DEPARTMENT OF ELECTROICS & COMPUTER ENGINEERING

Academic Year 2025-26

CO PO Mapping& Attainment

Name of Staff : Ms. Waykule A.D.

Designation : Assistant Professor

Subject Name : Web Technology

Subject Code : 410342

Course, SEM & Scheme : VII (BE 2019)

Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives (PEOs)	
PEO1	**PEO1**: Equip graduates with skills to excel in academic, professional career and higher studies.
PEO2	**PEO2**: Inculcate ability among the graduates to investigate problems in engineering and provide effective solutions
PEO3	**PEO3**: Prepare graduates to engage in lifelong learning by developing in them professional social and Ethical attitude

Program Specific Outcomes (PSOs)	
PSO1	**PSO1:** To implant the capacity to apply the concepts of Electronics, Communications, Signal processing, VLSI, Control systems etc., in the design, development and implementation of application oriented engineering systems.
PSO2	**PSO2:** An ability to isolate and solve complex problems in the domain of Electronics and Communication using latest hardware and software tools, along with analytical and managerial skills to arrive at cost effective and optimum solutions, either independently or as a team.
PSO3	**PSO3** : Acquaintance of social and environmental awareness with ethical responsibilities to have a successful career in real-world applications by keeping abreast of the technological changes.

Program Outcomes (POs)	
Graduate will be able to	
PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**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.
PO4	**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.
PO5	**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.
PO6	**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.
PO7	**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.
PO8	**Ethics** : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**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.
PO11	**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.
PO12	**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.

Course Objectives and Course Outcomes

Subject : Web Technology (410342)

Course Objectives	
1	To understand the principles and methodologies of web based applications development process
2	To understand current client side and server side web technologies
3	To understand current client side and server side frameworks
4	To understand web services and content management

Course Outcomes (COs)	
At the end of course students will be able to	
CO1	Discuss the Internet & Web Technologies
CO2	Discuss web development process and front end tools
CO3	Apply JavaScript and jQuery to Validate the client side scripting.
CO4	Construct web based application using servlet and JSP for server side web technology.
CO5	Construct web based application using PHP for server side web technology.
CO6	Identify web services and content management for solving problem.

Dattakala Group of Institutions

FACULTY OF ENGINEERING

Swami-Chincholi ,Tal: - Daund, Dist: - Pune

Department :- ELECTRONICS & COMPUTER ENGINEERING

Academic Year: - 2025 - 26

SUBJECTT : Web Technology (410342)

Sr. No.	Name Of the Student	Seat No	PRN No.	Design Analysis And Algorithm	
				IN	Level(IN)
1	ASHISH RAWAN SHIRSATH	B400850120	72331453F	20	3
2	CHAVAN ADITYA RAJENDRA	B400850121	72331454D	19	3
3	CHETAN SANDIP NEHUL	B400850122	72257179J	17	3
4	DANDGE VISHAL PRALHAD	B400850123	72257180B	21	3
5	GATKUL SAHIL MARUTI	B400850124	72257192F	17	3
6	GAWADE PRIYANKA RAJU	B400850125	72257195L	16	3
7	JADHAV KARTIKESH SANTOSH	B400850126	72257203E	17	3
8	JADHAV MAYURI SURESH	B400850127	72331457J	18	3
9	JAGTAP JAYDIP KAILAS	B400850128	72331458G	18	3
10	JAYJEET ASHOK PAWAR	B400850129	72331459E	19	3
11	KADAM ONKAR NITESH	B400850130	72331460J	21	3
12	KALE DIPALI VISHNU	B400850131	72331461G	21	3
13	KHUTALE JAGRUTI SURESH	B400850132	72331463C	21	3
14	PATHAN FIRDOS YUSUF	B400850133	72331465K	19	3
15	PATHARE PRATHAMESH SANJAY	B400850134	72331466H	19	3
16	POTE SANGHARSH AUDUMBAR	B400850135	72257234E	18	3
17	SHAIKH MUDDASSIR FIROJ	B400850136	72331468D	16	3
18	SHAIKH UMAR RIYAZ	B400850137	72331469B	19	3

Based on the Course Objectives Attainment (COA) value as calculated at the end of step 6, perform the PO Attainment Calculations as shown below:

CO Mapping with PO

Name of Staff: Ms. Waykule A.D.

Name of Subject: Web Technology (410342)

Subject Code: 410342

PO Attainment= COA x M/3 Where M is average of All PO Against CO 1 to CO 5

CO Attainment Calculations

	Direct attainment			Indirect Assessment
	Internal		External	
	INSEM		Term Work	Course Exit Survey
Number of students who have scored more than the target (P) (Target is 60%)	18		0	16
Percentage of students who have achieved the target = (P/N)*100 (N is the number of students who appeared in the exam)	**100**		**0**	**88.89**
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%)	a = **3**		b= **3**	d= **3**
Attainment based on INSEM EXAM & Term work = Average of (a and b);		I+T =	**3**	
Direct CO Attainment Level (DA) = 40% INSEM + 60% Term work		DA =	**3**	
Indirect CO Attainment Level (IA) (based on Exit Survey (d))		IA =	**3**	
		80 % of DA =	**2.4**	
		20 % IA =	**0.6**	
CO Attainment Level (COA) = 80 % DA+ 20 % IA;		COA =	**3**	

Here in the table,
'3' corresponds to a high correlation;
'2' corresponds to a medium correlation, and
'1' corresponds to a low correlation, between CO and PO/PSO.

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2	0	0	0	0	0	0	0	0	0	2
CO 2	2	3	3	0	2	0	0	0	0	0	0	2
CO 3	2	3	2	0	3	0	0	0	0	0	0	2
CO 4	3	3	2	2	0	0	0	0	0	0	0	2
CO 5	2	3	3	2	3	1	0	1	2	1	1	3
Average	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	0.2	0.2	2.2

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Average Mapping	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	0.2	0.2	2.2
PO Attainment Level	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	0.2	0.2	2.2

DEPARTMENT OF ELECTRONICS AND COMPUTER ENGINEERING

Academic Year 2025-26

CO PO Mapping& Attainment

Name of Staff	: Mr.Salve.S.S
Designation	: Assistant Professor
Subject Name	: Data Communication
Subject Code	: 310343
Course, SEM & Scheme	: V (TE 2019)

Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives (PEOs)	
PEO1	**PEO1**: Equip graduates with skills to excel in academic, professional career and higher studies.
PEO2	**PEO2**: Inculcate ability among the graduates to investigate problems in engineering and provide effective solutions
PEO3	**PEO3**: Prepare graduates to engage in lifelong learning by developing in them professional social and Ethical attitude

Program Specific Outcomes (PSOs)	
PSO1	**PSO1:** Graduates will be able to identify problems in the field of electrical engineering and then analyse /design/develop solutions.
PSO2	**PSO2:** Graduates will be able to select and apply different software tools required for design and/or analysis of electrical systems.
PSO3	**PSO3 :** The graduate will be able to understand the importance of financial aspects in power system infrastructure development by considering social and environmental needs.

Program Outcomes (POs)	
Graduate will be able to	
PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**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.
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PO11	**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.

PO12	**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.

Course Objectives and Course Outcomes

Subject : Data Communication (310343)

Course Objectives	
1	To provide an in-depth introduction to all aspects of data communication system.
2	To analyze the noise performance of analog modulation techniques.
3	To introduce various digital band pass modulation schemes.
4	To provide knowledge of various multiplexing schemes.

Course Outcomes (COs)	
At the end of course students will be able to	
CO1	Define & explain terminology of data communications and Apply various network layer
CO2	Techniques to analyze packet flow on the basis of routing protocols.
CO3	Understand the importance of noise considerations in communication systems.
CO4	Understand and explain various digital modulation techniques used in Digital communication

FACULTY OF ENGINEERING

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Marks of Aassignments obtained by Students form CO2 to CO4

Sr. No	Name of Students	Marks Obtained as per CO				Marks Obtained	Total Marks
		CO1	CO2	CO3	CO4		
1	ABHIRAJ MAHENDRA BHALERAO	8	8	8	8	32	40
2	ARPITA ANANDRAO NARWADE	7	8	7	8	30	40
3	AVINASH SHIVAJI DALAVI	7	7	7	7	28	40
4	BHOPLE SMITA SANTOSH	7	7	7	7	28	40
5	BHOSALE VAIBHAV AJINATH	8	9	8	9	34	40
6	BORKAR ARCHANA BALASO	8	8	9	9	34	40
7	CHAUDHARI BHUSHAN SANJAY	8	7	8	8	31	40
8	CHAVAN ARPIT SUNIL	7	6	6	6	25	40
9	FATE VAIBHAV VISHVANATH	6	6	6	6	24	40
10	GADHE PRABUDDHAKUMAR S.	8	9	8	9	34	40
11	GAIKWAD CHETAN DEVIDAS	7	6	6	6	25	40
12	GAIKWAD NISHANT BAPU	8	9	8	9	34	40
13	GAVADE AMIT RAJENDRA	8	7	8	8	31	40
14	JADHAV ADITYA DEVDAS	8	9	8	9	34	40
15	KADAM PRATHAMESH SHIVAJI	8	7	8	7	30	40
16	KADLAG ABHINAV SUNIL	7	7	6	7	27	40
17	KAMBLE SANCHI SHRIMANT	7	6	7	6	26	40
18	LAGAD NIKITA SANTOSH	6	6	6	6	24	40
19	LAHANE VAISHNAVI RAVINDRA	6	6	6	6	24	40
20	LAMBTURE PRIYANKA VISHNU	8	9	8	9	34	40

