



"Empowerment through quality technical education"
Dr D Y Patil Educational Enterprises Charitable Trust's
AJEENKYA
DY PATIL SCHOOL OF ENGINEERING
(Formerly known as DY Patil School of Engineering)

AICTE ID - 1-3847411
AISHE Code: C-46648
DTE Code: EN6732
SPPU PUN Code: CEGP015720

(Approved by AICTE, Recognized by Govt. of Maharashtra, Affiliated to Savitribai Phule Pune University)
(Accredited by NAAC, NABL & ISO 9001:2015 & 21001:2018 Certified Institute)

Criteria 2

2.6 : Student Performance and Learning Outcome

2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website.

Sr. No.	Name of the Programme	Link
1	Artificial Intelligence & Data Science	https://adypsoe.in/aidsUG.html
2	Computer Engineering	https://adypsoe.in/compUg.html
3	Electronics & Telecommunication	https://adypsoe.in/e&tcUG.html
4	Mechanical Engineering	https://adypsoe.in/MechUG.html
5	Civil Engineering	https://adypsoe.in/civilUG.html
6	Engineering Sciences	https://adypsoe.in/EngSciUG.html

2.6.2 Attainment of POs and COs are evaluated.

Sr.No.	Parameters	Link for the Document
1	CO PO Mapping sheets	View
2	CO PO Attainment Sheet	View
3	Summary sheet of CO PO Attainment	View
4	Case Study CO PO Attainment	View




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Ajeenkya DY Patil School of
Engineering, Lohegaon, Pune



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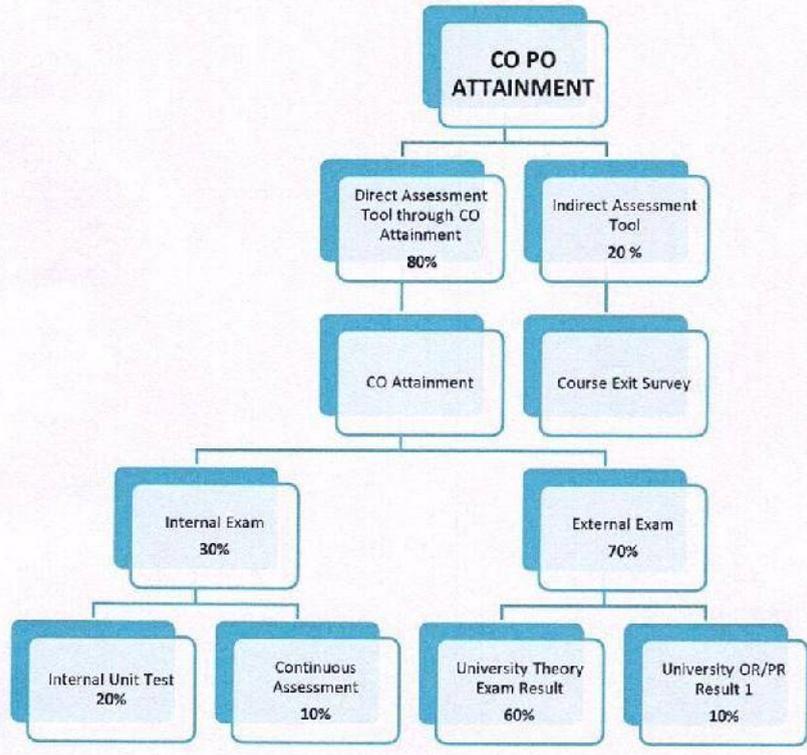
AICTE ID - 1-3847411

AISHE Code: C-46648

DTE Code: EN6732

SPPU PUN Code: CEGP015720

INTERNAL ASSESSMENT PROCESS AND MECHANISM



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CO PO Mapping



Empowerment Through Quality Technical Education
Ajeenkya DY Patil School of Engineering
Dr. D. Y. Patil Knowledge City,
Charholi (Bk), Lohegaon, Pune – 412 105
Website: <https://dypsoe.in/>
Department of Mechanical Engineering

Course Outcomes (COs):

Form No. IQAC/36

Academic Year.:2022-23

Subject:Heating Ventillation and air conditioning

Class:BE

Semester:VII

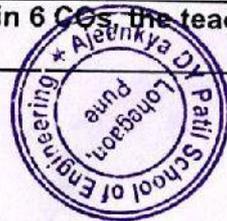
Div:I

Name of Subject Teacher: Prof.Thombare R S

CO No.	BT level	Students will be able to
CO-1	5-Determine	ANALYSE different air-craft refrigeration systems and EXPLAIN the properties, applications and environmental issues of different refrigerants.
CO-2	4-Analyze	ANALYSE multi pressure refrigeration system used for refrigeration applications.
CO-3	3 -Apply	DISCUSS types of compressors, condensers, evaporators and expansion valves along with regulatory and safety controls and DESCRIBE Transcritical and ejector refrigeration systems.
CO-4	5-Determine	ESTIMATE cooling load for air conditioning systems used with concern of design conditions and indoor quality of air.
CO-5	5-Estimate	DESIGN air distribution system along with consideration of ventilation and infiltration.
CO-6	2-Describe	EXPLAIN the working of types of desiccants, evaporative, thermal storage, radiant cooling, clean room and heat pump systems.

In case if the syllabus dosen't contain 6 COs, the teacher can define CO. The CO must highlight "What the student will be able to do after completion of Unit"

Prof.Thombare R.S.



HOD
mechanical Engg

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Engineering, Lohegaon, Pune

CO-PO-PSO Mapping

Form No. IQAC/36

Academic Year: 2022-23

Semester: I

Subject: Heating Ventillation and air conditioning

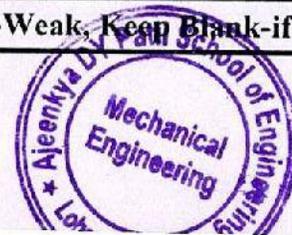
Class:BE

Div: I

Name of Subject Teacher: Prof.Thombare R S

PO CO	BT LEVEL	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	5-Determine	3	2	1	1	-	1	-	-	-	-	-	2	1		
CO-2	4-Analyze	3	2	1	1								2	1		
CO-3	4-Analyze	3	2	1	1								2	1		
CO-4	5-Determine	3	2	1	1								2	2		
CO-5	5-Estimate	3	2	2			2						2	1		
CO-6	2-Describe	3	2	2	2		1						2	1		
Average		3.00	2.00	1.33	1.25	-	1.33	-	-	-	-	-	2.00	1.17	-	-
Rounded off		3	2	1	1		2						2	2		

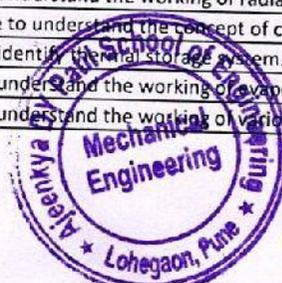
(Strength of Correlations: 3-Strong, 2-Medium, 1-Weak, Keep Blank-if No Corellation)



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Justification for CO-PO Mapping.

CO No.	PO/PSO Mapped	Level	Justification of Mapping
CO-1	PO1	3	Student will able to understad various types of refrigerent.
	PO2	2	Student will able to identify and analyze application of refrigerent.
	PO3	2	Student will able to understad the enviornmental issues related to the refrigerent.
	PO9	1	Student must be able to compare the refrigerent.
	PO12	1	Student use knowledge of air refrigeration system.
CO-2	PO1	3	Students will acquire fundamentals of multi compression and multi evaporator system..
	PO2	2	Using fundamentals ofrefrigeration student must understand the application of mult evaporator and multi compression system.
	PO3	1	Knowledge of single satage compression.
	PO4	1	Knowledge of multi evaporator and .multi compression system.
	PO6	2	Student must be able to compare the the systems.
	PO12	1	Student use knowledge of refrigeration through their career.
CO-3	PO1	3	Student will be able to design of compressor,condenser , evaporator and expansion valve .
	PO2	2	Student will able to discuss the compressor,condenser , evaporator and expansion valve.
	PO3	1	Student will able to undestand the ejector refrigeration cycle.
	PO4	1	Student will able to investigate application of transcritical cycle.
	PO12	2	Student will able to use knowledge saftey control.
	PSO1	1	Knowledge of fundamentals of transcritical cycle.
CO-4	PO1	3	Student will able to design air conditionig system.
	PO2	2	Student will able to identify design conditions required.
	PO3	1	Student will able to find out solution for vibrating system.
	PO4	1	student must able to calculate the cooling load.
	PSO1	2	Student will be able to Measure indoor air quality.
CO-5	PO1	3	Student will able to design air distribution system.
	PO2	2	Knowledge of fundamentals of air distribution will be useful throughout the career.
	PSO2	1	Student will able to calculate the equipments capacity requirements.
	PO6	2	Student will able to undestand the design coditions.
	PO12	1	students will understood the requirement of infiltration.
	PSO1	1	students will understood the requirement of ventillation.
CO-6	PO1	3	Student will be able to understand the advacements in air conditioning system.
	PO2	2	Student will able to understand the working of heat pump.
	PO3	2	Student will able to understand the working of radiative cooling system.
	PO4	2	students will be able to underst and the concept of clean room.
	PO6	2	Student will able to identify the cold storage system.
	PO12	2	Student will able to underst and the working of evaporative system.
PSO1	1	Student will able to understand the working of various dessicants.	



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Mechanical Engg.

B
Prof. Thombare R.S.



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Dr. D. Y. Patil Knowledge City, Charholi Bk., Via. Lohegaon, Pune – 412 105.
Department of Mechanical Engineering

Course Outcomes (COs):

Form No. IQAC/39

Academic Year.: 2022-23

Subject: Numerical & Statistical Methods

Semester: I

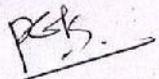
Name of Subject Teacher: Prof. Prashant Karajagi

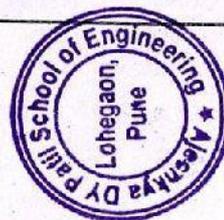
Class: TE

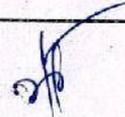
Div: D

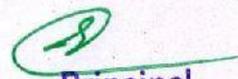
CO No.	BT level	Students will be able to
CO-1	3-Apply	SOLVE system of equations using direct and iterative numerical methods.
CO-2	3-Apply	ESTIMATE solutions for differential equations using numerical techniques.
CO-3	6-Create	DEVELOP solution for engineering applications with numerical integration.
CO-4	6-Create	DESIGN and CREATE a model using a curve fitting and regression analysis.
CO-5	3-Apply	APPLY statistical Technique for quantitative data analysis.
CO-6	3-Apply	DEMONSTRATE the data, using the concepts of probability and linear algebra.

In case if the syllabus doesn't contain 6 COs, the teacher can define CO. The CO must highlight "What the student will be able to do after completion of Unit"


Prashant Karajagi




Prof. R. N. Garad
HOD


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Department of Mechanical Engineering

CO-PO-PSO Mapping

Form No. IQAC/39

Academic Year: 2022-23

Semester: I

Subject: Numerical & Statistical Methods

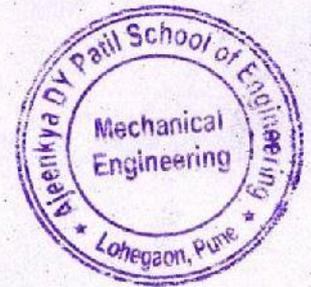
Class: TE

Div: D

Name of Subject Teacher: Prof. Prashant Karajagi

PO CO	BT LEVEL	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	3-Apply	3	3	2		2								2		
CO-2	3-Apply	3	3	2		2									2	
CO-3	6-Create	3	3	2		2									1	
CO-4	6-Create	3	3	2		2								2		
CO-5	3-Apply	3	3	2		2									2	
CO-6	3-Apply	3	3	2		2									2	
Average		3.00	3.00	2.00		2.00								2.00	1.75	-
Round d off		3	3	2		2								2	2	

(Strength of Correlation): 3-Strong, 2-Medium, 1-Weak, Keep Blank-if No Correlation



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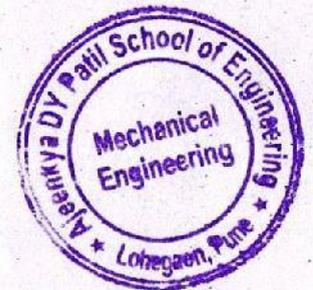
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Justification for CO-PO Mapping.

CO No.	PO/PSO Mapped	Level	Justification of Mapping
CO-1	PO1	3	Strongly students having the Knowledge of the system of equations.
	PO2	3	Strongly students can identify, formulate and solve the engineering problems.
	PO3	2	moderately students will solve the vibration problems for 3 DOF systems.
	PO5	2	moderately student can program to obtain the solutions for problems using Python/Matlab.
	PSO1	2	moderately student can use the Python programming language to solve the system of equations for problems.
CO-2	PO1	3	Strongly students having the Knowledge of Ordinary and Partial Differential equations.
	PO2	3	Strongly students can formulate the engineering problems into differential equations and solve it.
	PO3	2	moderately students will solve the vibration/Heat Transfer problems.
	PO5	2	moderately student can program to obtain the solutions for problems using Python/Matlab.
	PSO2	2	moderately student can obtain the solutions for heat transfer problems.
CO-3	PO1	3	Strongly students having the Knowledge of single and double integration.
	PO2	3	Strongly students can formulate the engineering problems into integration form and solve it using numerical methods.
	PO3	2	moderately students will solve the engineering problems.
	PO5	2	moderately student can program to obtain the solutions for problems using Python/Matlab.
	PSO2	1	Slightly student can obtain the solutions for engineering problems.

