2	2	50	ISE	50	20	20
10	231CSEP508	HSSM	Professional Ethics for Research	1	1	-	2	50	ISE	50	20	20
TOTAL				**13**	**03**	**12**	**22**	**675**				

NOTE:-

1. **Program Elective-I** can be chosen from the **Program Elective Bucket-A** list.

2. For **Program Elective-II**: The students can choose course from **Program Elective Bucket-B** list and study on their own by registering to SWAYAM/NPTEL/NPTEL+ Portal. The student should complete the course assignments and appear the examination conducted by SWAYAM/NPTEL/NPTEL+. ESE Marks will be mapped as per the score mentioned on the SWAYAM/NPTEL/NPTEL+ Course completion certificate issued by SWAYAM/NPTEL/NPTEL+.

D. Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, KOLHAPUR
Teaching and Evaluation Scheme from Year 2023-24
First Year M. Tech. - Computer Science & Engineering
SEMESTER-II

Sr. No.	Course Code	Course Type	Name of the Course	TEACHING SCHEME			Credits	Total Marks	Evaluation Scheme		
				L	T	P			Type	Max. Marks	Minimum Marks For Passing
1	231CSEL509	PCC	Software Architectures	3	-	-	3	100	ISE	20	20
									MSE	30	
									ESE	50	20 / 40
2	231CSEL510	PCC	Network Engineering and Management	3	-	-	3	100	ISE	20	20
									MSE	30	
									ESE	50	20 / 40
3	231CSEL551-231CSEL560	PEC	Program Elective – III	3	-	-	3	100	ISE	20	20
									MSE	30	
									ESE	50	20 / 40
4	231CSEL561-231CSEL575+	PEC	Program Elective – IV (SWAYAM/NPTEL)	-	2	2	3	100	ESE	100	40 / 40
5	231CSEL516-231CSEL532+	OEC	**Open Elective–I** (SWAYAM/NPTEL)	-	2	2	3	100	ESE	100	40 / 40
6	231CSEL511	PCC	Intellectual Property Rights	2	-	-	2	50	ISE	50	20 / 20
7	231CSEP512	PCC	Laboratory-II (Based on Program Core subjects)	-	-	4	2	50	ISE	50	20 / 20
8	231CSEP513	VSEC	Skill Laboratory-II	-	-	2	1	25	ISE	25	10 / 10
9	231CSEP514	ELC	Seminar-II	-	-	2	1	50	ISE	50	20 / 20
10	231CSEP515	VSEC	Technical Paper Writing	-	1	-	1	25	ISE	25	10 / 10
TOTAL				11	5	12	22	700			

NOTE:

1. **Program Elective-III** can be chosen from the **Program Elective Bucket-A** list.

2. For **Program Elective-IV**: The students can choose course from **Program Elective Bucket-B** list and study on their own by registering to SWAYAM/NPTEL/NPTEL+ Portal. The student should complete the course assignments and appear the examination conducted by SWAYAM/NPTEL/NPTEL+. ESE Marks will be mapped as per the score mentioned on the SWAYAM/NPTEL/NPTEL+ Course completion certificate issued by SWAYAM/NPTEL/NPTEL+.

3. For **Open Elective-I**: The students can choose course from **Open Elective Bucket** list and study on their own by registering to SWAYAM/NPTEL/NPTEL+ Portal which is multidisciplinary in nature (other than the course related to CSE Stream). The student should complete the course assignments and appear the examination conducted by SWAYAM/NPTEL/NPTEL+. ESE Marks will be mapped as per the score mentioned on the SWAYAM/NPTEL/NPTEL+ Course completion certificate issued by SWAYAM/NPTEL/NPTEL+.