Sr. No	Name of Students	Marks Obtained as per CO				Marks Obtained	Total Marks
		CO2	CO3	CO3	CO4		
21	MAHESH SANDIPAN ASWALE	8	9	8	9	34	40
22	MAKHARE ABHAY VILAS	8	7	8	7	30	40
23	MALA SAIDARSHAN HANUMANTA	7	7	7	6	27	40
24	MALGUNDE PRIYANKA ANIL	6	6	6	6	24	40
25	MISAL NIKITA MARUTI	6	7	8	8	29	40
26	MORE SIMRAN SANDIP	8	9	8	9	34	40
27	MUJAWAR TOUFEEQUE NAWAJ	8	9	8	9	34	40
28	PATIL JITENDRA RAVINDRA	8	7	8	8	31	40
29	PATIL UDAY VIKAS	8	7	8	7	30	40
30	PRANAV ANIL SHINDE	8	9	8	9	34	40
31	PRIYANKA DNYANDEO HOLE	8	8	8	8	32	40
32	RAKSHE SAKSHI MARUT	6	6	6	6	24	40
33	SARODE SUDESH SUBHASH	8	8	8	8	32	40
34	SHENDKAR SARAS SANJAY	7	8	7	8	30	40
35	SHETE ROHAN RAHUL	7	7	7	7	28	40
36	UPASE DNYANESHWARI HANUMANT	7	7	7	7	28	40
37	PAWAR NEHA AJIT	8	9	8	9	34	40
38	KHARTODE VIDHYA RAJARAM	8	8	9	9	34	40
39	SHIRSATH ANIKET SHIVAJI	8	7	8	8	31	40
40	GAIKWAD AJINKYA BHARAT	7	6	6	6	25	40
41	AATHAWLE ANIKET	6	6	6	6	24	40
42	GAVATE CHARUDATTA	8	9	8	9	34	40

The course exit survey samples are given below for student/faculty/employer

1. Course Outcome exit survey for students

Course Outcome		1(Low)	2(Moderate)	3(High)
CO1	Define & explain terminology of data communications and Apply various network layer			3
CO2	Techniques to analyze packet flow on the basis of routing protocols.		2	
CO3	Understand the importance of noise considerations in communication systems.			3
CO4	Understand and explain various digital modulation techniques used in Digital communication			3

2. Course Contents exit survey for students.

Course Outcome	1(Low)	2(Moderate)	3(High)
Quality of the Course Content			3
Relevance of the textbook to this course		2	
Were the lectures clear/well organized and presented at a reasonable pace?			3
Did the lectures stimulate you intellectually?			3

3. Faculty/Employer Survey

Course Outcome	1(Low)	2(Moderate)	3(High)
Satisfaction with the caliber of the graduates			3
Courses are relevant to the organization's vision and mission		2	
Satisfaction with the speed at which course content is being adapted to meet changing industrial needs			3
Relevant subject or discipline knowledge			3

Dattakala Group of Institutions

FACULTY OF ENGINEERING

Swami-Chincholi ,Tal: - Daund, Dist: - Pune

Department :- ELECTRONICS & COMPUTER ENGINEERING

Academic Year: - 2025 - 26

Subject : Data Communication

Sr. No.	Name Of the Student	Seat No	PRN No.	Data Communication			
				IN	TW	Level(IN)	Level(TW)
1	Abhiraj Mahendra Bhalerao	T400850270	72451302H	12	18	3	3
2	Arpita Anandrao Narwade	T400850271	72451303F	25	17	3	3
3	Avinash Shivaji Dalavi	T400850272	72451304D	17	16	2	3
4	Bhople Smita Santosh	T400850273	72451305B	12	18	2	3
5	Bhosale Vaibhav Ajinath	T400850274	72331222C	13	20	3	3
6	Borkar Archana Balaso	T400850275	72451306L	13	22	3	3
7	Chaudhari Bhushan Sanjay	T400850276	72451307J	20	18	3	3
8	Chavan Arpit Sunil	T400850277	72331229L	22	17	3	3
9	Fate Vaibhav Vishvanath	T400850278	72451308G	15	11	3	1
10	Gadhe Prabuddhakumar Sanjay	T400850279	72451309E	12	17	2	3
11	Gaikwad Chetan Devidas	T400850280	72451310J	19	17	3	3
12	Gaikwad Nishant Bapu	T400850281	72331243F	16	22	3	3
13	Gavade Amit Rajendra	T400850282	72451311G	15	21	3	3
14	Gavate Charudatta Santosh	T400850283	72331248G	14	16	3	3
15	Jadhav Aditya Devdas	T400850284	72451312E	14	19	3	3
16	Kadam Prathamesh Shivaji	T400850285	72451313C	13	11	3	1
17	Kadlag Abhinav Sunil	T400850286	72451314M	12	20	3	3
18	Kamble Sanchi Shrimant	T400850287	72451315K	14	17	3	3
19	Khartode Vidhya Rajaram	T400850288	72257213B	18	22	3	3
20	Lagad Nikita Santosh	T400850289	72451316H	13	18	3	3
21	Lahane Vaishnavi Ravindra	T400850290	72451317F	13	16	3	3
22	Lambture Priyanka Vishnu	T400850291	72451318D	12	17	3	3
23	Mahesh Sandipan Aswale	T400850292	72451319B	12	17	3	3
24	Makhare Abhay Vilas	T400850293	72451320F	16	11	3	1
25	Mala Saidarshan Hanumanta	T400850294	72331287H	14	15	3	3
26	Malgunde Priyanka Anil	T400850295	72451321D	16	18	3	3
27	Misal Nikita Maruti	T400850296	72451322B	13	20	3	3
28	More Simran Sandip	T400850297	72331294L	24	22	3	3

29	Mujawar Toufeeque Nawaj	T400850298	72451323L	19	22	3	3
30	Patil Jitendra Ravindra	T400850299	72451324J	22	21	3	3
31	Patil Uday Vikas	T400850300	72331303C	12	12	2	2
32	Pawar Neha Ajit	T400850301	72331467F	19	18	2	3
33	Pranav Anil Shinde	T400850302	72451325G	14	17	3	3
34	Priyanka Dnyandeo Hole	T400850303	72257235C	14	20	3	3
35	Rakshe Sakshi Maruti	T400850304	72451326E	12	11	2	1
36	Sarode Sudesh Subhash	T400850305	72451327C	18	20	3	3
37	Shendkar Saras Sanjay	T400850306	72451328M	19	14	3	3
38	Shete Rohan Rahul	T400850307	72331323H	17	20	3	3
39	Shirsat Aniket Shivaji	T400850309	72257245L	12	16	3	3
40	Upase Dnyaneshwari Hanumant	T400850311	72451330C	17	20	3	3

Based on the Course Objectives Attainment (COA) value as calculated at the end of step 6, perform the PO Attainment Calculations as shown below:

CO Mapping with PO

Name of Staff: Mr. Salve.S.S.
Name of Subject: Data Commuication
Subject Code: 310343

PO Attainment= COA x M/3 Where M is average of All PO Against CO 1 to CO 4

CO Attainment Calculations

	Direct attainment		Indirect Assessment
	Internal	External	
	INSEM	Term Work	Course Exit Survey
Number of students who have scored more than the target (P) (Target is 60%)	11	35	33
Percentage of students who have achieved the target = (P/N)*100 (N is the number of students who appeared in the exam)	**27.5**	**87.5**	**82.5**
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%)	a = **3**	b= **3**	d= **3**

Attainment based on INSEM EXAM & Term work = Average of (a and b);	I+T	=	**3**
Direct CO Attainment Level (DA) = 40% INSEM + 60% Term work	DA	=	**3**
Indirect CO Attainment Level (IA) (based on Exit Survey (d))	IA	=	**3**
	80 % of DA	=	**2.4**
	20 % IA	=	**0.6**
CO Attainment Level (COA) = 80 % DA+ 20 % IA;	COA	=	**3**

Here in the table,
'3' corresponds to a high correlation;
'2' corresponds to a medium correlation, and
'1' corresponds to a low correlation, between CO and PO/PSO.