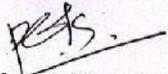


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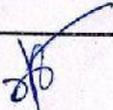
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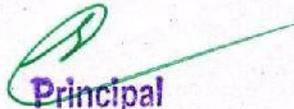


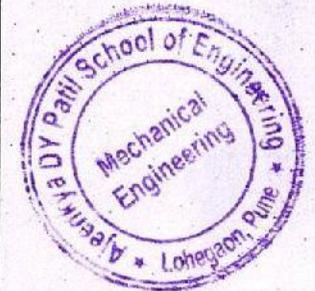
CO-4	PO1	3	Strongly students having the Knowledge of curve fit and regression analysis.
	PO2	3	Strongly students can formulate the engineering problems into curve fit and regression and solve it.
	PO3	2	moderately students will solve the engineering problems using numerical technique.
	PO5	2	moderately student can program to obtain the solutions for problems using Python/Matlab.
	PSO1	1	slightly student can use the Python programming language to solve the system of equaitons for problems.
CO-5	PO1	3	Strongly students having the Knowledge of statistics.
	PO2	3	Strongly students can formulate the engineering problems into statistics and solve it.
	PO3	2	moderately students will solve the engineering problems using statistics.
	PO5	2	moderately student can program to obtain the solutions for problems using Python/Matlab.
	PSO2	2	moderately student can use the programming skills to solve the problems.
CO-6	PO1	3	Strongly students having the Knowledge of prbability.
	PO2	3	Strongly students can formulate the engineering problems into probability distribution model and solve it.
	PO3	2	moderately students will solve the engineering problems using distribution curves.
	PO5	2	moderately student can program to obtain the solutions for problems using Python/Matlab.
	PSO2	2	moderately student can use the programming skills to solve the problems.


Prashant Karajagi




Prof. R. N. Garad
HOD


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CO-PO-PSO Mapping Form No. IQAC/39

Academic Year: 2022-23 Semester: II
 Subject: Elective-II: Network Security Class: TE Div: A
 Name of Subject Teacher: Prof. Dr. Sanjay Koli

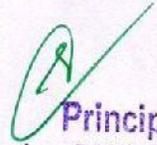
PO CO	BT LEVEL	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	1-Remember	3	3											2		
CO-2	3-Apply	3	3	1	1	2	2								3	
CO-3	3-Apply	3	3	1	1	2	2								3	
CO-4	5-Evaluate	3	3		1	2	2								3	
CO-5	2-Understand	1	3												2	
CO-6	2-Understand	1	3												2	
Average		2.33	3.00	1.00	1.00	2.00	2.00	-	-	-	-	-	-	2.00	2.60	-
Weighted off		3	3	1	1	2	2							2	3	

(Strength of Correlation): 3-Strong, 2-Medium, 1-Weak, Keep Blank-if No Correlation

Justification for CO-PO-PSO Mapping.

CO No.	PO/PSO Mapped	Level	Justification of Mapping
CO-1	PO1	3	Strongly the students will be able to apply the knowledge of mathematics and engineering fundamentals to analyze attacks on computers and computer security.
	PO2	3	Strongly the student will be able to identify and review research literature to analyze attacks on computers and computer security.
	PSO1	2	Moderately the student will understand the fundamentals of designing electronics systems for applications like computer attacks and computer security.
CO-2	PO1	3	Strongly the student will be able to demonstrate knowledge of cryptography techniques using principles of mathematics and engineering sciences.
	PO2	3	Strongly the student will be able to identify and review research literature to demonstrate knowledge of cryptographic techniques.
	PO3	1	Slightly the student will be able to design solutions for complex engineering problems that meets the specified needs with appropriate consideration for the public safety using the knowledge of cryptographic techniques.
	PO4	1	Slightly the student will be able to design solutions for complex engineering problems that meets the specified needs with appropriate consideration for the public safety using the knowledge of cryptographic techniques.
	PO5	2	Moderately the student will be able to apply appropriate techniques and IT tools to complex engineering activities using the knowledge of cryptographic techniques with an understanding of the limitations.
	PO6	2	Moderately the student will be able to apply reasoning informed by the contextual knowledge to assess safety and legal issues and the consequent responsibilities relevant to the professional engineering practice using the knowledge of cryptographic techniques.
	PSO2	3	Strongly the student will strengthen the ability to use open source tools for modeling and simulation to solve technical problems using knowledge of cryptographic techniques.
CO-3	PO1	3	Strongly the student will be able to illustrate various symmetric and asymmetric keys for ciphers using principles of mathematics and engineering sciences.
	PO2	3	Strongly the student will be able to identify and review research literature to illustrate various symmetric and asymmetric keys for ciphers.
	PO3	1	Slightly the student will be able to design solutions for complex engineering problems that meets the specified needs with appropriate consideration for the public safety using the knowledge of various symmetric and asymmetric keys for ciphers.
	PO4	1	Slightly the student will be able to design solutions for complex engineering problems that meets the specified needs with appropriate consideration for the public safety using the knowledge of various symmetric and asymmetric keys for ciphers.
	PO5	2	Moderately the student will be able to apply appropriate techniques and IT tools to complex engineering activities using the knowledge of various symmetric and asymmetric keys for ciphers with an understanding of the limitations.
	PO6	2	Moderately the student will be able to apply reasoning informed by the contextual knowledge to assess safety and legal issues and the consequent responsibilities relevant to the professional engineering practice using the knowledge of various symmetric and asymmetric keys for ciphers.
	PSO2	3	Strongly the student will strengthen the ability to use open source tools for modeling and simulation to solve technical problems using knowledge of various symmetric and asymmetric keys for ciphers.
	PO1	3	Strongly the student will be able to apply the knowledge of different message authentication algorithms and Hash functions using principles of mathematics and engineering sciences.
	PO2	3	Strongly the student will be able to identify and review research literature to demonstrate knowledge of different message authentication algorithms and Hash functions.




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 Prof. Sanjay Koli

CO-4	PO4	1	Slightly the student will be able to design solutions for complex engineering problems that meets the specified needs with appropriate consideration for the public safety using the knowledge of different message authentication algorithms and Hash functions.
	PO5	2	Moderately the student will be able to design solutions for complex engineering problems that meets the specified needs with appropriate consideration for the public safety using the knowledge of different message authentication algorithms and Hash functions.
	PO6	2	Moderately the student will be able to apply appropriate techniques and IT tools to complex engineering activities using the knowledge of different message authentication algorithms and Hash functions with an understanding of the limitations.
	PSO2	3	Strongly the student will strengthen the ability to use open source tools for modeling and simulation to solve technical problems using knowledge of various symmetric and asymmetric keys for ciphers.
CO-5	PO1	1	Slightly the students will be able to apply the knowledge of mathematics and engineering fundamentals for getting acquainted with various aspects of E-Mail Security.
	PO3	3	Strongly the student will be able to design solutions for complex engineering problems that meets the specified needs with appropriate consideration for the public safety using the knowledge of various aspects of E-Mail Security.
	PSO2	2	Moderately the student will strengthen the ability to use open source tools for modeling and simulation to solve technical problems using knowledge of various aspects of E-Mail Security.
CO-6	PO1	1	Slightly the students will be able to apply the knowledge of mathematics and engineering fundamentals for getting acquainted with various aspects of Web Security.
	PO3	3	Strongly the student will be able to design solutions for complex engineering problems that meets the specified needs with appropriate consideration for the public safety using the knowledge of various aspects of Web Security.
	PSO2	2	Moderately the student will strengthen the ability to use open source tools for modeling and simulation to solve technical problems using knowledge of various aspects of Web Security.

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Prof. Sanyal Kati



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Department of E&TC Engineering

Dr. D.

Course Outcomes (COs):

Form No. IQAC/36

Academic Year.:2022-23

Semester:01

Subject: Research Methodology

Class:ME- I

Div:

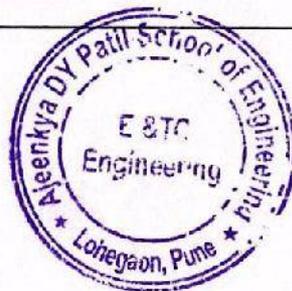
Name of Subject Teacher: Dr. Saniya Ansari

CO No.	BT level	Students will be able to
CO-1	3-Apply	Outline research problem, its scope, objectives and errors
CO-2	2- Understand	Understand basic instrumentation schemes and its data collection methods
CO-3	3-Apply	Learn various statistical techniques
CO-4	3-Apply	Develop model and can predict the performance of experimental system
CO-5	2- Understand	Write research proposals of their own domain
CO-6		

In case if the syllabus doesn't contain 6 COs, the teacher can define CO. The CO must highlight "What the student will be able to do after completion of Unit"



Saniya
Dr. Saniya Ansari
Subject Teacher



Saniya
Dr. Sharan namdar
HoD

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 Department of E&TC Engineering

CO-PO-PSO Mapping

Form No. IQAC/36

Academic Year: 2022-23

Semester:01

Subject: Research Methodology

Class: ME-I Div:

Name of Subject Teacher: Dr. Saniya Ansari

PO CO	BT LEVEL	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	3-Apply	3	2	3	2	2								3	3	3
CO-2	2- Understand	2	3	2			1	1						2	2	3
CO-3	3-Apply	3	2											3	3	
CO-4	3-Apply	3	3											2	2	
CO-5	2- Understand	3	3											3	2	
CO-6	0															
Average		2.80	2.60	2.50	2.00	2.00	1.00	1.00	-	-	-	-	-	2.60	2.40	3.00
Rounded off		3	3	3	2	2	1	1						3	3	3

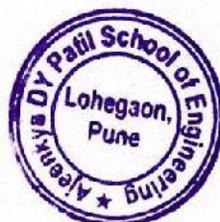
(Strength of Correlation): 3-Strong, 2-Medium, 1-Weak, Keep Blank-if No Correlation

Saniya
 Dr. Saniya Ansari
 Subject Teacher



Saniya
 Dr. Sharani Inamdar
 HoD

[Signature]
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 Engineering, Lohegaon, Pune





Empowerment Through Quality Technical Education

Dr. D. Y. Patil School of Engineering

Dr. D. Y. Patil Knowledge City,
Charholi (Bk), Lohegaon, Pune – 412 105
Website: <https://dypsoe.in/>

Department of Computer Engineering

Course Outcomes (COs):

Form No. IQAC/36

Academic Year.:2021-22

Subject: Computer Networks & Security

Class: T.E

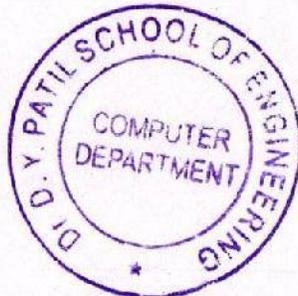
Semester: I

Div: A

Name of Subject Teacher: Prof. Amruta Chitari

CO No.	BT level	Students will be able to
CO-1	2-Understand	Summarize fundamental concepts of computer networks, architectures, protocols and technologies
CO-2	2-Understand	Illustrate the working and functions of data link layer
CO-3	4-Analyze	Analyze the working of different routing protocols and mechanisms
CO-4	3-Apply	Implement client-server applications using sockets
CO-5	2-Understand	Illustrate role of application layer with its protocols, Client-Server architectures
CO-6	2-Understand	Comprehend the basics of information security

Prof. Amruta Chitari
Subject Teacher



Dr. Pankaj Agarkar
HoD

Head of the Department,
Department of Computer Engineering,
Dr. D. Y. Patil School of Engineering
Dr. D. Y. Patil Technical Campus
No. Lohegaon, Charholi Bk, Pune - 412105

Principal
Ajeenkya DY Patil School of
Engineering, Lohegaon, Pune



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Dr. D. Y. Patil School of Engineering

Dr. D. Y. Patil Knowledge City,
Charholi (Bk), Lohegaon, Pune – 412 105

Website: <https://dypsoe.in/>

Department of Computer Engineering

CO-PO-PSO Mapping

Form No. IQAC/36

Academic Year: 21-22

Semester: I

Subject: Computer Networks & Security

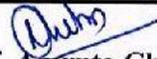
Class: TE

Div: A

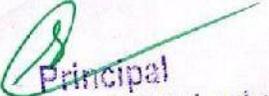
Name of Subject Teacher: Prof. Amruta Chitari

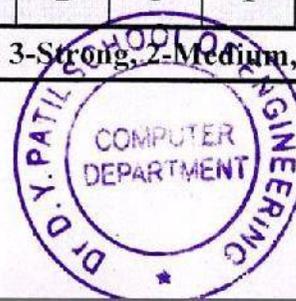
PO	BT LEVEL	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	2-Understand	1		1	2	3	1		1			1	1	1		
CO-2	2-Understand		1		1	1		1			1			1		
CO-3	2-Understand	3		2	1	2							1	1	1	
CO-4	4-Analyze		2	1	2	1							1	1	1	
CO-5	2-Understand	1	3			1		1	1					1	2	
CO-6	2-Understand	1		2	1		1			1		1	1	1		
Average		1.50	2.00	1.50	1.40	1.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	-
Round off		2	2	2	2	2	1	1	1	1	1	1	1	1	2	

(Strength of Correlation): 3-Strong, 2-Medium, 1-Weak, Keep Blank-if No Correlation


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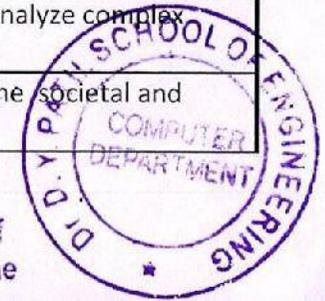


Justification for CO-PO Mapping.