Program Elective Bucket - A

Course Code	Program Elective Course Name
231CSEL551	Data Preparation and Analysis
231CSEL552	Block Chain Technology
231CSEL553	Distributed System and Cloud Computing
231CSEL554	Data Storage Technologies and Networks
231CSEL555	Secure Software Design and Enterprise Computing
231CSEL556	Cyber Security and Digital Forensics
231CSEL557	Security Assessment and Risk Analysis
231CSEL558	Human and Computer Interaction
231CSEL559	Knowledge Discovery
231CSEL560	Quantum Computing

Program Electives Bucket - B

Any Program Elective can be chosen from the bucket and should be completed through SWAYAM/NPTEL/NPTEL+ platform

Course Code	Course Code	Web Links
231CSEL561	Introduction to Machine Learning	https://elearn.nptel.ac.in/shop/nptel/introduction-to-machine-learning-iitm/
231CSEL562	Artificial Intelligence Search Methods for problem Solving	https://elearn.nptel.ac.in/shop/nptel/artificial-intelligence-search-methods-for-problem-solving/
231CSEL563	Artificial Intelligence: Knowledge Representation And Reasoning	https://elearn.nptel.ac.in/shop/nptel/artificial-intelligence-knowledge-representation-and-reasoning/
231CSEL564	Fundamentals Of Artificial Intelligence	https://elearn.nptel.ac.in/shop/nptel/fundamentals-of-artificial-intelligence/
231CSEL565	Computer Networks and Internet Protocol	https://elearn.nptel.ac.in/shop/nptel/computer-networks-and-internet-protocol/
231CSEL566	Business analytics and data mining Modeling using R	https://elearn.nptel.ac.in/shop/nptel/business-analytics-and-data-mining-modeling-using-r/
231CSEL567	Data Analytics with Python	https://elearn.nptel.ac.in/shop/nptel/data-analytics-with-python/

231CSEL568	Software Testing	https://elearn.nptel.ac.in/shop/nptel/software-testing/
231CSEL569	Operations and supply chain management	https://elearn.nptel.ac.in/shop/nptel/operations-and-supply-chain-management/
231CSEL570	Machine Learning for Engineering and Science Applications	https://elearn.nptel.ac.in/shop/nptel/machine-learning-for-engineering-and-science-applications/
231CSEL571	Privacy And Security In Online Social Media	Prof. Ponnurangam Kumaraguru
231CSEL572	Natural Language Processing	Prof. Pawan Goyal
231CSEL573	Ethical Hacking	Prof. Indranil Sengupta
231CSEL574	Social Networks	https://elearn.nptel.ac.in/shop/nptel/social-networks/
231CSEL575	Introduction To Internet of Things	Prof. Sudip Misra

Open Electives Bucket

Any Open Elective can be chosen from the bucket and can be completed through Swayam/NPTEL/NPTEL+ platform

Course Code	Course Name	Weblinks
231CSEL516	Text, Textuality and Digital Media	https://elearn.nptel.ac.in/shop/nptel/text-textuality-and-digital-media/
231CSEL517	Water and waste water treatment	https://elearn.nptel.ac.in/shop/nptel/water-and-waste-water-treatment/
231CSEL518	Science, Technology and Society	https://elearn.nptel.ac.in/shop/nptel/science-technology-and-society/
231CSEL519	Patent Law For Engineers And Scientists	https://elearn.nptel.ac.in/shop/nptel/patent-law-for-engineers-and-scientists/
231CSEL520	Non-conventional energy Resources	https://elearn.nptel.ac.in/shop/nptel/non-conventional-energy-resources/
231CSEL521	Literature, Culture and Media	https://elearn.nptel.ac.in/shop/nptel/literature-culture-and-media/
231CSEL522	Introduction to Modern Indian Political Thought	https://elearn.nptel.ac.in/shop/nptel/introduction-to-modern-indian-political-thought/
231CSEL523	Introduction to Political Theory	https://elearn.nptel.ac.in/shop/nptel/introduction-to-political-theory/
231CSEL524	Financial Management For Managers	https://elearn.nptel.ac.in/shop/nptel/financial-management-for-managers/
231CSEL525	Ecology and Society	https://elearn.nptel.ac.in/shop/nptel/ecology-and-society/
231CSEL526	Dairy and Food Process and Products Technology	https://elearn.nptel.ac.in/shop/nptel/dairy-and-food-process-and-products-technology/