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2	0	0	0	0	0	0	0	0	0	2
CO 2	2	3	3	0	2	0	0	0	0	0	0	2
CO 3	2	3	2	0	3	0	0	0	0	0	0	2
CO 4	3	3	2	2	0	0	0	0	0	0	0	2
CO 5	2	3	3	2	3	1	0	1	2	1	1	3
Average	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	0.2	0.2	2.2

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Average Mapping	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	0.2	0.2	2.2
PO Attainment Level	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	0.2	0.2	2.2

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DEPARTMENT OF ELECTROICS & COMPUTER ENGINEERING

Academic Year 2025-26

CO PO Mapping& Attainment

Name of Staff : Mrs. Vidhate S.N.

Designation : Assistant Professor

Subject Name : Advance Database Management

Subject Code : 310355B

Course, SEM & Scheme : VI (TE 2019)

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Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives (PEOs)	
PEO1	**PEO1**: Equip graduates with skills to excel in academic, professional career and higher studies.
PEO2	**PEO2**: Inculcate ability among the graduates to investigate problems in engineering and provide effective solutions
PEO3	**PEO3**: Prepare graduates to engage in lifelong learning by developing in them professional social and Ethical attitude

Program Specific Outcomes (PSOs)	
PSO1	**PSO1:** To implant the capacity to apply the concepts of Electronics, Communications, Signal processing, VLSI, Control systems etc., in the design, development and implementation of application oriented engineering systems.
PSO2	**PSO2:** An ability to isolate and solve complex problems in the domain of Electronics and Communication using latest hardware and software tools, along with analytical and managerial skills to arrive at cost effective and optimum solutions, either independently or as a team.
PSO3	**PSO3** : Acquaintance of social and environmental awareness with ethical responsibilities to have a successful career in real-world applications by keeping abreast of the technological changes.

Program Outcomes (POs)	
Graduate will be able to	
PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**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.
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PO7	**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.
PO8	**Ethics** : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**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.
PO11	**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.
PO12	**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.

Course Objectives and Course Outcomes

Subject : Advance Database Management (310355B)

Course Objectives	
1	To understand the fundamental concepts of Relational and Object-oriented databases.
2	To learn and understand various Parallel and Distributed Database Architectures and Applications.
3	To understand and apply the basic concepts, categories and tools of NoSQL Database.
4	To learn and understand Data warehouse and OLAP Architectures and Applications.
5	To learn data mining architecture, algorithms, software tools and applications.
6	To learn enhanced data models for advanced database applications.

Course Outcomes (COs)	
At the end of course students will be able to	
CO1	Differentiate relational and object-oriented databases.
CO2	Illustrate parallel & distributed database architectures.
CO3	Apply concepts of NoSQL Databases.
CO4	Explain concepts of data warehouse and OLAP technologies
CO5	Apply data mining algorithms and various software tools.
CO6	Comprehend emerging and enhanced data model for advanced applications.

Dattakala Group of Institutions

Swami-Chincholi ,Tal: - Daund, Dist: - Pune

Department :- ELECTRONICS & COMPUTER ENGINEERING

Academic Year: - 2025 - 26

SUBJECT : **Advance Database Management (310355B)**

Sr. No.	Name Of the Student	PRN No.	Design Analysis And Algorithm	
			IN	Level(IN)
1	ABHIRAJ MAHENDRA BHALERAO	72451302H	19	2
2	ARPITA ANANDRAO NARWADE	72451303F	25	3
3	AVINASH SHIVAJI DALAVI	72451304D	23	3
4	BHOPLE SMITA SANTOSH	72451305B	22	3
5	BHOSALE VAIBHAV AJINATH	72331222C	22	3
6	BORKAR ARCHANA BALASO	72451306L	26	3
7	CHAUDHARI BHUSHAN SANJAY	72451307J	21	3
8	CHAVAN ARPIT SUNIL	72331229L	24	3
9	FATE VAIBHAV VISHVANATH	72451308G	12	1
10	GADHE PRABUDDHAKUMAR S	72451309E	17	2
11	GAIKWAD CHETAN DEVIDAS	72451310J	21	3
12	GAIKWAD NISHANT BAPU	72331243F	23	3
13	GAVADE AMIT RAJENDRA	72451311G	22	3
14	GAVATE CHARUDATT SANTOSH	72331248G	14	1
15	JADHAV ADITYA DEVDAS	72451312E	18	2
16	KADAM PRATHAMESH SHIVAJI	72451313C	21	3
17	KADLAG ABHINAV SUNIL	72451314M	21	3
18	KAMBLE SANCHI SHRIMANT	72451315K	24	3
19	LAGAD NIKITA SANTOSH	72257213B	20	3

20	LAHANE VAISHNAVI RAVINDRA	72451316H	15	1
21	LAMBTURE PRIYANKA VISHNU	72451317F	17	2
22	MAHESH SANDIPAN ASWALE	72451318D	14	1
23	MAKHARE ABHAY VILAS	72451319B	13	1
24	MALA SAIDARSHAN HANUMANTA	72451320F	22	3
25	MALGUNDE PRIYANKA ANIL	72331287H	21	3
26	MISAL NIKITA MARUTI	72451321D	25	3
27	MORE SIMRAN SANDIP	72451322B	26	3
28	MUJAWAR TOUFEEQUE NAWAJ	72331294L	25	3
29	PATIL JITENDRA RAVINDRA	72451323L	20	3
30	PATIL UDAY VIKAS	72451324J	17	2
31	PRANAV ANIL SHINDE	72331303C	24	3
32	PRIYANKA DNYANDEO HOLE	72331467F	23	3
33	RAKSHE SAKSHI MARUT	72451325G	19	2
34	SARODE SUDESH SUBHASH	72257235C	23	3
35	SHENDKAR SARAS SANJAY	72451326E	19	2
36	SHETE ROHAN RAHUL	72451327C	20	3
37	UPASE DNYANESHWARI H	72451328M	23	3
38	PAWAR NEHA AJIT	72331323H	19	2
39	KHARTODE VIDHYA RAJARAM	72257245L	22	3
40	SHIRSAT ANIKET SHIVAJI	72451330C	14	1

Based on the Course Objectives Attainment (COA) value as calculated at the end of step 6, perform the PO Attainment Calculations as shown below:

CO Mapping with PO

Name of Staff: Mrs Satav S.N.

Name of Subject: ADBMS (310355B)
Subject Code: 310355B

PO Attainment= COA x M/3 Where M is average of All PO Against CO 1 to CO 5

CO Attainment Calculations

	Direct attainment			Indirect Assessment
	Internal		External	
	INSEM		Term Work	Course Exit Survey
Number of students who have scored more than the target (P) (Target is 60%)	26		0	28
Percentage of students who have achieved the target = (P/N)*100 (N is the number of students who appeared in the exam)	**65**		**0**	**70**
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%)	a = **2**	b=	**3**	d= **3**

Attainment based on INSEM EXAM & Term work = Average of (a and b);	I+T	=	**2.5**
Direct CO Attainment Level (DA) = 40% INSEM + 60% Term work	DA	=	**2.6**
Indirect CO Attainment Level (IA) (based on Exit Survey (d))	IA	=	**3**
	80 % of DA	=	**2.08**
	20 % IA	=	**0.6**
CO Attainment Level (COA) = 80 % DA+ 20 % IA;	COA	=	**2.68**

Here in the table,
'3' corresponds to a high correlation;
'2' corresponds to a medium correlation, and
'1' corresponds to a low correlation, between CO and PO/PSO.

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2	1	0	0	0	0	0	0	0	0	2
CO 2	2	3	2	2	2	0	0	0	1	1	0	2
CO 3	3	2	3	2	2	0	0	0	1	2	0	2
CO 4	3	2	3	2	3	0	0	2	2	2	2	2
CO 5	2	3	2	3	3	0	0	2	1	1	1	2
CO 6	2	2	2	2	3	0	0	1	3	2	2	3
Average	2.17	1.83	1.83	1.33	1.67	0.00	0.00	0.50	1.17	1.17	0.67	1.83

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Average Mapping	2.17	1.83	1.83	1.33	1.67	0	0	0.5	1.17	1.17	0.67	1.83

DEPARTMENT OF ELECTROICS & COMPUTER ENGINEERING

Academic Year 2025-26

CO PO Mapping& Attainment

Name of Staff	: Mrs. Waghmode Kavita H.
Designation	: HOD
Subject Name	: Embedded Processor & Application
Subject Code	: 310354
Course, SEM & Scheme	: VI (TE 2019)

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Swami-Chincholi, Tal. Daund, Dist. Pune

Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives (PEOs)	
PEO1	**PEO1**: Equip graduates with skills to excel in academic, professional career and higher studies.
PEO2	**PEO2**: Inculcate ability among the graduates to investigate problems in engineering and provide effective solutions
PEO3	**PEO3**: Prepare graduates to engage in lifelong learning by developing in them professional social and Ethical attitude

Program Specific Outcomes (PSOs)	
PSO1	**PSO1:** To implant the capacity to apply the concepts of Electronics, Communications, Signal processing, VLSI, Control systems etc., in the design, development and implementation of application oriented engineering systems.
PSO2	**PSO2:** An ability to isolate and solve complex problems in the domain of Electronics and Communication using latest hardware and software tools, along with analytical and managerial skills to arrive at cost effective and optimum solutions, either independently or as a team.
PSO3	**PSO3** : Acquaintance of social and environmental awareness with ethical responsibilities to have a successful career in real-world applications by keeping abreast of the technological changes.