CO No.	PO/PSO Mapped	Level	Justification of Mapping
CO-1	PO1	1	Slightly having the Knowledge of the fundamental concepts of computer networks and its application that helps in solving complex engineering problems
	PO3	1	Slightly the student using the knowledge of computer architecture concepts, we can design and develop solutions for complex engineering problems
	PO4	2	Moderately having Knowledge of Computer network technologies can be used to conduct experiments in real life problems to provide valid conclusions
	PO5	3	Strongly having the Knowledge of the fundamental concepts of Data Structures and its application that helps in solving complex engineering problems
	PO6	1	Slightly mapped as the students, can use different modern tools to modeling to complex engineering activities with an understanding of the limitations.
	PO8	1	Slightly the students, can understand the ethical principals of the using computer network devices in the engineering practice
	PO11	1	Slight knowledge & understanding of the protocol can be applied in multidisciplinary environment
	PO12	1	Slightly having the understanding for the need of CN and have the preparation and ability to life-long learning in the broadest context of technological change
	PSO1	1	Slightly the student will study of fundamental concepts of OSI layer to analyse and develop algorithms and implement them using high-level programming languages.
CO-2	PO1	3	Strongly the student will know Principles of mathematics and engineering sciences are used in various aspects of router architecture, IP & routing algorithm
	PO2	1	Students having marginal Knowledge of the datalink layer that helps in identifying complex engineering problems & solution to it
	PO3	2	Moderately having Knowledge of routing algorithm can be used to conduct experiments in real life problems to provide valid conclusions
	PO4	1	Slightly having Knowledge of flow control in data link layer can be used to conduct experiments in real life problems to provide valid conclusions
	PO5	1	Slightly the students having the knowledge about WAN connectivity & Ethernet standard to analyze complex engineering activities with an understanding of the limitations.
	PO7	1	Slightly the student can understand the use of MAC sublayer, flow control & error control in the societal and environment context.



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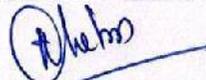


	PO10	1	Slightly the student will become aware of the need for lifelong learning and the continued upgrading of technical knowledge of Computer network data link layer
	PSO1	1	Slightly the student will study of fundamental concepts of Error control to analyse and implement them efficient design of computer-based systems of varying.
	PO1	3	Strongly the student will know Principles of mathematics and engineering sciences are used in various aspects of router architecture , IP & routing algorithm
CO-3	PO2	1	Students having marginal Knowledge of the datalink layer that helps in identifying complex engineering problems & solution to it
	PO3	2	Moderately having Knowledge of routing algorithm can be used to conduct experiments in real life problems to provide valid conclusions
	PO4	1	Slightly having Knowledge of flow control in data link layer can be used to conduct experiments in real life problems to provide valid conclusions
	PO5	1	Slightly the students having the knowledge about WAN connectivity & Ethernet standard to analyze complex engineering activities with an understanding of the limitations.
	PO7	1	Slightly the student can understand the,use of MAC sublayer ,flow control & error control in the ,societal and environment context.
	PO10	1	Slightly the student will become aware of the need for lifelong learning and the continued upgrading of technical knowledge of Computer network data link layer
	PSO1	1	Slightly the student will study of fundamental concepts of Error control to analyse and implement them efficient design of computer-based systems of varying.
CO-4	PO1	3	Strongly the student will know Principles of mathematics and engineering sciences are used in various aspects of router architecture , IP & routing algorithm
	PO3	2	Moderately having Knowledge of routing algorithm can be used to conduct experiments in real life problems to provide valid conclusions
	PO4	1	Slightly having Knowledge students can apply the concept of IP and routing algorithm in networking applications.
	PO5	2	Slightly the students will study different tools used for routing to complex engineering activities can be used to conduct experiments in real life problems to provide valid conclusions
	PO12	1	Slightly the student will become aware of the need for subnetting and the continued upgrading of technical knowledge of IP addressing
	PSO1	1	Slightly the student will have ability to understand, analyze and develop subnetting in the area of computer network for efficient design of computer-based systems of varying.
	PSO2	1	Slightly student Knowledge of routing concepts contribute skills in computing and knowledge engineering domain
	PO2	3	Strongly having the Knowledge of the fundamental concepts of transport layer services that helps in solving complex engineering problems.



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CO-5	PO3	1	Slightly the student having the Knowledge of client-server can design , develop, implement solutions for complex engineering problems.
	PO4	2	Moderately the knowledge of various tool of client -server architecture will help student to design and conduct experiments to provide valid conclusions
	PO5	1	Slightly the students will study different tools used to implement Client Server application using socket
	PO12	1	Moderately the student will become aware of the need for lifelong learning and the continued upgrading of technical knowledge in socket programming
	PSO1	1	Slightly the student will have ability to understand, analyze and develop protocol of TCP in the area of computer network for efficient design .
	PSO2	1	Slightly student Knowledge of concepts contribute skills in computing and knowledge engineering domain of services of TCP & UDP in networking protocols.
CO-6	PO1	1	Slightly mapped as students will be able to understand the principles of the application layer protocol HTTP,FTP,SMTP & DNS
	PO2	3	Strongly mapped as students will be able identify working principles of application layer protocols HTTP , FTP,
	PO5	1	Slightly the students will study different tools used to in application layer
	PO7	1	Slightly the student can understand the use of application layer tool in the societal and environment context.
	PO8	1	Slightly the students will apply secure application protocol to ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
	PSO1	1	Slightly the student will have ability to understand, analyze and develop protocol of Application layer in the area of computer network for efficient design .
PSO2	2	Slightly student Knowledge of concepts contribute skills in computing and knowledge engineering ,principles of application layer protocols fro developing networking applications.	


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CO PO Attainment



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 Chabholi (Bk), Lohagaon, Pune - 412 105
 Website: www.dypsc.edu Contact No: 020-6707 7976
Department of Mechanical Engineering

CO-PO-PSO Attainment

Academic Year: 2021-22
 Subject: MP
 Name of Subject Teacher: Tejaswini Kulkarni

Semester: II

CO No.	Statement of COs	Bloom's Taxonomy	Direct Assessment (Internal) (30%)										Direct Assessment (External) (70%) University Exams				Direct Assessment (DA)		Indirect Assessment (IDA)		CO Attainment	Class SE												Div. A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
			Unit Test (20%)			CA (10%)			Subject Result (40%)		PR/OR/TW (10%)		Mapping of (20% Internal tests) 10% Continuous Assessment + 60% Univ. result (10% 10% Univ. oral result)	Course Exit Survey	Mapping	Weightage (80% DA + 20% IDA)	PO1	PO2	PO3	PO4		PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22	PO23	PO24	PO25	PO26	PO27	PO28	PO29	PO30	PO31	PO32	PO33	PO34	PO35	PO36	PO37	PO38	PO39	PO40	PO41	PO42	PO43	PO44	PO45	PO46	PO47	PO48	PO49	PO50	PO51	PO52	PO53	PO54	PO55	PO56	PO57	PO58	PO59	PO60	PO61	PO62	PO63	PO64	PO65	PO66	PO67	PO68	PO69	PO70	PO71	PO72	PO73	PO74	PO75	PO76	PO77	PO78	PO79	PO80	PO81	PO82	PO83	PO84	PO85	PO86	PO87	PO88	PO89	PO90	PO91	PO92	PO93	PO94	PO95	PO96	PO97	PO98	PO99	PO100	PO101	PO102	PO103	PO104	PO105	PO106	PO107	PO108	PO109	PO110	PO111	PO112	PO113	PO114	PO115	PO116	PO117	PO118	PO119	PO120	PO121	PO122	PO123	PO124	PO125	PO126	PO127	PO128	PO129	PO130	PO131	PO132	PO133	PO134	PO135	PO136	PO137	PO138	PO139	PO140	PO141	PO142	PO143	PO144	PO145	PO146	PO147	PO148	PO149	PO150	PO151	PO152	PO153	PO154	PO155	PO156	PO157	PO158	PO159	PO160	PO161	PO162	PO163	PO164	PO165	PO166	PO167	PO168	PO169	PO170	PO171	PO172	PO173	PO174	PO175	PO176	PO177	PO178	PO179	PO180	PO181	PO182	PO183	PO184	PO185	PO186	PO187	PO188	PO189	PO190	PO191	PO192	PO193	PO194	PO195	PO196	PO197	PO198	PO199	PO200	PO201	PO202	PO203	PO204	PO205	PO206	PO207	PO208	PO209	PO210	PO211	PO212	PO213	PO214	PO215	PO216	PO217	PO218	PO219	PO220	PO221	PO222	PO223	PO224	PO225	PO226	PO227	PO228	PO229	PO230	PO231	PO232	PO233	PO234	PO235	PO236	PO237	PO238	PO239	PO240	PO241	PO242	PO243	PO244	PO245	PO246	PO247	PO248	PO249	PO250	PO251	PO252	PO253	PO254	PO255	PO256	PO257	PO258	PO259	PO260	PO261	PO262	PO263	PO264	PO265	PO266	PO267	PO268	PO269	PO270	PO271	PO272	PO273	PO274	PO275	PO276	PO277	PO278	PO279	PO280	PO281	PO282	PO283	PO284	PO285	PO286	PO287	PO288	PO289	PO290	PO291	PO292	PO293	PO294	PO295	PO296	PO297	PO298	PO299	PO300	PO301	PO302	PO303	PO304	PO305	PO306	PO307	PO308	PO309	PO310	PO311	PO312	PO313	PO314	PO315	PO316	PO317	PO318	PO319	PO320	PO321	PO322	PO323	PO324	PO325	PO326	PO327	PO328	PO329	PO330	PO331	PO332	PO333	PO334	PO335	PO336	PO337	PO338	PO339	PO340	PO341	PO342	PO343	PO344	PO345	PO346	PO347	PO348	PO349	PO350	PO351	PO352	PO353	PO354	PO355	PO356	PO357	PO358	PO359	PO360	PO361	PO362	PO363	PO364	PO365	PO366	PO367	PO368	PO369	PO370	PO371	PO372	PO373	PO374	PO375	PO376	PO377	PO378	PO379	PO380	PO381	PO382	PO383	PO384	PO385	PO386	PO387	PO388	PO389	PO390	PO391	PO392	PO393	PO394	PO395	PO396	PO397	PO398	PO399	PO400	PO401	PO402	PO403	PO404	PO405	PO406	PO407	PO408	PO409	PO410	PO411	PO412	PO413	PO414	PO415	PO416	PO417	PO418	PO419	PO420	PO421	PO422	PO423	PO424	PO425	PO426	PO427	PO428	PO429	PO430	PO431	PO432	PO433	PO434	PO435	PO436	PO437	PO438	PO439	PO440	PO441	PO442	PO443	PO444	PO445	PO446	PO447	PO448	PO449	PO450	PO451	PO452	PO453	PO454	PO455	PO456	PO457	PO458	PO459	PO460	PO461	PO462	PO463	PO464	PO465	PO466	PO467	PO468	PO469	PO470	PO471	PO472	PO473	PO474	PO475	PO476	PO477	PO478	PO479	PO480	PO481	PO482	PO483	PO484	PO485	PO486	PO487	PO488	PO489	PO490	PO491	PO492	PO493	PO494	PO495	PO496	PO497	PO498	PO499	PO500	PO501	PO502	PO503	PO504	PO505	PO506	PO507	PO508	PO509	PO510	PO511	PO512	PO513	PO514	PO515	PO516	PO517	PO518	PO519	PO520	PO521	PO522	PO523	PO524	PO525	PO526	PO527	PO528	PO529	PO530	PO531	PO532	PO533	PO534	PO535	PO536	PO537	PO538	PO539	PO540	PO541	PO542	PO543	PO544	PO545	PO546	PO547	PO548	PO549	PO550	PO551	PO552	PO553	PO554	PO555	PO556	PO557	PO558	PO559	PO560	PO561	PO562	PO563	PO564	PO565	PO566	PO567	PO568	PO569	PO570	PO571	PO572	PO573	PO574	PO575	PO576	PO577	PO578	PO579	PO580	PO581	PO582	PO583	PO584	PO585	PO586	PO587	PO588	PO589	PO590	PO591	PO592	PO593	PO594	PO595	PO596	PO597	PO598	PO599	PO600	PO601	PO602	PO603	PO604	PO605	PO606	PO607	PO608	PO609	PO610	PO611	PO612	PO613	PO614	PO615	PO616	PO617	PO618	PO619	PO620	PO621	PO622	PO623	PO624	PO625	PO626	PO627	PO628	PO629	PO630	PO631	PO632	PO633	PO634	PO635	PO636	PO637	PO638	PO639	PO640	PO641	PO642	PO643	PO644	PO645	PO646	PO647	PO648	PO649	PO650	PO651	PO652	PO653	PO654	PO655	PO656	PO657	PO658	PO659	PO660	PO661	PO662	PO663	PO664	PO665	PO666	PO667	PO668	PO669	PO670	PO671	PO672	PO673	PO674	PO675	PO676	PO677	PO678	PO679	PO680	PO681	PO682	PO683	PO684	PO685	PO686	PO687	PO688	PO689	PO690	PO691	PO692	PO693	PO694	PO695	PO696	PO697	PO698	PO699	PO700	PO701	PO702	PO703	PO704	PO705	PO706	PO707	PO708	PO709	PO710	PO711	PO712	PO713	PO714	PO715	PO716	PO717	PO718	PO719	PO720	PO721	PO722	PO723	PO724	PO725	PO726	PO727	PO728	PO729	PO730	PO731	PO732	PO733	PO734	PO735	PO736	PO737	PO738	PO739	PO740	PO741	PO742	PO743	PO744	PO745	PO746	PO747	PO748	PO749	PO750	PO751	PO752	PO753	PO754	PO755	PO756	PO757	PO758	PO759	PO760	PO761	PO762	PO763	PO764	PO765	PO766	PO767	PO768	PO769	PO770	PO771	PO772	PO773	PO774	PO775	PO776	PO777	PO778	PO779	PO780	PO781	PO782	PO783	PO784	PO785	PO786	PO787	PO788	PO789	PO790	PO791	PO792	PO793	PO794	PO795	PO796	PO797	PO798	PO799	PO800	PO801	PO802	PO803	PO804	PO805	PO806	PO807	PO808	PO809	PO810	PO811	PO812	PO813	PO814	PO815	PO816	PO817	PO818	PO819	PO820	PO821	PO822	PO823	PO824	PO825	PO826	PO827	PO828	PO829	PO830	PO831	PO832	PO833	PO834	PO835	PO836	PO837	PO838	PO839	PO840	PO841	PO842	PO843	PO844	PO845	PO846	PO847	PO848	PO849	PO850	PO851	PO852	PO853	PO854	PO855	PO856	PO857	PO858	PO859	PO860	PO861	PO862	PO863	PO864	PO865	PO866	PO867	PO868	PO869	PO870	PO871	PO872	PO873	PO874	PO875	PO876	PO877	PO878	PO879	PO880	PO881	PO882	PO883	PO884	PO885	PO886	PO887	PO888	PO889	PO890	PO891	PO892	PO893	PO894	PO895	PO896	PO897	PO898	PO899	PO900	PO901	PO902	PO903	PO904	PO905	PO906	PO907	PO908	PO909	PO910	PO911	PO912	PO913	PO914	PO915	PO916	PO917	PO918	PO919	PO920	PO921	PO922	PO923	PO924	PO925	PO926	PO927	PO928	PO929	PO930	PO931	PO932	PO933	PO934	PO935	PO936	PO937	PO938	PO939	PO940	PO941	PO942	PO943	PO944	PO945	PO946	PO947	PO948	PO949	PO950	PO951	PO952	PO953	PO954	PO955	PO956	PO957	PO958	PO959	PO960	PO961	PO962	PO963	PO964	PO965	PO966	PO967	PO968	PO969	PO970	PO971	PO972	PO973	PO974	PO975	PO976	PO977	PO978	PO979	PO980	PO981	PO982	PO983	PO984	PO985	PO986	PO987	PO988	PO989	PO990	PO991	PO992	PO993	PO994	PO995	PO996	PO997	PO998	PO999	PO1000	PO1001	PO1002	PO1003	PO1004	PO1005	PO1006	PO1007	PO1008	PO1009	PO1010	PO1011	PO1012	PO1013	PO1014	PO1015	PO1016	PO1017	PO1018	PO1019	PO1020	PO1021	PO1022	PO1023	PO1024	PO1025	PO1026	PO1027	PO1028	PO1029	PO1030	PO1031	PO1032	PO1033	PO1034	PO1035	PO1036	PO1037	PO1038	PO1039	PO1040	PO1041	PO1042	PO1043	PO1044	PO1045	PO1046	PO1047	PO1048	PO1049	PO1050	PO1051	PO1052	PO1053	PO1054	PO1055	PO1056	PO1057	PO1058	PO1059	PO1060	PO1061	PO1062	PO1063	PO1064	PO1065	PO1066	PO1067	PO1068	PO1069	PO1070	PO1071	PO1072	PO1073	PO1074	PO1075	PO1076	PO1077	PO1078	PO1079	PO1080	PO1081	PO1082	PO1083	PO1084	PO1085	PO1086	PO1087	PO1088	PO1089	PO1090	PO1091	PO1092	PO1093	PO1094	PO1095	PO1096	PO1097	PO1098	PO1099	PO1100	PO1101	PO1102	PO1103	PO1104	PO1105	PO1106	PO1107	PO1108	PO1109	PO1110	PO1111	PO1112	PO1113	PO1114	PO1115	PO1116	PO1117	PO1118	PO1119	PO1120	PO1121	PO1122	PO1123	PO1124	PO1125	PO1126	PO1127	PO1128	PO1129	PO1130	PO1131	PO1132	PO1133	PO1134	PO1135	PO1136	PO1137	PO1138	PO1139	PO1140	PO1141	PO1142	PO1143	PO1144	PO1145	PO1146	PO1147	PO1148	PO1149	PO1150	PO1151	PO1152	PO1153	PO1154	PO1155	PO1156	PO1157	PO1158	PO1159	PO1160	PO1161	PO1162	PO1163	PO1164	PO1165	PO1166	PO1167	PO1168	PO1169	PO1170	PO1171	PO1172	PO1173	PO1174	PO1175	PO1176	PO1177	PO1178	PO1179	PO1180	PO1181	PO1182	PO1183	PO1184	PO1185	PO1186	PO1187	PO1188	PO1189	PO1190	PO1191	PO1192	PO1193	PO1194	PO1195	PO1196	PO1197	PO1198	PO1199	PO1200	PO1201	PO1202	PO1203	PO1204	PO1205	PO1206	PO1207	PO1208	PO1209	PO1210	PO1211	PO1212	PO1213	PO1214	PO1215	PO1216	PO1217	PO1218	PO1219	PO1220	PO1221	PO1222	PO1223	PO1224	PO1225	PO1226	PO1227	PO1228	PO1229	PO1230	PO1231	PO1232	PO1233	PO1234	PO1235	PO1236	PO1237	PO1238	PO1239	PO1240	PO1241	PO1242	PO1243	PO1244	PO1245	PO1246	PO1247	PO1248	PO1249	PO1250	PO1251	PO1252	PO1253	PO1254	PO1255	PO1256	PO1257	PO1258	PO1259	PO1260	PO1261	PO1262	PO1263	PO1264	PO1265	PO1266	PO1267	PO1268	PO1269	PO1270	PO1271	PO1272	PO1273	PO1274	PO1275	PO1276	PO1277	PO1278	PO1279	PO1