231CSEL527	Soil Fertility And Fertilizers	Prof. Somsubhra Chakraborty, IIT Kharagpur
231CSEL528	Natural Resources Management	Prof. Sudip Mitra, IIT Guwahati
231CSEL529	Irrigation and Drainage	Prof. Damodhara Rao Mailapalli, IIT Kharagpur
231CSEL530	Municipal Solid Waste Management	Prof. Ajay Kalamdhad, IIT Guwahati
231CSEL531	Introduction To Wireless And Cellular Communications	Prof. David Koilpillai
231CSEL532	Science Of Clothing Comfort	Prof. Apurba Das

	D. Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, KOLHAPUR Teaching and Evaluation Scheme from Year 2023-24 First Year M. Tech – Computer Science and Engineering **Exit Courses**		
Sr. No	**Course Code**	**Name of the Course**	**Credits**
1	231CSEP599	Any two Professional Certification Courses (each of 4-weeks duration) related to CSE stream	6
2	231CSEP600	Internship (Industry/Research/Entrepreneur)	2

D. Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, KOLHAPUR
Teaching and Evaluation Scheme from Year 2024-25
Second Year M. Tech. - Computer Science & Engineering
SEMESTER - III

Sr. No.	Course Code	Course Type	Name of the Course	L	T	P	CREDITS	Total Marks	Type	Max. Marks	Minimum Marks For Passing	
1	231CSEL516-231CSEL532+	OEC	**Open Elective–II** (SWAYAM/NPTEL)	-	2	2	3	100	ESE	100	40	40
2	232CSEP601	ELC	Seminar-III	-	-	2	1	50	ISE	50	20	20
3	232CSEP602	ELC	Dissertation Phase – I	-	-	28	14	200	ISE	100	40	40
									ESE-OE	100	40	40
TOTAL				-	2	32	18	350				

NOTE:-

For **Open Elective-II**: The students can choose course from **Open Elective Bucket** list and study on their own by registering to SWAYAM/NPTEL/NPTEL+ Portal which is multidisciplinary in nature (other than the course related to CSE Stream). The student should complete the course assignments and appear the examination conducted by SWAYAM/NPTEL/NPTEL+. ESE Marks will be mapped as per the score mentioned on the SWAYAM/NPTEL/NPTEL+ Course completion certificate issued by SWAYAM/NPTEL/NPTEL+.

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D. Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, KOLHAPUR
Teaching and Evaluation Scheme from Year 2024-25
Second Year M. Tech. - Computer Science & Engineering
SEMESTER - IV

Sr. No.	Course Code	Course Type	Name of the Course	L	T	P	CREDITS	Total Marks	Type	Max. Marks	Minimum Marks for Passing	
2	232CSEP603	ELC	Dissertation Phase– II	-	-	36	18	300	ISE	100	40	40
									ESE-OE	200	80	80
TOTAL				0	0	36	18	300				

Note:

1) Tutorials and practical shall be conducted in batches with batch size of 9 students maximum.
2) For Seminar-I/II/III, work load will be for one student.
3) Dissertation Phase – I & Dissertation phase – II workload will be for one student.
4) Open Elective Course (OEC) should be self-learning Online multidisciplinary and it should be completed before the end of respective semester. The course must be of minimum 12weeks duration. The student must appear for Online Certification Examination and produce its certificate.
5) ISE: In Semester Evaluation, MSE: Mid Semester Examination, ESE: End Semester Examination

Evaluation Methods:

1) **In Semester Evaluation (ISE-Theory) 20 marks:**
   ISE-1 and ISE-2 can be done by using following modes
   1) Online test
   2) Surprise test
   3) Open book-test
   4) Self-Study
   5) Self-learning topic
   6) Case study
   7) Demonstrations
   8) Seminars
   9) Assignments
   10) Active learning methods

2) **Mid Semester Examination (MSE)** will be conducted for 30 marks

3) **End Semester Examination (ESE) for 50 marks:-** ESE will be conducted on entire syllabus for 50 marks for duration of 2 hours.

Total Credits

Sem I	Sem II	Sem III	Sem IV	Total Credits
22	22	18	18	80

Total Credits as per vertices

PCC	PEC	OEC	VSEC	HSSM	ELC	LLC	Total
20	12	6	3	2	35	2	80