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Program Outcomes (POs)	
Graduate will be able to	
PO1	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis:** Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**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.
PO4	**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.
PO5	**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.
PO6	**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.
PO7	**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.
PO8	**Ethics :** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**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.
PO11	**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.
PO12	**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.

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Course Objectives and Course Outcomes

Subject : Embedded Processor & Application (310354)

Course Objectives	
1	To study the architecture of ARM series microprocessor
2	To study LPC2148 ARM7 microcontroller.
3	To study interfacing advanced peripherals to LPC2148 microcontroller
4	Study of ARM cortex architectures and its feature.
5	To learn about Embedded system for IoT application using ARM processors

Course Outcomes (COs)	
At the end of course students will be able to	
CO1	Demonstrate the ARM architectures and its feature.
CO2	Understand ARM7 Based Microcontroller LPC 2148 architecture
CO3	Interface the advanced peripherals to ARM based microcontroller
CO4	Demonstrate the ARM cortex M3 architectures and its feature.
CO5	Understand ARM CORTEX M4 based Microcontroller STM32F4xx architecture
CO6	Design simple applications using ARM and IoT

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Dattakala Group of Institutions

Swami-Chincholi ,Tal: - Daund; Dist: - Pune

Department :- ELECTRONICS & COMPUTER ENGINEERING

Academic Year: - 2025 - 26

SUBJECT : Embedded Processor & Application (310354)

Sr. No.	Name Of the Student	PRN No.	Design Analysis And Algorithm	
			IN	Level(IN)
1	ABHIRAJ MAHENDRA BHAI	72451302H	18	2
2	ARPITA ANANDRAO NARW	72451303F	24	3
3	AVINASH SHIVAJI DALAVI	72451304D	16	2
4	BHOPLE SMITA SANTOSH	72451305B	16	2
5	BHOSALE VAIBHAV AJINAT	72331222C	22	3
6	BORKAR ARCHANA BALAS	72451306L	26	3
7	CHAUDHARI BHUSHAN SAI	72451307J	18	2
8	CHAVAN ARPIT SUNIL	72331229L	22	3
9	FATE VAIBHAV VISHVANA	72451308G	13	1
10	GADHE PRABUDDHAKUMA	72451309E	24	3
11	GAIKWAD CHETAN DEVIDA	72451310J	23	3
12	GAIKWAD NISHANT BAPU	72331243F	22	3
13	GAVADE AMIT RAJENDRA	72451311G	23	3
14	GAVATE CHARUDATT SAN	72331248G	13	1
15	JADHAV ADITYA DEVDAS	72451312E	27	3
16	KADAM PRATHAMESH SHI	72451313C	20	3
17	KADLAG ABHINAV SUNIL	72451314M	19	2
18	KAMBLE SANCHI SHRIMAN	72451315K	20	3
19	LAGAD NIKITA SANTOSH	72257213B	19	2

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20	LAHANE VAISHNAVI RAVIN	72451316H	14	1
21	LAMBTURE PRIYANKA VISI	72451317F	20	3
22	MAHESH SANDIPAN ASWAI	72451318D	15	2
23	MAKHARE ABHAY VILAS	72451319B	18	2
24	MALA SAIDARSHAN HANUI	72451320F	19	2
25	MALGUNDE PRIYANKA AN	72331287H	21	3
26	MISAL NIKITA MARUTI	72451321D	19	2
27	MORE SIMRAN SANDIP	72451322B	25	3
28	MUJAWAR TOUFEEQUE NA	72331294L	22	3
29	PATIL JITENDRA RAVINDRA	72451323L	23	3
30	PATIL UDAY VIKAS	72451324J	21	3
31	PRANAV ANIL SHINDE	72331303C	24	3
32	PRIYANKA DNYANDEO HOI	72331467F	22	3
33	RAKSHE SAKSHI MARUT	72451325G	18	2
34	SARODE SUDESH SUBHASH	72257235C	18	2
35	SHENDKAR SARAS SANJAY	72451326E	24	3
36	SHETE ROHAN RAHUL	72451327C	19	2
37	UPASE DNYANESHWARI H	72451328M	24	3
38	PAWAR NEHA AJIT	72331323H	24	3
39	KHARTODE VIDHYA RAJAR	72257245L	22	3
40	SHIRSAT ANIKET SHIVAJI	72451330C	4	1

Dattakala Group of Institutions
Swami-Chincholi, Tal. Daund, Dist. Pune

Based on the Course Objectives Attainment (COA) value as calculated at the end of step 6, perform the PO Attainment Calculations as shown below:

CO Mapping with PO

Name of Staff: Mrs Waghmode K.H.

Name of Subject: Embedded Processor & Application (310354)
Subject Code: 310354

PO Attainment= COA x M/3 Where M is average of All PO Against CO 1 to CO 5

CO Attainment Calculations

	Direct attainment Internal		External	Indirect Assessment
	INSEM		Term Work	Course Exit Survey
Number of students who have scored more than the target (P) (Target is 60%)	26		0	28
Percentage of students who have achieved the target = (P/N)*100 (N is the number of students who appeared in the exam)	65		0	70
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%)	a = 2		b= 3	d= 3
Attainment based on INSEM EXAM & Term work = Average of (a and b):		I+T =	2.5	
Direct CO Attainment Level (DA) = 40% INSEM + 60% Term work		DA =	2.6	
Indirect CO Attainment Level (IA) (based on Exit Survey (d))		IA =	3	
		80 % of DA =	2.08	
		20 % IA =	0.6	
CO Attainment Level (COA) = 80 % DA+ 20 % IA;		COA =	2.68	

Here in the table,
'3' corresponds to a high correlation;
'2' corresponds to a medium correlation, and
'1' corresponds to a low correlation, between CO and PO/PSO.

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2	1									2
CO 2	3	3	2	2	1				1	1		2
CO 3	3	2	3	2	2				1	1		2
CO 4	2	2	3	2	3			1	2	1	2	2
CO 5	2	3	2	3	2			1	1	1	1	2
CO 6	2	2	2	2	3			1	3	2	2	3
Average	2.17	1.83	1.83	1.33	1.50	0.00	0.00	0.33	1.17	0.83	0.67	1.83

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Average Mapping	2.17	1.83	1.83	1.33	1.5	0	0	1.33	1	0.83	0.67	1.83

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|NAAC Accredited & ISO Certified|
541/2, 527, Off Pune- Solapur Highway, Swami-Chincholi (Bhigwan), Tal - Daund, Dist. – Pune 413130 Maharashtra.
| Email: dkgoi@dattakala.edu | Web: www.dattakala.edu.in | Contact No. 9673002923, 9673400500 |

Department of Electronics and computer Engineering

Academic Year 2025-26

CO PO Mapping& Attainment

Name of Staff	: Mrs. Vidhate S.N.
Designation	: Assistant Professor
Subject Name	: Database Management System
Subject Code	: 310341
Course, SEM & Scheme	: V(TE 2019)

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Swami-Chincholi, Tal. Daund, Dist. Pune

Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives (PEOs)	
PEO1	Adapt ethics in practice and lifelong learning ability through various skills
PEO2	Become an entrepreneur, contribute in research field to meet global competencies.
PEO3	Be sensitive to societal and environmental issues in professional career.

Program Specific Outcomes (PSOs)	
PSO1	Graduate will able to design, implement and test various electronic systems.
PSO2	Raduate will able to design, realize and validate algorithms for real time problems.
PSO3	Graduate will able to pursue career in industries and strive for higher studies through self- learning ability.

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Program Outcomes (POs)	
Graduate will be able to	
PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**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.
PO4	**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.
PO5	**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.
PO6	**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.
PO7	**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.
PO8	**Ethics** : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**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.
PO11	**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.
PO12	**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.

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Course Objectives and Course Outcomes

Subject : Database Management System (310341)

Course Objectives	
1	To understand fundamental concepts of database from its design to its implementation.
2	To analyze database requirements and determine the entities involved in the system
3	To manipulate database using SQL Query to create, update and manage Database.
4	Be familiar with the basic issues of transaction processing and concurrency control
5	To learn and understand Parallel Databases and its Architectures.
6	To learn and understand Distributed Databases and its applications.