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 Chafhol (B), Lohegaon, Pune - 412 105

Department of First Year Engineering

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 Website: <https://dyse.edu/>

CO-PO-PSO Attainment

Form No./QAC/26

Academic Year: 2021-22

Subject: Engineering Mathematics - II

Name of Subject Teacher: Dr. S.M.Khairnar

Semester: II

CO No.	Statement of COs	Exam Taxonomy	Direct Assessment (Internal) (50%)						Direct Assessment (External) (20%) University Exams				Direct Assessment (DA)		Indirect Assessment (IDA)	CO Attainment	Class EE												Div C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
			Unit Test: (25%)				CA (15%)		Subject Result (60%)		PRC/UTW (10%)		Mapping of COs Internal Tests-40% Continuous Assessment-40% UNIVERSITY-10% Unit and result	Course Exit Survey			Mapping	Weightage (60% DA+ 20% IDA)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22	PO23	PO24	PO25	PO26	PO27	PO28	PO29	PO30	PO31	PO32	PO33	PO34	PO35	PO36	PO37	PO38	PO39	PO40	PO41	PO42	PO43	PO44	PO45	PO46	PO47	PO48	PO49	PO50	PO51	PO52	PO53	PO54	PO55	PO56	PO57	PO58	PO59	PO60	PO61	PO62	PO63	PO64	PO65	PO66	PO67	PO68	PO69	PO70	PO71	PO72	PO73	PO74	PO75	PO76	PO77	PO78	PO79	PO80	PO81	PO82	PO83	PO84	PO85	PO86	PO87	PO88	PO89	PO90	PO91	PO92	PO93	PO94	PO95	PO96	PO97	PO98	PO99	PO100	PO101	PO102	PO103	PO104	PO105	PO106	PO107	PO108	PO109	PO110	PO111	PO112	PO113	PO114	PO115	PO116	PO117	PO118	PO119	PO120	PO121	PO122	PO123	PO124	PO125	PO126	PO127	PO128	PO129	PO130	PO131	PO132	PO133	PO134	PO135	PO136	PO137	PO138	PO139	PO140	PO141	PO142	PO143	PO144	PO145	PO146	PO147	PO148	PO149	PO150	PO151	PO152	PO153	PO154	PO155	PO156	PO157	PO158	PO159	PO160	PO161	PO162	PO163	PO164	PO165	PO166	PO167	PO168	PO169	PO170	PO171	PO172	PO173	PO174	PO175	PO176	PO177	PO178	PO179	PO180	PO181	PO182	PO183	PO184	PO185	PO186	PO187	PO188	PO189	PO190	PO191	PO192	PO193	PO194	PO195	PO196	PO197	PO198	PO199	PO200	PO201	PO202	PO203	PO204	PO205	PO206	PO207	PO208	PO209	PO210	PO211	PO212	PO213	PO214	PO215	PO216	PO217	PO218	PO219	PO220	PO221	PO222	PO223	PO224	PO225	PO226	PO227	PO228	PO229	PO230	PO231	PO232	PO233	PO234	PO235	PO236	PO237	PO238	PO239	PO240	PO241	PO242	PO243	PO244	PO245	PO246	PO247	PO248	PO249	PO250	PO251	PO252	PO253	PO254	PO255	PO256	PO257	PO258	PO259	PO260	PO261	PO262	PO263	PO264	PO265	PO266	PO267	PO268	PO269	PO270	PO271	PO272	PO273	PO274	PO275	PO276	PO277	PO278	PO279	PO280	PO281	PO282	PO283	PO284	PO285	PO286	PO287	PO288	PO289	PO290	PO291	PO292	PO293	PO294	PO295	PO296	PO297	PO298	PO299	PO300	PO301	PO302	PO303	PO304	PO305	PO306	PO307	PO308	PO309	PO310	PO311	PO312	PO313	PO314	PO315	PO316	PO317	PO318	PO319	PO320	PO321	PO322	PO323	PO324	PO325	PO326	PO327	PO328	PO329	PO330	PO331	PO332	PO333	PO334	PO335	PO336	PO337	PO338	PO339	PO340	PO341	PO342	PO343	PO344	PO345	PO346	PO347	PO348	PO349	PO350	PO351	PO352	PO353	PO354	PO355	PO356	PO357	PO358	PO359	PO360	PO361	PO362	PO363	PO364	PO365	PO366	PO367	PO368	PO369	PO370	PO371	PO372	PO373	PO374	PO375	PO376	PO377	PO378	PO379	PO380	PO381	PO382	PO383	PO384	PO385	PO386	PO387	PO388	PO389	PO390	PO391	PO392	PO393	PO394	PO395	PO396	PO397	PO398	PO399	PO400	PO401	PO402	PO403	PO404	PO405	PO406	PO407	PO408	PO409	PO410	PO411	PO412	PO413	PO414	PO415	PO416	PO417	PO418	PO419	PO420	PO421	PO422	PO423	PO424	PO425	PO426	PO427	PO428	PO429	PO430	PO431	PO432	PO433	PO434	PO435	PO436	PO437	PO438	PO439	PO440	PO441	PO442	PO443	PO444	PO445	PO446	PO447	PO448	PO449	PO450	PO451	PO452	PO453	PO454	PO455	PO456	PO457	PO458	PO459	PO460	PO461	PO462	PO463	PO464	PO465	PO466	PO467	PO468	PO469	PO470	PO471	PO472	PO473	PO474	PO475	PO476	PO477	PO478	PO479	PO480	PO481	PO482	PO483	PO484	PO485	PO486	PO487	PO488	PO489	PO490	PO491	PO492	PO493	PO494	PO495	PO496	PO497	PO498	PO499	PO500	PO501	PO502	PO503	PO504	PO505	PO506	PO507	PO508	PO509	PO510	PO511	PO512	PO513	PO514	PO515	PO516	PO517	PO518	PO519	PO520	PO521	PO522	PO523	PO524	PO525	PO526	PO527	PO528	PO529	PO530	PO531	PO532	PO533	PO534	PO535	PO536	PO537	PO538	PO539	PO540	PO541	PO542	PO543	PO544	PO545	PO546	PO547	PO548	PO549	PO550	PO551	PO552	PO553	PO554	PO555	PO556	PO557	PO558	PO559	PO560	PO561	PO562	PO563	PO564	PO565	PO566	PO567	PO568	PO569	PO570	PO571	PO572	PO573	PO574	PO575	PO576	PO577	PO578	PO579	PO580	PO581	PO582	PO583	PO584	PO585	PO586	PO587	PO588	PO589	PO590	PO591	PO592	PO593	PO594	PO595	PO596	PO597	PO598	PO599	PO600	PO601	PO602	PO603	PO604	PO605	PO606	PO607	PO608	PO609	PO610	PO611	PO612	PO613	PO614	PO615	PO616	PO617	PO618	PO619	PO620	PO621	PO622	PO623	PO624	PO625	PO626	PO627	PO628	PO629	PO630	PO631	PO632	PO633	PO634	PO635	PO636	PO637	PO638	PO639	PO640	PO641	PO642	PO643	PO644	PO645	PO646	PO647	PO648	PO649	PO650	PO651	PO652	PO653	PO654	PO655	PO656	PO657	PO658	PO659	PO660	PO661	PO662	PO663	PO664	PO665	PO666	PO667	PO668	PO669	PO670	PO671	PO672	PO673	PO674	PO675	PO676	PO677	PO678	PO679	PO680	PO681	PO682	PO683	PO684	PO685	PO686	PO687	PO688	PO689	PO690	PO691	PO692	PO693	PO694	PO695	PO696	PO697	PO698	PO699	PO700	PO701	PO702	PO703	PO704	PO705	PO706	PO707	PO708	PO709	PO710	PO711	PO712	PO713	PO714	PO715	PO716	PO717	PO718	PO719	PO720	PO721	PO722	PO723	PO724	PO725	PO726	PO727	PO728	PO729	PO730	PO731	PO732	PO733	PO734	PO735	PO736	PO737	PO738	PO739	PO740	PO741	PO742	PO743	PO744	PO745	PO746	PO747	PO748	PO749	PO750	PO751	PO752	PO753	PO754	PO755	PO756	PO757	PO758	PO759	PO760	PO761	PO762	PO763	PO764	PO765	PO766	PO767	PO768	PO769	PO770	PO771	PO772	PO773	PO774	PO775	PO776	PO777	PO778	PO779	PO780	PO781	PO782	PO783	PO784	PO785	PO786	PO787	PO788	PO789	PO790	PO791	PO792	PO793	PO794	PO795	PO796	PO797	PO798	PO799	PO800	PO801	PO802	PO803	PO804	PO805	PO806	PO807	PO808	PO809	PO810	PO811	PO812	PO813	PO814	PO815	PO816	PO817	PO818	PO819	PO820	PO821	PO822	PO823	PO824	PO825	PO826	PO827	PO828	PO829	PO830	PO831	PO832	PO833	PO834	PO835	PO836	PO837	PO838	PO839	PO840	PO841	PO842	PO843	PO844	PO845	PO846	PO847	PO848	PO849	PO850	PO851	PO852	PO853	PO854	PO855	PO856	PO857	PO858	PO859	PO860	PO861	PO862	PO863	PO864	PO865	PO866	PO867	PO868	PO869	PO870	PO871	PO872	PO873	PO874	PO875	PO876	PO877	PO878	PO879	PO880	PO881	PO882	PO883	PO884	PO885	PO886	PO887	PO888	PO889	PO890	PO891	PO892	PO893	PO894	PO895	PO896	PO897	PO898	PO899	PO900	PO901	PO902	PO903	PO904	PO905	PO906	PO907	PO908	PO909	PO910	PO911	PO912	PO913	PO914	PO915	PO916	PO917	PO918	PO919	PO920	PO921	PO922	PO923	PO924	PO925	PO926	PO927	PO928	PO929	PO930	PO931	PO932	PO933	PO934	PO935	PO936	PO937	PO938	PO939	PO940	PO941	PO942	PO943	PO944	PO945	PO946	PO947	PO948	PO949	PO950	PO951	PO952	PO953	PO954	PO955	PO956	PO957	PO958	PO959	PO960	PO961	PO962	PO963	PO964	PO965	PO966	PO967	PO968	PO969	PO970	PO971	PO972	PO973	PO974	PO975	PO976	PO977	PO978	PO979	PO980	PO981	PO982	PO983	PO984	PO985	PO986	PO987	PO988	PO989	PO990	PO991	PO992	PO993	PO994	PO995	PO996	PO997	PO998	PO999	PO1000	PO1001	PO1002	PO1003	PO1004	PO1005	PO1006	PO1007	PO1008	PO1009	PO1010	PO1011	PO1012	PO1013	PO1014	PO1015	PO1016	PO1017	PO1018	PO1019	PO1020	PO1021	PO1022	PO1023	PO1024	PO1025	PO1026	PO1027	PO1028	PO1029	PO1030	PO1031	PO1032	PO1033	PO1034	PO1035	PO1036	PO1037	PO1038	PO1039	PO1040	PO1041	PO1042	PO1043	PO1044	PO1045	PO1046	PO1047	PO1048	PO1049	PO1050	PO1051	PO1052	PO1053	PO1054	PO1055	PO1056	PO1057	PO1058	PO1059	PO1060	PO1061	PO1062	PO1063	PO1064	PO1065	PO1066	PO1067	PO1068	PO1069	PO1070	PO1071	PO1072	PO1073	PO1074	PO1075	PO1076	PO1077	PO1078	PO1079	PO1080	PO1081	PO1082	PO1083	PO1084	PO1085	PO1086	PO1087	PO1088	PO1089	PO1090	PO1091	PO1092	PO1093	PO1094	PO1095	PO1096	PO1097	PO1098	PO1099	PO1100	PO1101	PO1102	PO1103	PO1104	PO1105	PO1106	PO1107	PO1108	PO1109	PO1110	PO1111	PO1112	PO1113	PO1114	PO1115	PO1116	PO1117	PO1118	PO1119	PO1120	PO1121	PO1122	PO1123	PO1124	PO1125	PO1126	PO1127	PO1128	PO1129	PO1130	PO1131	PO1132	PO1133	PO1134	PO1135	PO1136	PO1137	PO1138	PO1139	PO1140	PO1141	PO1142	PO1143	PO1144	PO1145	PO1146	PO1147	PO1148	PO1149	PO1150	PO1151	PO1152	PO1153	PO1154	PO1155	PO1156	PO1157	PO1158	PO1159	PO1160	PO1161	PO1162	PO1163	PO1164	PO1165	PO1166	PO1167	PO1168	PO1169	PO1170	PO1171	PO1172	PO1173	PO1174	PO1175	PO1176	PO1177	PO1178	PO1179	PO1180	PO1181	PO1182	PO1183	PO1184	PO1185	PO1186	PO1187	PO1188	PO1189	PO1190	PO1191	PO1192	PO1193	PO1194	PO1195	PO1196	PO1197	PO1198	PO1199	PO1200	PO1201	PO1202	PO1203	PO1204	PO1205	PO1206	PO1207	PO1208	PO1209	PO1210	PO1211	PO1212	PO1213	PO1214	PO1215	PO1216	PO1217	PO1218	PO1219	PO1220	PO1221	PO1222	PO1223	PO1224	PO1225	PO1226	PO1227	PO1228	PO1229	PO1230	PO1231	PO1232	PO1233	PO1234	PO1235	PO1236	PO1237	PO1238	PO1239	PO1240	PO1241	PO1242	PO1243	PO1244	PO1245	PO1246	PO1247	PO1248	PO1249	PO1250	PO1251	PO1252	PO1253	PO1254	PO1255	PO1256	PO1257	PO1258	PO1259	PO1260	PO1261	PO1262	PO1