Course Outcomes (COs)	
At the end of course students will be able to	
CO1	Understand the underlying concepts of database systems.
CO2	Design and implement a database schema for a given problem-domain using data model.
CO3	Solve wide range of query and update problems using SQL/DML/DDL commands
CO4	Explain transaction Management in relational database System.
CO5	Understand various Database Architectures and its applications.
CO6	Apply NoSQL database concepts for processing unstructured data

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Swami-Chincholi ,Tal: - Daund, Dist: - Pune
Department :- ELECTRONICS & COMPUTER ENGINEERING
Academic Year: - 2025 - 26

SUBJECT : DBMS (310341)

Sr. No.	Name Of the Student	Seat No	PRN No.	Design Analysis And Algorithm	
				IN	Level(IN)
1	ABHIRAJ MAHENDRA BHALERAO	T400850270	72451302H	19	2
2	ARPITA ANANDRAO NARWADE	T400850271	72451303F	22	3
3	AVINASH SHIVAJI DALAVI	T400850272	72451304D	14	1
4	BHOPLE SMITA SANTOSH	T400850273	72451305B	16	2
5	BHOSALE VAIBHAV AJINATH	T400850274	72331222C	18	2
6	BORKAR ARCHANA BALASO	T400850275	72451306L	24	3
7	CHAUDHARI BHUSHAN SANJAY	T400850276	72451307J	18	2
8	CHAVAN ARPIT SUNIL	T400850277	72331229L	21	3
9	FATE VAIBHAV VISHVANATH	T400850278	72451308G	18	2
10	ADHE PRABUDDHAKUMAR SANJA	T400850279	72451309E	12	1
11	GAIKWAD CHETAN DEVIDAS	T400850280	72451310J	21	3
12	GAIKWAD NISHANT BAPU	T400850281	72331243F	24	3
13	GAVADE AMIT RAJENDRA	T400850282	72451311G	20	3
14	GAVATE CHARUDATTA SANTOSH	T400850283	72331248G	15	1
15	JADHAV ADITYA DEVDAS	T400850284	72451312E	15	1
16	KADAM PRATHAMESH SHIVAJI	T400850285	72451313C	16	1
17	KADLAG ABHINAV SUNIL	T400850286	72451314M	24	3
18	KAMBLE SANCHI SHRIMANT	T400850287	72451315K	22	3
19	KHARTODE VIDHYA RAJARAM	T400850288	72257213B	20	3
20	LAGAD NIKITA SANTOSH	T400850289	72451316H	18	2
21	LAHANE VAISHNAVI RAVINDRA	T400850290	72451317F	16	2
22	LAMBTURE PRIYANKA VISHNU	T400850291	72451318D	20	3

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Swami-Chincholi, Tal. Daund, Dist. Pune

23	MAHESH SANDIPAN ASWALE	T400850292	72451319B	19	2
24	MAKHARE ABHAY VILAS	T400850293	72451320F	18	2
25	MALA SAIDARSHAN HANUMANTA	T400850294	72331287H	19	2
26	MALGUNDE PRIYANKA ANIL	T400850295	72451321D	20	3
27	MISAL NIKITA MARUTI	T400850296	72451322B	21	3
28	MORE SIMRAN SANDIP	T400850297	72331294L	25	3
29	MUJAWAR TOUFEEQUE NAWAJ	T400850298	72451323L	25	3
30	PATIL JITENDRA RAVINDRA	T400850299	72451324J	21	3
31	PATIL UDAY VIKAS	T400850300	72331303C	13	1
32	PAWAR NEHA AJIT	T400850301	72331467F	12	1
33	PRANAV ANIL SHINDE	T400850302	72451325G	21	3
34	PRIYANKA DNYANDEO HOLE	T400850303	72257235C	17	2
35	RAKSHE SAKSHI MARUTI	T400850304	72451326E	13	1
36	SARODE SUDESH SUBHASH	T400850305	72451327C	25	3
37	SHENDKAR SARAS SANJAY	T400850306	72451328M	21	3
38	SHETE ROHAN RAHUL	T400850307	72331323H	17	2
39	SHIRSAT ANIKET SHIVAJI	T400850309	72257245L	19	2
40	UPASE DNYANESHWARI HANUMANT	T400850311	72451330C	20	3

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Swami-Chincholi,
Tal. Daund,
Dist. Pune

Based on the Course Objectives Attainment (COA) value as calculated at the end of step 6, perform the PO Attainment Calculations as shown below:

CO Mapping with PO

Name of Staff: Mrs. Vidhate S.N.

Name of Subject: DBMS

Subject Code: 310341

PO Attainment= COA x M/3 Where M is average of All PO Against CO 1 to CO 5

CO Attainment Calculations

		Direct attainment Internal		External	Indirect Assessment
	INSEM			Term Work	Course Exit
Number of students who have scored more than the target (P) (Target is 60%)	28			0	35
Percentage of students who have achieved the target = (P/N)*100 (N is the number of students who appeared in the exam)	70			0	87.5
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%) a =	**3**		b=	**3**	d= **3**

Attainment based on INSEM EXAM & Term work = Average of (a and b);	I+T	=	**3**
Direct CO Attainment Level (DA) = 40% INSEM + 60% Term work	DA	=	**3**
Indirect CO Attainment Level (IA) (based on Exit Survey (d))	IA	=	**3**
	80 % of DA	=	**2.4**
	20 % IA	=	**0.6**
CO Attainment Level (COA) = 80 % DA + 20 % IA;	COA	=	**3**

Here in the table,
'3' corresponds to a high correlation;
'2' corresponds to a medium correlation, and
'1' corresponds to a low correlation, between CO and PO/PSO.

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2			1					2		1
CO 2	3	3	2	1	2	2	3	1	3	2	2	2
CO 3	3	3	3	1	3	2	2	5	2	1	2	2
CO 4	2	3	2	2	2	2	1	4	1	1	2	1
CO 5	2	3	1	2	1	3	2	2	1	3	2	2
CO 6	3	2	2	2	2	1	1	1	2	1	2	1
Average	2.67	2.7	1.67	1.33	1.8	1.7	1.5	2.2	1.5	1.7	1.7	1.83

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Average Mapping	2.67	2.7	1.67	1.33	1.8	1.7	1.5	2.2	1.5	1.7	1.7	1.83
PO Attainment Level	2.67	2.7	1.67	1.33	1.8	1.7	1.5	2.2	1.5	1.7	1.7	1.83

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| Email: dkgoi@dattakala.edu | Web: www.dattakala.edu.in | Contact No. 9673002923, 9673400500 |

DEPARTMENT OF ELECTROICS & COMPUTER ENGINEERING

Academic Year 2025-26

CO PO Mapping& Attainment

Name of Staff : Mr.Kambale A.R.

Designation : Assistant Professor

Subject Name : Software Engineering & Project Management

Subject Code : 310352

Course, SEM & Scheme : VI (TE 2019)

Dattakala Group of Institutions
Swami-Chincholi, Tal. Daund, Dist. Pune

Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives (PEOs)	
PEO1	**PEO1**: Equip graduates with skills to excel in academic, professional career and higher studies.
PEO2	**PEO2**: Inculcate ability among the graduates to investigate problems in engineering and provide effective solutions
PEO3	**PEO3**: Prepare graduates to engage in lifelong learning by developing in them professional social and Ethical attitude

Program Specific Outcomes (PSOs)	
PSO1	**PSO1:** To implant the capacity to apply the concepts of Electronics, Communications, Signal processing, VLSI, Control systems etc., in the design, development and implementation of application oriented engineering systems.
PSO2	**PSO2:** An ability to isolate and solve complex problems in the domain of Electronics and Communication using latest hardware and software tools, along with analytical and managerial skills to arrive at cost effective and optimum solutions, either independently or as a team.
PSO3	**PSO3** : Acquaintance of social and environmental awareness with ethical responsibilities to have a successful career in real-world applications by keeping abreast of the technological changes.

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Program Outcomes (POs)	
Graduate will be able to	
PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**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.
PO4	**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.
PO5	**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.
PO6	**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.
PO7	**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.
PO8	**Ethics** : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**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.
PO11	**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.
PO12	**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.

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Course Objectives and Course Outcomes

Subject : Software Engineering and Project Management (310352)

Course Objectives	
1	To learn and understand the principles of Software Engineering.
2	To be acquainted with methods of capturing, specifying, visualizing and analyzing software requirements.
3	To apply design and testing principles to software project development.
4	To understand project management through life cycle of the project.

Course Outcomes (COs)	
At the end of course students will be able to	
CO1	Analyze software requirements and formulate design solution for a software.
CO2	Design applicable solutions in one or more application domains using software engineering approaches that integrate ethical, social, legal and economic concerns
CO3	Apply new software models, techniques and technologies to bring out innovative and novelistic solutions for the growth of the society in all aspects and evolving into their continuous professional development.
CO4	Model and design User interface and component-level.
CO5	Identify and handle risk management and software configuration management.
CO6	Utilize knowledge of software testing approaches, approaches to verification and validation.