Academic Year: 2022-23

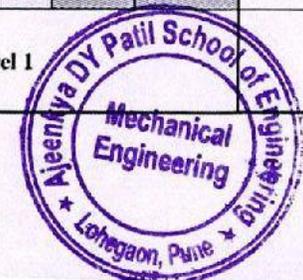
Subject: Heating Ventillation and air conditioning

Name of Subject Teacher: Prof.Thombare R S

CO No.	Statement of COs	Blooms Taxonomy	Direct Assesment (Internal) (30%)						Direct Assesment (External) (70%) University Exams				Direct Assessment (DA) Mapping of (20% Internal tests+10% Continuous Assessment +60% Univ result(TI))+ 10% Univ oral result	Indirect Assessment (IDA)		CO Attainment Weightage (80% DA+ 20% IDA)	
			Unit Test (20%)					CA (10%)		Subject Result (60%)		PR/OR/TW (10%)		Course Exit Survey	Mapping		
			Summative Test	UT1	UT 2	UT 3	Mapping	CA	Mapping	% result of Sub.	Mapping	% Result of PR / OR / TW					Mapping
CO-1	ANALYSE different air-craft refrigeration systems and EXPLAIN the properties, applications and environmental issues of different refrigerants.	5-Determine	95.16				3.0	80.69	3	63.00	3.0	100.00	3.0	3.00	84.95	3.0	3.00
CO-2	ANALYSE multi pressure refrigeration system used for refrigeration applications.	4-Analyze		96.61			3.0	80.69	3	63.00	3.0	100.00	3.0	3.0	88.17	3.0	3.00
CO-3	DISCUSS types of compressors, condensers, evaporators and expansion valves along with regulatory and safety controls and DESCRIBE Transcritical and ejector refrigeration systems.	3 -Apply			89.83		3.0	80.69	3	63.00	3.0	100.00	3.0	3.0	94.09	3.0	3.00
CO-4	ESTIMATE cooling load for air conditioning systems used with concern of design conditions and indoor quality of air.	5-Determine			88.14		3.0	80.69	3	63.00	3.0	100.00	3.0	3.0	90.32	3.0	3.00
CO-5	DESIGN air distribution system along with consideration of ventilation and infiltration.	5-Estimate			83.87		3.0	80.69	3	63.00	3.0	100.00	3.0	3.0	89.25	3.0	3.00
CO-6	EXPLAIN the working of types of desiccants, evaporative, thermal storage, radiant cooling, clean room and heat pump systems.	2-Describe			98.31		3.0	80.69	3	63.00	3.0	100.00	3.0	3.0	93.54	3.0	3.00
Mapping Criterias →			Marks >=60: Level 3 Marks >=50: Level 2 Marks >=40: Level 1														




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CO-PO-PSO Attainment

Form No. IQAC/36

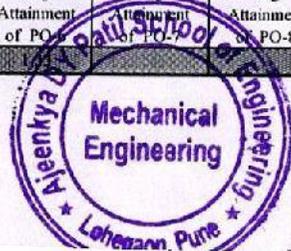
Semester: I

Class: BE

Div: I

Assessment A)	CO Attainment	PO1	Attainment	PO2	Attainment	PO3	Attainment	PO4	Attainment	PO5	Attainment	PO6	Attainment	PO7	Attainment	PO8	Attainment	PO9	Attainment	PO10	Attainment	PO11	Attainment	PO12	Attainment	PSO1	Attainment	PSO2	Attainment	PSO3	Attainment
Mapping	Weightage (80% DA+ 20% IDA)																														
3.0	3.00	3	3	2	2	1	1	1	1			1	1											2	2	1	1				
3.0	3.00	3	3	2	2	1	1	1	1															2	2	1	1				
3.0	3.00	3	3	2	2	1	1	1	1															2	2	1	1				
3.0	3.00	3	3	2	2	1	1	1	1															2	2	2	2				
3.0	3.00	3	3	2	2	2	2					2	2											2	2	1	1				
3.0	3.00	3	3	2	2	2	2	2	2			1	1											2	2	1	1				
		Avg. Attainment of PO-1		Avg. Attainment of PO-2		Avg. Attainment of PO-3		Avg. Attainment of PO-4		Avg. Attainment of PO-5		Avg. Attainment of PO-6		Avg. Attainment of PO-7		Avg. Attainment of PO-8		Avg. Attainment of PO-9		Avg. Attainment of PO-10		Avg. Attainment of PO-11		Avg. Attainment of PO-12		Avg. Attainment of PSO-1		Avg. Attainment of PSO-2		Avg. Attainment of PSO-3	
		3.00		2.00		1.33		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		2.00		1.17					

Prof. Thorbaze R S



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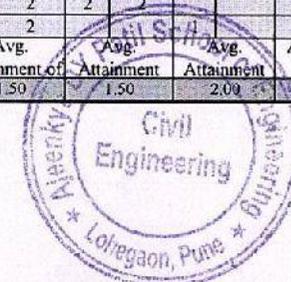
HOD
Mechanical Engg

**Summary Sheet of CO PO
Attainment**



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CIVIL ENGINEERING DEPARTMENT

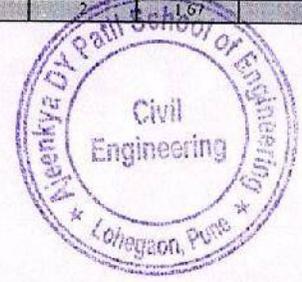
Sr. No.	Class (Div) & Subject	CO No.	CO Attainment	PO1	Attainment	PO2	Attainment	PO3	Attainment	PO4	Attainment	PO5	Attainment	PO6	Attainment	PO7	Attainment	PO8	Attainment	PO9	Attainment	PO10	Attainment	PO11	Attainment	PO12	Attainment	PSO1	Attainment	PSO2	Attainment	PSO3	Attainment	
1	SE (A) BTAP	CO-1	1.56	2	2	3	2	2	2	1	1					2	2						2	2			2	2	1	1				
		CO-2	1.4	2	2	3	2	2	1			1	1																	3	2			
		CO-3	1.56	2	2	3	2				3	2	3	2												1	1	2	2	1	1	2		
		CO-4	1.56	2	2	3	2	2	2	2	2	2	2		2	2															3			
		CO-5	1.56	2	2	3	2			3	2	2	2	2				2	2											1	1	2	2	
		CO-6	1.08	2	2	3	2			3	2						1	1					2	1							2	1		
		Avg. Attainment of PO																																
Avg. Attainment of PO-7			2		2		1.8		1.66666667		2		1.66666667							1		2		1		2		1.25		2		1.666667		
2	SE (A) MOS	CO-1	1.56	2	2	3	2	2	2	1	1					2	2						2	2			2	2	1	1				
		CO-2	1.4	2	1	1	1	2	1			1	1																					
		CO-3	1.56	2	2	3	2			3					2																			
		CO-4	1.56	2	2	2	2	2	3						2	2			3	2			2	2							3			
		CO-5	1.56	2				2	2	2	2	3	2					2	2					1							1			
		CO-6	1.08	2	2	3	2			3	2										1	1	2	1							2			
		Avg. Attainment of PO																																
Avg. Attainment of PO-7			1.75		1.75		2.20		1.50		1.50		2.00		2.00		1.67		1.00		2.00		2.00		2.00		2.00		1.00					
3	SE (A) PM	CO-1	3	2	3	3	3			1	1					2	2										2	2	1	1				
		CO-2	2.84	2	1	1	1	2	2			1	1																					
		CO-3	3	2	3	3	3		3						2																			
		CO-4	3	2	2	2	2	2	3						2	2															3			
		CO-5	3	2				2	2					3	3			2	2											1		1	1	
		CO-6	2.52	2	2	3	2			3	3				1																2			
		Avg. Attainment of PO																																
Avg. Attainment of PO-7			2.25		2.25		2.50		1.00		2.00		2.00		2.00		2.00		1.00		2.00		2.00		2.00		2.00		1.00					
4	SE (A) FM	CO-1	1.56	3	2	2	2	1	1					2	2												2	2	1	1				
		CO-2	1.4	3	2	2	1			1	1					2	1												3	2				
		CO-3	1.56	3	2					3	2								2	2							1	1	2	2	1	1		
		CO-4	1.56	3	2	2	2	2	2			2	2				3	2												3	2	2	2	
		CO-5	1.56	3	2			2	2	2	2				2	2											2	2	2	2	1	1		
		CO-6	1.08	3	2			3	2						1	1														2	1			
		Avg. Attainment of PO																																
Avg. Attainment of PO-7			2		1.67		1.75		1.67		2		1.67		1.5		2		1.67		2		1.5		2		1.33		2		1.67			
5	SE (A) MIII	CO-1	1.56	2	2	3	2	2	2	1	1					2	2										2	2	1	1				
		CO-2	1.4	2	1	1	1	2	1			1	1																	3	2			
		CO-3	1.56	2			2	2		3																				2	2	1		
		CO-4	1.56	2			2	2	2						2	2														2	2	1		
		CO-5	1.56	2			2	2	2		2	2	2	2			2	2												2	2	1	1	
		CO-6	1.08	2			2			3	2																				2	1		
		Avg. Attainment of PO																																
Avg. Attainment of PO-7			1.75		1.5		2.00		1.50		1.50		2.00		2.00		2.00		1.00		2.00		1.67		2.00		1.33		2.00		1.67			