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Department :- ELECTRONICS & COMPUTER ENGINEERING

Academic Year: - 2025 - 26

SUBJECT :**Software Engineering & Project management (310352)**

Sr. No.	Name Of the Student	PRN No.	Design Analysis And Algorithm	
			IN	Level(IN)
1	ABHIRAJ MAHENDRA BHALERA	72451302H	15	2
2	ARPITA ANANDRAO NARWADE	72451303F	18	2
3	AVINASH SHIVAJI DALAVI	72451304D	13	1
4	BHOPLE SMITA SANTOSH	72451305B	13	1
5	BHOSALE VAIBHAV AJINATH	72331222C	16	2
6	BORKAR ARCHANA BALASO	72451306L	19	2
7	CHAUDHARI BHUSHAN SANJAY	72451307J	13	1
8	CHAVAN ARPIT SUNIL	72331229L	14	2
9	FATE VAIBHAV VISHVANATH	72451308G	13	2
10	GADHE PRABUDDHAKUMAR S	72451309E	17	2
11	GAIKWAD CHETAN DEVIDAS	72451310J	17	2
12	GAIKWAD NISHANT BAPU	72331243F	15	2
13	GAVADE AMIT RAJENDRA	72451311G	14	1
14	GAVATE CHARUDATT SANTOSH	72331248G	14	1
15	JADHAV ADITYA DEVDAS	72451312E	14	1
16	KADAM PRATHAMESH SHIVAJI	72451313C	13	1
17	KADLAG ABHINAV SUNIL	72451314M	13	1

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18	KAMBLE SANCHI SHRIMANT	72451315K	15	2
19	LAGAD NIKITA SANTOSH	72257213B	14	1
20	LAHANE VAISHNAVI RAVINDRA	72451316H	13	1
21	LAMBTURE PRIYANKA VISHNU	72451317F	13	1
22	MAHESH SANDIPAN ASWALE	72451318D	13	1
23	MAKHARE ABHAY VILAS	72451319B	15	2
24	MALA SAIDARSHAN HANUMAN	72451320F	14	1
25	MALGUNDE PRIYANKA ANIL	72331287H	14	1
26	MISAL NIKITA MARUTI	72451321D	13	1
27	MORE SIMRAN SANDIP	72451322B	16	2
28	MUJAWAR TOUFEEQUE NAWAJ	72331294L	14	1
29	PATIL JITENDRA RAVINDRA	72451323L	15	2
30	PATIL UDAY VIKAS	72451324J	16	2
31	PRANAV ANIL SHINDE	72331303C	18	2
32	PRIYANKA DNYANDEO HOLE	72331467F	17	2
33	RAKSHE SAKSHI MARUT	72451325G	14	1
34	SARODE SUDESH SUBHASH	72257235C	14	1
35	SHENDKAR SARAS SANJAY	72451326E	21	3
36	SHETE ROHAN RAHUL	72451327C	15	2
37	UPASE DNYANESHWARI H	72451328M	18	2
38	PAWAR NEHA AJIT	72331323H	19	2
39	KHARTODE VIDHYA RAJARAM	72257245L	24	3
40	SHIRSAT ANIKET SHIVAJI	72451330C	13	3

Based on the Course Objectives Attainment (COA) value as calculated at the end of step 6, perform the PO Attainment Calculations as shown below:

CO Mapping with PO

Name of Staff: Mr.Kambale Abhishek
Name of Subject: SEPM
Subject Code: 310353

PO Attainment= COA x M/3 Where M is average of All PO Against CO 1 to CO 5

CO Attainment Calculations

	Direct attainment		Indirect Assessment	
	Internal		External	
	INSEM		Term Work	Course Exit Survey
Number of students who have scored more than the target (P) (Target is 60%)	22		0	24
Percentage of students who have achieved the target = (P/N)*100 (N is the number of students who appeared in the exam)	55		0	60
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%)	a = 2		b= 3	d= 3
Attainment based on INSEM EXAM & Term work = Average of (a and b);		I+T =	2.5	
Direct CO Attainment Level (DA) = 40% INSEM + 60% Term work		DA =	2.6	
Indirect CO Attainment Level (IA) (based on Exit Survey (d))		IA =	3	
		80 % of DA =	2.08	
		20 % IA =	0.6	
CO Attainment Level (COA) = 80 % DA+ 20 % IA;		COA =	2.68	

Here in the table,
'3' corresponds to a high correlation;
'2' corresponds to a medium correlation, and
'1' corresponds to a low correlation, between CO and PO/PSO.

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2	1									2
CO 2	3	3	3	2	1				1	1		2
CO 3	2	3	2	2	1				1	1	3	2
CO 4	2	2	2	2	2			1	2	1	3	2
CO 5	2	3	2	3	2			1	1	1		2
CO 6	2	2	2	1	3			1	3	2	3	3
Average	2.00	2.00	1.67	1.17	1.17	0.00	0.00	0.33	1.17	0.83	1.50	1.83

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Average Mapping	2.00	2	1.67	1.17	1.17		0	0.33	1.17	0.83	1.5	1.83

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DEPARTMENT OF ELECTRONICS AND COMPUTER ENGINEERING

Academic Year 2025-26

CO PO Mapping& Attainment

Name of Staff	: Mr.Salve.S.S.
Designation	: Assistant Professor
Subject Name	: Analog and Digital Electronics Circuit.
Subject Code	: PCC-201-ECE
Course, SEM & Scheme	: III (SE 2024)

Dattakala Group of Institutions
Swami-Chincholi, Tal. Daund, Dist. Pune

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Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives (PEOs)	
PEO1	**PEO1**: Equip graduates with skills to excel in academic, professional career and higher studies.
PEO2	**PEO2**: Inculcate ability among the graduates to investigate problems in engineering and provide effective solutions
PEO3	**PEO3**: Prepare graduates to engage in lifelong learning by developing in them professional social and Ethical attitude
Program Specific Outcomes (PSOs)	
PSO1	**PSO1:** Graduates will be able to identify problems in the field of electrical engineering and then analyse /design/develop solutions.
PSO2	**PSO2:** Graduates will be able to select and apply different software tools required for design and/or analysis of electrical systems.
PSO3	**PSO3 :** The graduate will be able to understand the importance of financial aspects in power system infrastructure development by considering social and environmental needs.

Program Outcomes (POs)	
Graduate will be able to	
PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**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.
PO4	**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.
PO5	**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.
PO6	**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.
PO7	**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.
PO8	**Ethics** : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**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.
PO11	**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.

PO12	**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.

Course Objectives and Course Outcomes

Subject : PCC-201-ECE: Analog and Digital Electronics Circuit

Course Objectives	
1	Design EMOSFET amplifier circuits
2	Design operational amplifier-based circuits for given applications
3	Design Combinational and Sequential digital circuits
4	Design digital circuits using state machines
5	Solve real life problems using digital and analog circuits

Course Outcomes (COs)	
At the end of course students will be able to	
CO1	Apply object-oriented programming concepts using C++ for problem solving.
CO2	Analyze searching and sorting algorithms for efficiency.
CO3	Implement various types of linked lists and understand their applications.
CO4	Implement stack and queue data structures and apply them in relevant problems.
CO5	Apply trees and graphs to represent and solve complex problems.

19	Lyaharkar Avinash Shivdas	6	6	8	9	6	35	50
20	Maindad Aniket Balaji	8	9	8	9	9	43	50

Sr. No	Name of Students	Marks Obtained as per CO					Marks Obtained	Total Marks
		CO1	CO2	CO3	CO4	CO5		
21	Matre Atesh Navnath	8	9	8	9	9	43	50
22	Patil Sarthak Vilas	8	7	8	9	9	41	50
23	Rathod Shreya Vishal	7	7	7	8	9	38	50
24	Sawant Yash Ulhas	6	6	6	9	9	36	50
25	Shirke Prajwal Jalindar	6	7	8	8	8	37	50
26	Thavare Suraj Appaso	8	9	8	9	9	43	50
27	Ubale Kartik Laxman	8	9	8	9	9	43	50
28	Vanve Ravi Anil	8	7	8	8	7	38	50
29	Gavhane Sandesh Babu	8	7	8	9	9	41	50
30	Narute Shubham	8	9	8	8	9	42	50
31	Gaikwad Rajwardhan	8	8	8	7	8	40	50
32	Sonawne Suraj	6	6	6	8	9	35	50
33	Chandgude Renuka Pradip	8	9	8	9	9	43	50
34	Dapke Priti Ajit	8	8	8	9	9	42	50
35	Davari Atul Sandeep	8	8	8	9	8	41	50
36	Dorgude Animesh Laxman	7	9	9	8	9	9	50
37	Gaikwad Shubham Nanasaheb	9	9	9	9	9	45	50