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 Civil Engineering
 Ajeenkya DY Patil School of Engineering, Lohegaon, Pune

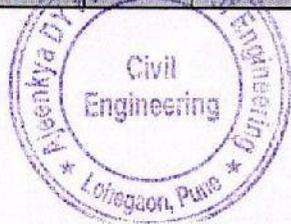
Sr. No.	Class (Div) & Subject	CO No.	O Attainment	PO1 Attainment	PO2 Attainment	PO3 Attainment	PO4 Attainment	PO5 Attainment	PO6 Attainment	PO7 Attainment	PO8 Attainment	PO9 Attainment	PO10 Attainment	PO11 Attainment	PO12 Attainment	PSO1 Attainment	PSO2 Attainment	PSO3 Attainment				
1	TE A HWRE	CO-1	2.52	3	3	2	2	1	1				2	2								
		CO-2	2.36	3	3	2	2			1	1			2	2							
		CO-3	2.52	3	3					3	3											
		CO-4	2.52	3	3	2	2	2	2			2	2			1	1	2	2	1	1	
		CO-5	2.52	3	3			2	2	2	2		3	3			2	2	1	1	1	1
		CO-6	2.04	3	3			3	3							2	2	2	2	2	2	
			3.00	2.00	2.00	2.00	2.00	2.00	1.67	2.50	2.00	2.33	2.00	1.50	2.00	1.83	1.67	2.00				
2	TE A DSS	CO-1	3	2	3	3	3	2	2	1	1											
		CO-2	2.84	2	3	3	3	2	2			1	1					1	1			
		CO-3	3	2	3	3	3												3	3		
		CO-4	3	2	2	2	2	2			2								2	3		
		CO-5	3	2	3	1	3			3		2	2						1	1		
		CO-6	2.52	2	3	3	3	2	2	3	3			1	1		2		1	2		
			2.80	2.80	2.33	1.50	1.50	1.50	2.00	2.00				2.00	1.00	2.00	1.67	2.00				
3	TE A EEFM	CO-1	2.52	3	2	3	3	3	2	2	1	1										
		CO-2	2.36	2.84	2	3	3	3	2	2												
		CO-3	2.52	3	2	3	3	3				3										
		CO-4	2.52	3	2	2	2	2	2										3	1		
		CO-5	2.52	3	2	3	1	3			3									3		
		CO-6	2.04	2.52	2	3	3	3	2	2	3	3								1	1	
			2	1.67	1.75	1.67	2	1.67	1.5	2	1.67	2	1.5	2	1.33	1.67	2.00					
4	TE A CM	CO-1	2.52	3	2	2	2	1	1				2	2								
		CO-2	2.36	3	2	2	1			1	1											
		CO-3	2.52	3	2					3	2											
		CO-4	2.52	3	2	2	2	2	2			2	2			1	1	2	2	1	1	
		CO-5	2.52	3	2			2	2	2	2								3	2		
		CO-6	2.04	3	2			3	2			1	1						2	1		
			2	1.67	1.75	1.67	2	1.67	1.5	2	1.67	2	1.5	2	1.33	1.67	2.00					
5	TE A ACT	CO-1	3	2	2	2	1	1														
		CO-2	3	2	2	1			1	1												
		CO-3	3	2					3	2												
		CO-4	3	2	2	2	2	2			2	2										
		CO-5	3	2			2	2	2	2												
		CO-6	3	2			3	2				1	1									
			2	1.67	1.75	1.67	2	1.67	1.5	2	1.67	2	1.5	2	1.33	1.67	2.00					



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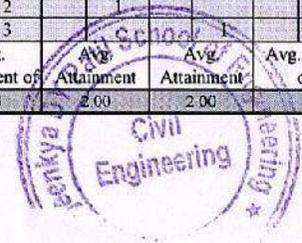
Sr. No.	Class (Div) & Subject	CO No.	CO Attainment	PO1 Attainment	PO2 Attainment	PO3 Attainment	PO4 Attainment	PO5 Attainment	PO6 Attainment	PO7 Attainment	PO8 Attainment	PO9 Attainment	PO10 Attainment	PO11 Attainment	PO12 Attainment	PSO Attainment	PSO2 Attainment	PSO3 Attainment												
6	TE A WWE	CO-1	3	2	3	3	2	2	1	1			1		3			1	1											
		CO-2	2.84	2	3	3	3	2	2		1							3	3											
		CO-3	3	2	3	3	3			3		1	2	2				3	1	2										
		CO-4	3	2	2	2	2	2		2			3					2	3											
		CO-5	3	2	3	1	3		3		1			3					1	1	2									
		CO-6	2.52	2	3	3	3	2	2	3	3			1			2	2	2	2	2									
		Avg. Attainment of			2.80	2.80			2.33		1.50		1.00		2.00		3.00		2.00		1.00		2.00		1.67		2.00			
7	TE A DRCS	CO-1	3	2	3	3	3	2	2	1	1		2	2				1	1											
		CO-2	2.84	2	3	3	3	2	2		1	1							3	3										
		CO-3	3	2	3	3	3			3			1					3	1	2										
		CO-4	3	2	2	2	2	2		2		2	2					1	1	2	3									
		CO-5	3	2	3	1	3		3		2	2							1	1	2	2								
		CO-6	2.52	2	3	3	3	2	2	3	3			1	1		2	2		2	2									
		Avg. Attainment of			2.80	2.80			2.33		1.50		1.50		1.50		2.00		2.00		2.00		1.00		2.00		1.67		2.00	
8	TE A RSGIS	CO-1	3	2	3	3	3	2	2	1	1			1		3			1	1										
		CO-2	2.84	2	3	3	3	2	2		1		2						3	3										
		CO-3	3	2	3	3	3			3		1	2	2				3	1	2										
		CO-4	3	2	2	2	2	2		2		3						2	3											
		CO-5	3	2	2	1	2		3		1			3					2	3	1	2								
		CO-6	2.52	2	3	3	3	2	2	3	3			1					1	1	2	2								
		Avg. Attainment of			2.50	2.50			2.33		1.50		1.00		2.50		2.00		3.00		2.00		1.00		2.00		1.67		2.00	
9	TE A SWM	CO-1	3	2	3	3	3	2	2	1	1			1		3			1	1										
		CO-2	2.84	2	2	2	2	2	2		1		2						3	3										
		CO-3	3	2	3	3	3			3		1	2	2				3	1	2										
		CO-4	3	2	2	2	2	2		2		2	3					2	3											
		CO-5	3	2	2	1	2		3		1			3					2	3	1	2								
		CO-6	2.52	2	3	3	3	2	2	3	3			1					1	1	2	2								
		Avg. Attainment of			2.50	2.50			2.33		1.50		1.00		2.50		2.00		3.00		2.00		1.00		2.00		1.67		2.00	
1	BE A FE	CO-1	80			3	81.87	3	94	3	100	3	3	84	3	3	3	3	3											
		CO-2	60			3	81.87	3	94	3	100	3	3	91	3	3	3	3	2	2	1	1	1	1	1	1				
		CO-3		71.43		3	81.87	3	94	3	100	3	3	87	3	3	3	3	2	2	1	1	1	1	1	1				
		CO-4		85.71		3	81.87	3	94	3	100	3	3	93	3	3	3	3	2	2	1	1	1	1	1	1				
		CO-5			80	3	81.87	3	94	3	100	3	3	84	3	3	3	3	3	3										
		CO-6			87.5	3	81.87	3	94	3	100	3	3	89	3	3	3	3	3											
		Avg. Attainment of			2.50	2.25			2.00		1.33		2.00		2.00		3.00		1.75		2.00		2.00		1.00		2.00		1.67	



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2	BE A IWRPM	CO-1	2	2	2	2	2	2	1	1	1	1	1	1	1	2	2	2	2		
		CO-2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
		CO-3	2					2	2			2	2				2	2	2	2	
		CO-4	1.5	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	
		CO-5	1.8									1	1					3	3	2	2
		CO-6	2	3	3							3	3	2	2	2	2	2	2	3	3
		Avg. Attainment of			2.00	2.00	2.00	1.50	1.50	2.00	1.75			1.50			2.00	2.20	1.60	2.00	2.00
3	BE APC	CO-1	3	1	1	2	2	3	3			3	3								
		CO-2	3	3	3	2	2	2	2			2	2			2	2				
		CO-3	2.52					2	2			3	3	3	3				3	3	
		CO-4	2.84	3	3			2	2	2	2	1	1	1	1	2	2				
		CO-5	2.84					3	3	2	2								3	3	
		CO-6	3									3	3						1	1	
		Avg. Attainment of			2.33	2	2.25	2.5	1.5	2	2.5						2	3	2.25	3	
4	BE A HON	CO-1	3								3	3									
		CO-2	3								3	3	2	2							
		CO-3	2.52					2	2		2	2	3	3	3	3			2	2	
		CO-4	2.52											3	3						
		CO-5	3					2	2		2	2							2	2	
		CO-6	3									3	3								
		Avg. Attainment of			2				2	3	2.6	3								2	
5	BE A DHS	CO-1	3	2	3	3	3	2	2	1	1			1		3					
		CO-2	2.84	2	2	2	2	2	2		1	2			2	2	2	2	2		
		CO-3	3	2	3	3	3			3			1	2	2	2	3				
		CO-4	3	2	3	2	3	2		2		2	3				2	3			
		CO-5	3	2	3	1	3		3	2		1			3	2	2	1			
		CO-6	2.52	2	3	3	3	2	2	3	3		1			2	2	2	2	2	
		Avg. Attainment of			2.80	2.80	2.33	1.67	1.33	2.50	2.00	2.50	2.00			2.00	1.00	2.00	2.00	1.00	
6	BE A QSCT	CO-1	3	2		3		2	2	1	1			1		3					
		CO-2	2.84	2				2	2			1	2			2	2				
		CO-3	3	2					3			1	1	2	2	2	3				
		CO-4	3	2					2		2		3					2			
		CO-5	3	2		1			3	2		1			3	2	2	1			
		CO-6	2.52	2	2	3	2	2	2	3	3				1	2	2	2	2	1	
		Avg. Attainment of			2.5	2.5	2.00	1.33	2.00	2.00	2.00	1.75	2.00	2.00		1.00	2.00	1.00	2.00		



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				Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment	
				3.00		2.00		2.00		2.00		1.00		1.33										2.00		2.00		2.00		2.00		2.00	

15	TE (A)-DBMS	CO-1	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00																	1.00	1.00			1.00	1.00	1.00	1.00			
		CO-2	3.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00																					1.00	1.00	1.00	1.00			
		CO-3	2.52	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00																						1.00	1.00	1.00	1.00		
		CO-4	2.52	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	2.00																	1.00	1.00	1.00	1.00			
		CO-5	3.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00																	1.00	1.00	1.00	1.00			
		CO-6	3.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00																1.00	1.00	1.00	1.00			
						Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment														
				1.17		1.50		1.83		2.00		1.33												1.00		1.00		1.00		1.00		1.00						

16	TE (B)-DBMS	CO-1	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00																			1.00	1.00			1.00	1.00	1.00	1.00		
		CO-2	3.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00																						1.00	1.00	1.00	1.00		
		CO-3	2.52	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00																						1.00	1.00	1.00	1.00		
		CO-4	2.52	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	2.00																		1.00	1.00	1.00	1.00		
		CO-5	3.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00																		1.00	1.00	1.00	1.00		
		CO-6	3.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00																	1.00	1.00	1.00	1.00		
						Avg		Avg		Avg		Avg		Avg		Avg		Avg		Avg		Avg		Avg														
				1.17		1.50		1.83		2.00		1.33												1.00		1.00		1.00		1.00		1.00						

17	BE (A)-RMT	CO-1	3.00	3.00	3.00	3.00	3.00	2.00	2.00	1.00	1.00	1.00	1.00																1.00	1.00	1.00	1.00	3.00	3.00	2.00	2.00		
		CO-2	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																			1.00	1.00	2.00	2.00	2.00	2.00
		CO-3	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																			3.00	3.00	1.00	1.00	1.00	1.00
		CO-4	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																		2.00	2.00	1.00	1.00	2.00	2.00
		CO-5	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																		1.00	1.00	1.00	1.00	1.00	1.00
		CO-6	3.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00																				1.00	1.00	1.00	1.00	1.00	1.00
						Avg		Avg		Avg		Avg		Avg		Avg		Avg		Avg		Avg		Avg														
				2.00		2.00		2.00		2.00		1.00												1.00		1.00		2.00		2.00		2.00						