Marks of Aassignments obtained by Students form CO1 to CO4

Sr. No	Name of Students	Marks Obtained as per CO					Marks Obtained	Total Marks
		CO1	CO2	CO3	CO4	CO5		
1	Adhav Chaitanya Aniruddha	7	8	7	7	8	37	50
2	Bansode Vinayak Pratap	7	8	8	8	7	38	50
3	Bansude Poonam Somnath	7	7	7	8	7	36	50
4	Bhandvalkar Jotsna Dattatray	7	7	8	9	7	38	50
5	Chavan Gauri Sandip	8	9	8	8	8	41	50
6	Dhangude Sai Atul	8	8	9	9	9	43	50
7	Durgude Vishwajit Sunil	8	7	7	9	8	39	50
8	Gadhave Pritam Nanaso	7	6	8	9	6	36	50
9	Gawade Chetan Bharat	6	6	9	7	6	34	50
10	Gawali Harshad Rahul	8	9	8	8	8	41	50
11	Gurav Vaishnavi Anil	7	6	9	8	6	36	50
12	Honmane Yashraj Sarjerav	8	9	8	9	8	42	50
13	Kalapnur Pavitra Mallikarjun	8	7	8	9	8	40	50
14	Karkhande Ghanshyam K	8	9	8	9	8	42	50
15	Kendre Vishnu Maroti	8	7	9	9	8	41	50
16	Kolekar Rushikesh Shamrao	7	7	7	9	6	35	50
17	Kumbhar Sidhesh Dilip	7	6	8	9	7	37	50
18	Lakade Rushikesh Ravsaheb	6	6	8	9	6	35	50

38	Ghodke Rutuja Krushnaji	9	8	8	8	8	41	50
39	Godaji Aditi Bhagwat	9	8	8	9	8	42	50
40	Gurav Vedant Eknath	8	8	8	8	8	40	50
41	Jadhav Bharat Mahadev	9	9	9	9	9	45	50
42	Jadhav Samarth Sachin	8	9	7	8	9	41	50
43	Jadhav Yash Anil	9	8	8	7	9	41	50
44	Jadhav Yash Dattatray	9	8	8	7	8	40	50
45	Jamdar Sakshi Pating	9	9	8	9	9	44	50
46	Kadam Abhishek Sanjay	9	8	8	9	9	43	50
47	Kamble Meghana Parbat	8	9	7	9	9	42	50
48	Kashid Mayuri Nagnath	8	8	6	9	8	39	50
49	Kotkar Sakshi Arun	9	8	7	8	8	40	50
50	Kute Sanket Dnyeshwar	7	8	6	8	9	38	50
51	Londhe Prakash Popat	8	8	8	8	9	41	50
52	Magar Sakshi Vaman	9	9	8	7	8	41	50
53	Nalawade Ashwini Annasaheb	9	9	8	8	9	43	50
54	Nevase Samruddhi Santosh	9	9	7	8	8	41	50
55	Patil Diptej Dilip	9	8	6	7	9	39	50
56	Pawar Suyash Laxman	9	9	8	8	7	41	50
57	Pawar Vighnesh Dinkar	8	9	8	8	8	41	50
58	Pude Akash Santosh	8	9	8	9	9	43	50
59	Rajure Omkar Nagnath	9	9	8	8	9	43	50
60	Ransing Mrunal Atul	8	8	7	8	9	40	50
61	Ranadive Guruprasad Aabaso	9	7	7	8	7	38	50
62	Swami Asmita Shivalinga	8	8	8	9	8	41	50

63	Yadav Gauree Bhalchandra	9	9	8	9	9	44	50

The course exit survey samples are given below for student/faculty/employer

1. Course Outcome exit survey for students

Course Outcome		1(Low)	2(Moderate)	3(High)
CO1	Understand the role and applications of data structure in real life			3
CO2	Develop abstract data types for solving the complex problems		2	
CO3	Understand the concepts of non-linear data structures and applications			3
CO4	Analyze the efficiency of algorithms			3

2. Course Contents exit survey for students.

Course Outcome	1(Low)	2(Moderate)	3(High)
Quality of the Course Content			3
Relevance of the textbook to this course		2	
Were the lectures clear/well organized and presented at a reasonable pace?			3
Did the lectures stimulate you intellectually?			3

3. Faculty/Employer Survey

Course Outcome	1(Low)	2(Moderate)	3(High)
Satisfaction with the caliber of the graduates			3
Courses are relevant to the organization's vision and mission		2	
Satisfaction with the speed at which course content is being adapted to meet changing industrial needs			3
Relevant subject or discipline knowledge			3

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FACULTY OF ENGINEERING

Swami-Chincholi ,Tal: - Daund, Dist: - Pune

Department :- Electronics and Computer Engineering

Academic Year: - 2025 - 26

Sr. No.	Name Of the Student	Seat No.	ADEC	
			IN	TW
1	ADHAV CHAITANYA ANIRUDDHA	S500850287	25	21
2	BANSUDE POONAM SOMNATH	S500850288	26	19
3	CHANDGUDE RENUKA PRADIP	S500850289	25	20
4	CHAVAN GAURI SANDIP	S500850290	25	21
5	DAPKE PRITI AJIT	S500850291	25	21
6	DAVARI ATUL SANDEEP	S500850292	24	17
7	DHANGUDE SAI ATUL	S500850293	26	18
8	DORUGADE ANIMESH LAXMAN	S500850294	25	19
9	DURGUDE VISHWAJIT SUNIL	S500850295	24	19
10	GADHAVE PRITAM NANASO	S500850296	24	17
11	GAIKWAD SHUBHAM NANASAHEB	S500850297	25	20
12	GAWADE CHETAN BHARAT	S500850298	24	19
13	GHODKE RUTUJA KRUSHNAJI	S500850299	25	21
14	GODAJI ADITI BHAGWAT	S500850300	25	21
15	GURAV VAISHNAVI ANIL	S500850301	26	22
16	GURAV VEDANT EKNATH	S500850302	19	16
17	GAWALI HARSHAD RAHUL	S500850303	18	14
18	JADHAV BHARAT MAHADEV	S500850304	20	18
19	JADHAV SAMARTH SACHIN	S500850305	21	18
20	JADHAV YASH ANIL	S500850306	22	19
21	JADHAV YASH DATTATRAY	S500850307	22	19
22	JAMDAR SAKSHI PATING	S500850308	25	21
23	KADAM ABHISHEK SANJAY	S500850309	22	20
24	KALAPNUR PAVITRA M.	S500850310	26	22
25	KAMBLE MEGHANA PARBAT	S500850311	18	17
26	KARKHANDE GHANSHYAM K.	S500850312	18	14

27	KASHID MAYURI NAGNATH	S500850313	25	21
28	KENDRE VISHNU MAROTI	S500850314	24	20
29	KOLEKAR RUSHIKESH SHAMRAO	S500850315	25	19
30	KOTKAR SAKSHI ARUN	S500850316	24	20
31	KUMBHAR SIDHESH DILIP	S500850317	25	20
32	KUTE SANKET DNYANESHWAR	S500850318	22	19
33	LONDHE PRAKASH POPAT	S500850319	23	19
34	LYAHARKAR AVINASH SHIVDAS	S500850320	26	22
35	MAGAR SAKSHI VAMAN	S500850321	18	13
36	MAINDAD ANIKET BALAJI	S500850322	21	16
37	MATRE ATESH NAVNATH	S500850323	25	20
38	NALAWADE ASHWINI ANNASAHEB	S500850324	26	20
39	NEVASE SAMRUDDHI SANTOSH	S500850325	26	22
40	PATIL DIPTEJ DILIP	S500850326	20	18
41	PATIL SARTHAK VILAS	S500850327	24	20
42	PAWAR SUYASH LAXMAN	S500850328	25	19
43	PAWAR VIGHNESH DINKAR	S500850329	25	20
44	PUDE AKASH SANTOSH	S500850330	24	19
45	RAJURE OMKAR NAGNATH	S500850331	25	19
46	RANDIVE GURUPRASAD AABASO	S500850332	20	13
47	RANSING MRUNAL ATUL	S500850333	26	22
48	RATHOD SHREYA VISHAL	S500850334	18	20
49	RUSHIKESH RAVSAHEB LAKADE	S500850335	18	12
50	SAWANT YASH ULHAS	S500850336	24	19
51	SHIRKE PRAJWAL JALINDAR	S500850337	22	15
52	SWAMI ASMITA SHIVLINGYYA	S500850338	25	21
53	THAVARE SURAJ APPASO	S500850339	25	21
54	UBALE KARTIK LAXMAN	S500850340	18	12
55	VANVE RAVI ANIL	S500850341	25	20
56	BANSODE VINAYAK PRATAP	S500850342	19	17
57	YADAV GAUREE BHALCHANDRA	S500850343	23	20
58	HONMANE YASHRAJ SARJERAO	S500850344	20	17
59	GAIKWAD RAJVARDHAN ASHOK	S500850363	19	14
60	GAVHANE SANDESH BABU	S500850364	19	15

61	NARUTE SHUBHAM MAHADEV	S500850365	21	19
62	SONWANE SURAJ SANTOSH	S500850366	18	17

Based on the Course Objectives Attainment (COA) value as calculated at the end of step 6, perform the PO Attainment Calculations as shown below:

CO Mapping with PO

Name of Staff: Mr. Salve.S.S.
Subject Name : Analog and Digital Electronics Circuit
Subject Code : PCC-201-ECE.