18	BE (A)-VLSI	CO-1	3.00	2.00	2.00	2.00	2.00	2.00	2.00					1.00	1.00																					3.00	3.00			2.00
		CO-2	3.00	3.00	3.00	2.00	2.00	2.00	2.00	1.00	1.00																									2.00	2.00			
		CO-3	3.00	3.00	3.00	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00																				1.00	1.00	1.00	1.00		3.00
		CO-4	3.00	3.00	3.00	2.00	2.00	2.00	2.00			1.00	1.00	1.00	1.00	2.00	2.00																		1.00	1.00	2.00	2.00		
		CO-5	3.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00																								1.00	1.00	2.00	2.00	
		CO-6	3.00	3.00	3.00			2.00	2.00																											2.00	2.00			1.00
						Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment																		
				3.00		2.00		2.00		2.00		1.00		1.00		2.00								1.00		1.00		2.00		2.00		2.00								

19	BE (A)-Cloud Computing	CO-1	3.00	3.00	3.00			3.00	3.00					2.00	2.00	3.00	3.00																				2.00		
		CO-2	3.00	3.00	3.00	3.00	3.00			2.00	2.00	3.00	3.00			2.00	2.00																				2.00		
		CO-3	3.00	3.00	3.00	3.00	3.00			3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00																					
		CO-4	3.00	2.00	2.00	2.00	2.00			3.00	3.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00																				
		CO-5	3.00	3.00	3.00	3.00	3.00			3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00																				
		CO-6	3.00	3.00	3.00	3.00	3.00			3.00	3.00	2.00	2.00			2.00	2.00	3.00	3.00																				
						Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment		Avg Attainment																					
				3.00		3.00		3.00		3.00		3.00		3.00		3.00								2.00		2.00		1.00		2.00									

20	BE (B)-	CO-1	3.00	3.00	3.00			3.00	3.00					2.00	2.00	3.00	3.00																				2.00
		CO-2	3.00	3.00	3.00	3.00	3.00			2.00	2.00	3.00	3.00			2.00	2.00																				2.00
		CO-3	3.00	3.00	3.00	3.00	3.00			3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00																			



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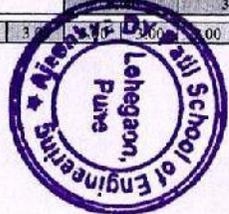
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Department of Electronics and Telecommunication Engineering

Form No. IQAC/36

AY 2020-21 Sem-II

Sr. No.	Class (Div) & Subject	CO No.	CO Attainment	PO1	Attainment	PO2	Attainment	PO3	Attainment	PO4	Attainment	PO5	Attainment	PO6	Attainment	PO7	Attainment	PO8	Attainment	PO9	Attainment	PO10	Attainment	PO11	Attainment	PO12	Attainment	PSO1	Attainment	PSO2	Attainment	PSO3	Attainment				
1	SE (A)-CS	CO-1	3.00	3.00	3.00	3.00	3.00	2.00	2.00	1.00	1.00	2.00	2.00	2.00	2.00																						
		CO-2	3.00			2.00	2.00	2.00	2.00	1.00	1.00																		3.00	3.00							
		CO-3	3.00	2.00	2.00	2.00	2.00			1.00	1.00																		2.00	2.00							
		CO-4	3.00	2.00	2.00	1.00	1.00	2.00	2.00																				2.00	2.00	2.00	2.00					
		CO-5	3.00	2.00	2.00								2.00	2.00																		2.00	2.00				
		CO-6	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00							1.00	1.00	1.00	1.00	1.00	1.00							
					Avg. Attainment																																
			3.00		3.00		3.00		2.00		2.00		2.00		2.00		2.00							1.00		1.00		2.00		2.00							
2	SE (A)-PCS	CO-1	3.00	1.00	1.00	3.00	3.00																														
		CO-2	3.00							2.00	2.00																										
		CO-3	3.00	2.00	2.00																																
		CO-4	3.00									3.00	3.00																								
		CO-5	3.00			2.00	2.00					2.00	2.00																								
		CO-6	3.00	1.00	1.00					2.00	2.00	2.00	2.00																								
					Avg. Attainment		Avg. Attainment																														
			2.00		3.00		2.00		3.00																			2.00		1.00							
3	SE (B)-PCS	CO-1	3.00	1.00	1.00	3.00	3.00																														
		CO-2	3.00							2.00	2.00																										
		CO-3	2.52	2.00	2.00																																
		CO-4	2.52									3.00	3.00																								
		CO-5	3.00			2.00	2.00					2.00	2.00																								
		CO-6	3.00	1.00	1.00					2.00	2.00	2.00	2.00																								
					Avg. Attainment		Avg. Attainment																														
			2.00		3.00		2.00		3.00																			2.00		2.00							
4	TE (A)-NS	CO-1	3.00	3.00	3.00	3.00	3.00																														
		CO-2	3.00	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00																						
		CO-3	2.52	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00																				
		CO-4	2.52	3.00	3.00	3.00	3.00					1.00	1.00	2.00	2.00	2.00	2.00																				
		CO-5	3.00	1.00	1.00	3.00	3.00																														
		CO-6	3.00	1.00	1.00	3.00	3.00	1.00	1.00																												
					Avg. Attainment		Avg. Attainment																														
			3.00		3.00		1.00		1.00		2.00		2.00		2.00		2.00											2.00		3.00							
5	TE (B)-NS	CO-1	3.00	3.00	3.00	3.00	3.00																														
		CO-2	3.00	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00																						
		CO-3	3.00	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00																						
		CO-4	3.00	3.00	3.00	3.00	3.00					1.00	1.00	2.00	2.00	2.00	2.00																				
		CO-5	3.00	1.00	1.00	3.00	3.00																														
		CO-6	3.00	1.00	1.00	3.00	3.00	1.00	1.00																												
					Avg. Attainment		Avg. Attainment																														
			3.00		3.00		1.00		1.00		2.00		2.00		2.00		2.00											2.00		3.00							
		CO-1	3.00	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00			



Principal
 Ajeenkya DY Patil School of Engineering, Lohegaon, Pune

Sr. No.	Class (Div) & Subject	CO No.	CO Attainment	PO1	Attainment	PO2	Attainment	PO3	Attainment	PO4	Attainment	PO5	Attainment	PO6	Attainment	PO7	Attainment	PO8	Attainment	PO9	Attainment	PO10	Attainment	PO11	Attainment	PO12	Attainment	PSO1	Attainment	PSO2	Attainment	PSO3	Attainment		
				2.00		2.00		2.00		2.00				3.00														2.00		3.00					
12	BE (A)- Mobile Communication	CO-1	3.00	3.00	3.00	2.00	2.00	1.00	1.00			1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00					1.00	1.00	1	1	1	1	2	2		
		CO-2	3.00	3.00	3.00	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00			2.00	2.00	3	3	2	2	3	3			
		CO-3	2.52	2.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	3.00			2.00	2.00	1.00	1.00	3	3	2	2	3	3	
		CO-4	2.52	3.00	2.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00						3.00	3.00													
		CO-5	3.00	3.00	3.00	1.00	1.00	1.00	1.00	2.00	2.00	3.00	3.00								3.00	3.00													
		CO-6	3.00	3.00	3.00	1.00	1.00	1.00	1.00	2.00	2.00	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	1.00	3.00	3.00													
						Avg. Attainment																													
				2.80		1.40		1.00		1.75		1.40		1.75		1.33		1.33		2.75		2.00		1.33		2.33		1.67		2.67					
13	BE (B)- Mobile Communication	CO-1	3.00	3.00	3.00	2.00	2.00	1.00	1.00			1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00					1.00	1.00	1	1	1	1	2	2		
		CO-2	3.00	3.00	3.00	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00			2.00	2.00	3	3	2	2	3	3			
		CO-3	2.52	2.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	3.00			2.00	2.00	1.00	1.00	3	3	2	2	3	3	
		CO-4	2.52	3.00	2.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00						3.00	3.00													
		CO-5	3.00	3.00	3.00	1.00	1.00	1.00	1.00	2.00	2.00	3.00	3.00								3.00	3.00													
		CO-6	3.00	3.00	3.00	1.00	1.00	1.00	1.00	2.00	2.00	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	1.00	3.00	3.00													
						Avg. Attainment																													
				2.80		1.40		1.00		1.75		1.40		1.75		1.33		1.33		2.75		2.00		1.33		2.33		1.67		2.67					
14	SE (B)- CS	CO-1	3.00	3.00	3.00	3.00	2.00	2.00	1.00	1.00	2.00	2.00	2.00	2.00														3.00	3.00						
		CO-2	3.00			2.00	2.00	2.00	2.00	1.00	1.00																	2.00	2.00						
		CO-3	3.00	2.00	2.00	2.00	2.00			1.00	1.00																	2.00	2.00						
		CO-4	3.00	2.00	2.00	1.00	1.00	2.00	2.00																			2.00	2.00	2.00	2.00				
		CO-5	3.00	2.00	2.00							2.00	2.00																						
		CO-6	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00							1.00	1.00	1.00	1.00	1.00	1.00						
						Avg. Attainment																													
				3.00		3.00		3.00		2.00		2.00		2.00		2.00		2.00		2.00		1.00		1.00		1.00		2.00		2.00					

(Signature)
Dr. S.M. Koli
HOD ENT

Head
Department of E&TC Engg.
Dr. D. Y. Patil School of Engg.
Charholi (Bk), Via Lohgaon, Pune



(Signature)
Principal
Ajeenkya DY Patil School of Engineering, Lohgaon, Pune

**Case study - CO PO
Attainment**

Ajeenkya DY Patil School of Engineering, Lohegaon, Pune.



ADYPSOE's

Sample Case Study on CO-PO-PSO Mapping &
Attainment for using Outcome Based Education
Approach in Engineering Colleges

ADYPSOE / CO-PO-PSO / Version 1

INDEX		
1		INSTITUTE VISION AND MISSION
2		DEPARTMENT VISION AND MISSION
3		DETAILS OF BATCH UNDER CONSIDERATION BATCH (2020-21 TO 23-24)
4		PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES DEFINITION
5		STATEMENT OF PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES
	5.1	Program Outcomes
	5.2	Program Specific Outcomes
6		BLOOMS TAXONOMY
7		COURSE OUTCOME STATEMENTS
	7.1	Sample CO statements
8		COURSE OUTCOME TO PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES MAPPING FOR ALL THE COURSES
	8.1	Levels of Outcomes
	8.2	Process involved in CO-PO Mapping
	8.3	Sample CO-PO and CO-PSO Mapping
	8.4	Identification of curricular gap
9		COURSE OUTCOMES TO PROGRAM OUTCOMES/ PROGRAM SPECIFIC OUTCOMES MAPPING
10		ASSESSMENT PROCESS
	10.1	Assessment Process for Course Outcome Attainment
	10.2	Procedure for Attainment of Program Outcomes
	10.3	CO Attainment Calculation of a Course

1. INSTITUTE VISION AND MISSION

Vision:

“Empowerment through quality technical education”

Mission:

M1: To excel as a center of excellence in technical education

M2: To impart skill based education to meet the needs of industry and Society

M3: To achieve excellence in teaching, learning and research

M4: To inculcate social & ethical values among the students

Quality Policy

We strive to impart the quality technical education through academic excellence and provide best of facilities to satisfy the need & expectations of the students & stakeholders.

2. DEPARTMENT VISION AND MISSION

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Vision:

“Imparting quality education in the field of Artificial Intelligence and Data Science”

Mission:

- M1 - To include the culture of R and D to meet the future challenges in AI and DS.
- M2 - To develop technical skills among students for building intelligent systems to solve problems.
- M3 - To develop entrepreneurship skills in various areas among the students.
- M4 - To include moral, social and ethical values to make students best citizens of country.

Program Specific Objectives (PSO's)

PSO1: Professional Skills:

The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, networking, artificial intelligence and data science for efficient design of computer-based systems of varying complexities.

PSO2: Problem-Solving Skills:

The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3: Successful Career and Entrepreneurship:

The ability to employ modern computer languages, environments and platforms in creating innovative career paths to be an entrepreneur and to have a zest for higher studies.

Program Educational Objectives (PEO's)

PEO1: To prepare globally competent graduates having strong fundamentals, domain knowledge, updated with modern technology to provide the effective solutions for engineering problems.

PEO2: To prepare the graduates to work as a committed professional with strong professional ethics and values, sense of responsibilities, understanding of legal, safety, health, societal, cultural and environmental issues.

PEO3: To prepare committed and motivated graduates with research attitude, lifelong learning, investigative approach, and multidisciplinary thinking.

PEO4: To prepare the graduates with strong managerial and communication skills to work effectively as individuals as well as in teams.

The Process for Defining Vision and Mission of the Department

The following steps are followed to establish Vision and Mission of Department

Step1: The Vision & Mission of the Institute is taken as the basis.

Step2: The Department conducts brain-storming sessions with the faculty on the skill-set required by the local and global employers, Industry Advances in Technology and R & D, and the draft copy of the Vision and Mission of the Department is drafted.

Step3: The views from Parents, Professional Bodies, Industry representatives and Advisory Board on the draft are also collected and incorporated to revise the draft version based on their inputs.

Step4: The accepted views are analyzed and reviewed to check the consistency with the vision and mission of the institute.

The process for defining department vision and mission are illustrated in the flow chart Figure 2.1.