PO Attainment= COA x M/3

Where M is average of All PO Against CO 1 to CO 5

CO Attainment Calculations

		Direct attainment		
		Internal		External
	INSEM			Term Work
Number of students who have scored more than the target (P) (Target is 60%)	62			46
Percentage of students who have achieved the target = (P/N)*100 (N is the number of students who appeared in the exam)	**98. 41**			**73.015**
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%)	a = **3**		b=	**3**
Attainment based on INSEM EXAM & Term work = Average of (a and b);		I+T	=	**3**
Direct CO Attainment Level (DA) = 40% INSEM + 60% Term work		DA	=	**3**
Indirect CO Attainment Level (IA) (based on Exit Survey (d))		IA	=	**#REF!**
		80 % of DA	=	**2.4**
		20 % IA	=	**#REF!**
CO Attainment Level (COA) = 80 % DA+ 20 % IA;		COA	=	**#REF!**

Here in the table,
'3' corresponds to a high correlation;
'2' corresponds to a medium correlation, and
'1' corresponds to a low correlation, between CO and PO/PSO.

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 12
CO 1	3	2	0	0	0	0	0	0	0	2
CO 2	2	3	3	0	2	0	0	0	0	2
CO 3	2	3	2	0	3	0	0	0	0	2
CO 4	3	3	2	2	0	0	0	0	0	2
CO 5	2	3	3	2	3	1	0	1	2	3
Average	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	2.2

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 12
Average Mapping	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	2.2
PO Attainment Level	2.4	2.8	2	0.8	1.6	0.2	0	0.2	0.4	2.2

Department of Electronics and computer Engineering

Academic Year 2025-26

CO PO Mapping& Attainment

Name of Staff	: Ms Waykule A.D
Designation	: Assistant Professor
Subject Name	: Advanced Java Programming
Subject Code	: 310342
Course, SEM & Scheme	: V(TE 2019)

Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives (PEOs)	
PEO1	Adapt ethics in practice and lifelong learning ability through various skills
PEO2	Become an entrepreneur, contribute in research field to meet global competencies.
PEO3	Be sensitive to societal and environmental issues in professional career.

Program Specific Outcomes (PSOs)	
PSO1	Graduate will able to design, implement and test various electronic systems.
PSO2	Raduate will able to design, realize and validate algorithms for real time problems.
PSO3	Graduate will able to pursue career in industries and strive for higher studies through self- learning ability.

Program Outcomes (POs)	
Graduate will be able to	
PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**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.
PO4	**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.
PO5	**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.
PO6	**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.
PO7	**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.
PO8	**Ethics** : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**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.
PO11	**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.
PO12	**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.

Course Objectives and Course Outcomes

Subject : Advanced Java Programming (310342)

Course Objectives	
1	To design and develop basic OOPS concept in Java
2	To design and develop packages in Java
3	To design enterprise based applications by encapsulating an application's business logic.
4	To designing applications using pre-built frameworks.

Course Outcomes (COs)	
At the end of course students will be able to	
CO1	Design and develop GUI applications using Applets.
CO2	Apply relevant AWT/ swing components to handle the given event.
CO3	Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event Handling.
CO4	Learn to access database through Java programs, using Java Database Connectivity (JDBC)
CO5	Invoke the remote methods in an application using Remote Method Invocation (RMI)
CO6	Develop program for client /server communication using Java Networking classes.

Marks of Assignments obtained by Students form CO2 to CO4

Sr. No	Name of Students	Marks Obtained as per CO						Marks Obtained	Total Marks
		CO1	CO2	CO3	CO4	CO5	CO6		
1	Abhiraj Mahendra Bhalerao	7	8	7	7	8	8	45	60
2	Arpita Anandrao Narwade	7	8	8	8	7	8	48	60
3	Avinash Shivaji Dalavi	7	7	7	8	7	7	43	60
4	Bhople Smita Santosh	7	7	8	9	7	7	45	60
5	Bhosale Vaibhav Ajinath	8	9	8	8	8	9	50	60
6	Borkar Archana Balaso	8	8	9	9	9	9	52	60
7	Chaudhari Bhushan Sanjay	8	7	7	9	8	8	47	60
8	Chavan Arpit Sunil	7	6	8	9	6	6	42	60
9	Fate Vaibhav Vishvanath	6	6	9	7	6	6	40	60
10	Gadhe Prabuddhakumar Sanjay	8	9	8	8	8	9	50	60
11	Gaikwad Chetan Devidas	7	6	9	8	6	6	42	60
12	Gaikwad Nishant Bapu	8	9	8	9	8	9	51	60
13	Gavade Amit Rajendra	8	7	8	9	8	8	48	60
14	Jadhav Aditya Devdas	8	9	8	9	8	9	51	60
15	Kadam Prathamesh Shivaji	8	7	9	9	8	7	48	60
16	Kadlag Abhinav Sunil	7	7	7	9	6	7	43	60
17	Kamble Sanchi Shrimant	7	6	8	9	7	6	43	60
18	Lagad Nikita Santosh	6	6	8	9	6	6	41	60
19	Lahane Vaishnavi Ravindra	6	6	8	9	6	6	41	60
20	Lambture Priyanka Vishnu	8	9	8	9	9	8	51	60

Sr. No	Name of Students	Marks Obtained as per CO						Marks Obtained	Total Marks
		CO1	CO2	CO3	CO4	CO5	CO6		
21	Mahesh Sandipan Aswale	8	9	8	9	9	9	52	60
22	Makhare Abhay Vilas	8	7	8	9	9	7	48	60
23	Mala Saidarshan Hanumanta	7	7	7	8	9	6	44	60
24	Malgunde Priyanka Anil	6	6	6	9	9	6	42	60
25	Misal Nikita Maruti	6	7	8	8	8	8	45	60
26	More Simran Sandip	8	9	8	9	9	9	52	60
27	Mujawar Toufeeque Nawaj	8	9	8	9	9	9	52	60
28	Patil Jitendra Ravindra	8	7	8	8	7	8	46	60
29	Patil Uday Vikas	8	7	8	9	9	7	48	60
30	Pranav Anil Shinde	8	9	8	8	9	9	51	60
31	Priyanka Dnyandeo Hole	8	8	8	7	8	8	47	60
32	Rakshe Sakshi Marut	6	6	6	8	9	6	41	60
33	Sarode Sudesh Subhash	8	9	8	9	9	8	51	60
34	Shendkar Saras Sanjay	8	8	8	9	9	9	51	60
35	Shete Rohan Rahul	8	8	8	9	8	9	50	60
36	Upase Dnyaneshwari Hanumant	7	9	9	8	9	9	51	60
37	Pawar Neha Ajit	9	9	9	9	9	8	54	60
38	Khartode Vidhya Rajaram	9	8	8	8	8	9	50	60
39	Aniket Shivaji Shirsat	9	8	8	9	8	8	48	60
40	Gaikwad Ajinkya Bharat	8	8	8	8	8	8	48	60
41	Gavate Charudtt	9	9	9	9	9	8	53	60

The course exit survey samples are given below for student/faculty/employer

1. Course Outcome exit survey for students

Course Outcome		1(Low)	2(Moderate)	3(High)
CO1	Design and develop GUI applications using Applets.			3
CO2	Apply relevant AWT/ swing components to handle the given event.			3
CO3	Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event Handling.			3
CO4	Learn to access database through Java programs, using Java Database Connectivity (JDBC)			3
CO5	Invoke the remote methods in an application using Remote Method Invocation (RMI)		2	
CO6	Develop program for client /server communication using Java Networking classes.			3

2. Course Contents exit survey for students.

Course Outcome	1(Low)	2(Moderate)	3(High)
Quality of the Course Content			3
Relevance of the textbook to this course		2	
Were the lectures clear/well organized and presented at a reasonable pace?			3
Did the lectures stimulate you intellectually?			3

3. Faculty/Employer Survey

Course Outcome	1(Low)	2(Moderate)	3(High)
Satisfaction with the caliber of the graduates			3
Courses are relevant to the organization's vision and mission		2	
Satisfaction with the speed at which course content is being adapted to meet changing industrial needs			3
Relevant subject or discipline knowledge			3