Figure 2.1 Process for defining Vision and Mission of the Department

2. DETAILS OF BATCH UNDER CONSIDERATION (2020-21 TO 2023-24)

Roll Call List (A. Y. 2021-22 (SE)):

Roll No.	Name of the Student
1	Abhaysinh Padmakar Landge
2	Adhav Jay Mohan
3	Aditya Verma
4	Akash Raj
5	Ambule Bhushan Pradip
6	Ameya Sandip Shinde
7	Anand Digambar Lokhande
8	Arondekar Bhargav Nitin
9	Behar Sanskruti Raju
10	Bhatode Sahil Suresh
11	Bhole Tejal Liladhar
12	Burde Rutuja Raju
13	Chaitanya Sunil Sonawane
14	Chandurkar Yash Pravin
15	Chavan Harshad Shankar
16	Chavan Prasad Rajendra
17	Chavan Rohit Dnyaneshwar
18	Chirag Sandil
19	Civi Abhilash Gopalkrishna
20	Darekar Yash Prakash
21	Deokar Chaitanya Rajesh
22	Desai Sanjana Praveenkumar
23	Dharmavat Arpita Rajendra
24	Dupare Jyoti Purushottam
25	Gadekar mayur Chintaman
26	Gaikwad Manali Sanjay
27	Gaikwad Shantanu Anant
28	Gaikwad Suhani Ramesh
29	Gambhire Abhishek Chandrakant
30	Garje viraj Nitin
31	Ghongade Shubham Jagannath
32	Gosavi Mayur Sandip
33	Goyal Akash Anand
34	Inamdar Arman Himmatsaheb
35	Jadhav Ajinkya Annarao
36	Jadhav Ankit Lajaras
37	Jyoti Prakash Rout

38	Kolhe Ashish Madhukar
39	Kurhe Abhijeet Gorakshnath
40	Kushwaha Ritesh Singh Janardan
41	Lavankar Gaurav Prabhakar
42	Limbore Yogesh Arunlal
43	More Vishal Krishnaji
44	Para Sai Subhash
45	Patil Nilambari Vijay
46	Patil Onkar Ashok
47	Patil Pranay Vinod
48	Patil Tushar Amol
49	Patil Vishwajeet Ishwar
50	Patil Vivek Arun
51	Pradhumna Ravindra Kitukale
52	Prathamesh Balwant Patil
53	Rachit Bisht
54	Rathod Pankaj Raju
55	Raut Suraj Sunil
56	Rohokale Prathamesh Yashwant
57	Sakharkar Yash Ganesh
58	Sankpal Shrutika Sanjay
59	Sathe Kushal Vilasrao
60	Sayali Dnyaneshwar Jadhav
61	Shaikh Abdulkarim Mohd Sattar
62	Shaikh Imran Kalamuddin
63	Shelkar Nisha Vikram
64	Shinde Piyusha Deepak
65	Shreyas Suresh Jadhav
66	Shrigan Mrunal Mallikarjun
67	Singh Rohit Harishankar
68	Sonone Nikhil Visjhwajit
69	Tayade Sakshi Vinod
70	Utkarsha Umesh Dhane
71	Vridhi Ritesh Sachdev
72	Waghchaure Yash Bhausahab
73	Waghmare Shivcharan Suresh
74	Wani Pranjal Bharat
75	Zade Prathmesh Ganesh

3. PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Program Outcomes (POs):

Program outcomes describe what students are expected to know and would be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire as they progress through the program.

Program Specific Outcomes (PSOs):

Program Specific Outcomes are statements that describe what the graduates of a specific engineering program should be able to do.

4. STATEMENTS OF POs AND PSOs

Program Outcomes(POs):		
PO1	Engineering knowledge	An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and modeling
PO2	Problem analysis	An ability to design, simulate and conduct experiments, as well as to analyze and interpret data including hardware and software components
PO3	Design / development of solutions	An ability to design a complex electronic system or process to meet desired specifications and needs
PO4	Conduct investigations of complex problems	An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
PO5	Modern tool usage	An ability to use the techniques, skills and modern engineering tools necessary for engineering practice
PO6	The engineer and society	An understanding of professional, health, safety, legal, cultural and social responsibilities
PO7	Environment and sustainability	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and demonstrate the knowledge need for sustainable development.
PO8	Ethics	Apply ethical principles, responsibility and norms of the engineering practice
PO9	Individual and team work	An ability to function on multi-disciplinary teams.
PO10	Communication	An ability to communicate and present effectively
PO11	Project management and finance	An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multi-disciplinary environments
PO12	Life-long learning	A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning

The POs are published and disseminated

The Program Outcomes are published and disseminated as follows,

Table 4.1: PO publishing and dissemination

How Published	Where published	How Disseminated
<ul style="list-style-type: none"> Incorporating in booklet given in orientation, syllabus book, course files and lab manuals 	<ul style="list-style-type: none"> Orientation booklet Syllabus books Course files and lab manuals Laboratories in the departments 	<ul style="list-style-type: none"> Distribution and explanation to students on orientation day <input type="checkbox"/> Displayed on the notice board <input type="checkbox"/> Discussed during student Counseling <input type="checkbox"/> Distributed along with Syllabus books, course files and lab manuals
<ul style="list-style-type: none"> Flexis/ Notices 	<ul style="list-style-type: none"> Class rooms/ Laboratories <input type="checkbox"/> Office of the department <input type="checkbox"/> Department Notice boards <input type="checkbox"/> Staff Rooms 	<ul style="list-style-type: none"> Self-reading by students, parents and alumni Displayed on the notice board
<ul style="list-style-type: none"> Digital Media 	<ul style="list-style-type: none"> Institute Website ✓ www.adypsoe.in 	<ul style="list-style-type: none"> Available for Self-reading in public domain

The Process for Establishing the PO's

The POs are established through the following process steps:

The Vision, Mission of the Department along with the 12 Graduate Attributes are given by the NBA are used in defining the POs.

Step 1: Head of the Department consults the key constituents: faculty and collect their views and prepares the draft version of the POs.

Step 2: Head of the Department then gather views from the Alumni, Professional Body representatives, Industry representatives / Employer along with the faculty and revise the draft.

Step 3: The CDC analyzes and express its opinion on the revised POs and forward the same for final approval to Department Advisory Board.

Step 4: Department Advisory Board deliberate on the views expressed by the CDC and formulate the accepted views based on which POs are to be established.

However, the views expressed by them were in line with the graduate attributes defined by NBA.



Fig . 4.2 Process to Define Program Outcomes of the Department

PROGRAM SPECIFIC OUTCOMES (PSOs):

The graduates of the department will attain:

PSO1: Professional Skills:

The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, networking, artificial intelligence and data science for efficient design of computer-based systems of varying complexities.

PSO2: Problem-Solving Skills:

The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3: Successful Career and Entrepreneurship:

The ability to employ modern computer languages, environments and platforms in creating innovative career paths to be an entrepreneur and to have a zest for higher studies.

5. BLOOM'S TAXONOMY

Bloom's Taxonomy was created in 1956 under the leadership of educational psychologist Dr. Benjamin Bloom in order to promote higher forms of thinking in education, such as analyzing and evaluating concepts, processes, procedures, and principles, rather than just remembering facts. It is most often used when designing educational, training, and learning processes.

BLOOM'S TAXONOMY		
Domains	Keywords	Example
<p>Remembering: Recall or retrieve previous learned information.</p>	<p>defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states</p>	<p>Recite a policy. Quote prices from memory to a customer. Recite the safety rules.</p>
<p>Understanding: Comprehending the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.</p>	<p>comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives an example, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates</p>	<p>Rewrite the principles of test writing. Explain in one's own words the steps for performing a complex task. Translate an equation into a computer spreadsheet.</p>
<p>Applying: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.</p>	<p>applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses,</p>	<p>Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test.</p>
<p>Analyzing: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.</p>	<p>analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates</p>	<p>Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training.</p>

Evaluating: Make judgments about the value of ideas or materials.	appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports	Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget.
Creating: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.	categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes	Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome

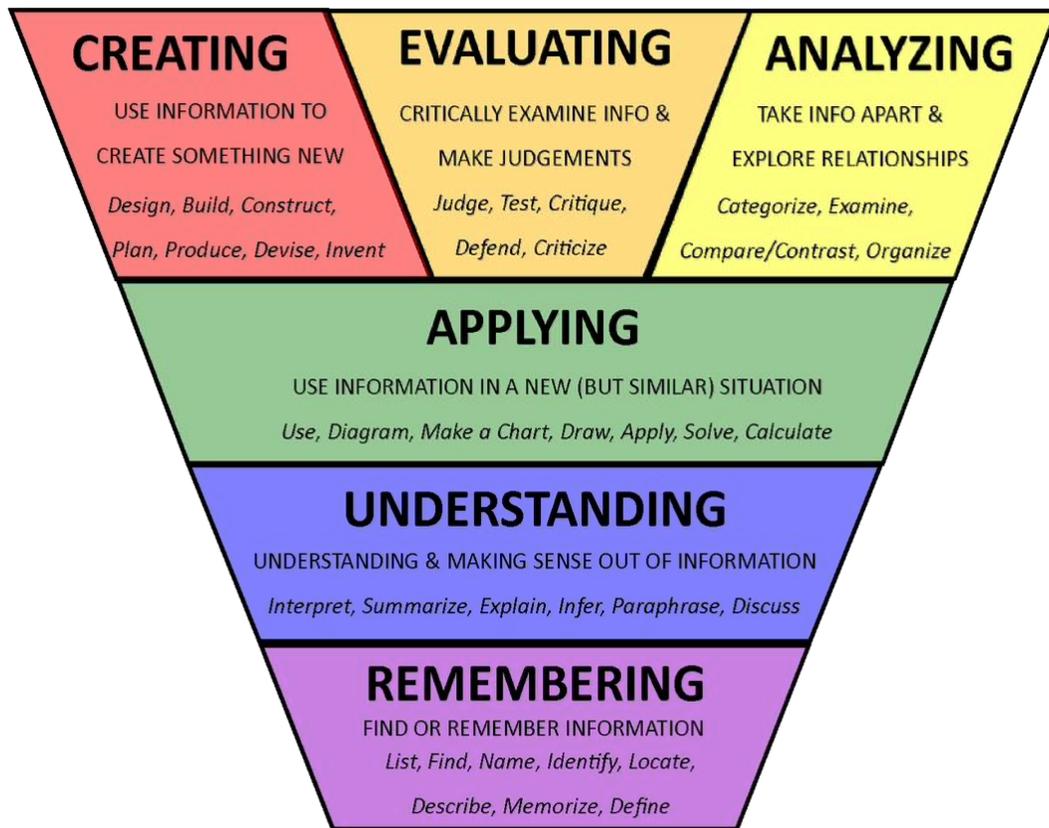


Figure 5.1 Pictorial representation of Blooms Taxonomy

6. COURSE OUTCOME STATEMENT

Course Outcomes (COs): Statements indicating what a student can do after the successful completion of a course. Every Course leads to some Course Outcomes. The CO statements are defined by considering the course content covered in each module of a course. For every course there may be 5 -7 COs. The keywords used to define COs are based on Bloom's Taxonomy. Faculty members can create their extra COs if not mentioned in the SPPU syllabus.

CO STATEMENTS for Batch (2021-22 to 2023-24) SE, TE and BE (2019 Pattern):

On successful completion of this course, students should be able to

Course Name	CO	COURSE OUTCOMES DESCRIPTION
SE(SEM-I) 210241 Discrete Mathematics	CO1	Formulate problems precisely, solve the problems, apply formal proof techniques, and explain the reasoning clearly.
	CO2	Apply appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations including those in real-life contexts.
	CO3	Design and analyze real world engineering problems by applying set theory, propositional logic and to construct proofs using mathematical induction.
	CO4	Specify, manipulate and apply equivalence relations; construct and use functions and apply these concepts to solve new problems
	CO5	Calculate numbers of possible outcomes using permutations and combinations; to model and analyze computational processes using combinatorics.
	CO6	Model and solve computing problem using tree and graph and solve problems using appropriate algorithms.
	CO7	Analyze the properties of binary operations, apply abstract algebra in coding theory and evaluate the algebraic structures
SE(SEM-I) 210242 Fundamentals of Data Structures	CO1	Design the algorithms to solve the programming problems, identify appropriate algorithmic strategy for specific application, and analyze the time and space complexity.
	CO2	Discriminate the usage of various structures, Design/Program/Implement the appropriate data structures; use them in implementations of abstract data types and Identify the appropriate data structure in approaching the problem solution.
	CO3	Demonstrate use of sequential data structures- Array and Linked lists to store and process data.
	CO4	Understand the computational efficiency of the principal algorithms for searching and sorting and choose the most efficient one for the

		application.
	CO5	Compare and contrast different implementations of data structures (dynamic and static).
	CO6	Understand, Implement and apply principles of data structures-stack and queue to solve computational problems.
SE(SEM-I) 210243: Object Oriented Programming (OOP)	CO1	Apply constructs- sequence, selection and iteration; classes and objects, inheritance, use of predefined classes from libraries while developing software.
	CO2	Design object-oriented solutions for small systems involving multiple objects.
	CO3	Use virtual and pure virtual function and complex programming situations.
	CO4	Apply object-oriented software principles in problem solving.
	CO5	Analyze the strengths of object-oriented programming.
	CO6	Develop the application using object oriented programming language(C++)
SE(SEM-I) 210244: Computer Graphics	CO1	Identify the basic terminologies of Computer Graphics and interpret the mathematical foundation of the concepts of computer graphics.
	CO2	Apply mathematics to develop Computer programs for elementary graphic operations.
	CO3	Illustrate the concepts of windowing and clipping and apply various algorithms to fill and clip polygons.
	CO4	Understand and apply the core concepts of computer graphics, including transformation in two and three dimensions, viewing and projection.
	CO5	Understand the concepts of color models, lighting, shading models and hidden surface elimination.
	CO6	Create effective programs using concepts of curves, fractals, animation and gaming.
SE(SEM-I) 217521: Operating Systems	CO1	Enlist functions of OS and types of system calls
	CO2	Apply process scheduling algorithms to solve a given problem
	CO3	Illustrate deadlock prevention, avoidance and recovery
	CO4	Explain memory management technique
	CO5	Illustrate I/O and file management policies
	CO6	Describe Linux process management
SE(SEM-II) 217528 : Statistics	CO1	Identify the use of appropriate statistical terms to describe data
	CO2	Use of appropriate measures of central tendency.
	CO3	Use appropriate statistical methods to collect, organize, display, and analyze relevant data.

	CO4	Use distribution functions for random variables
	CO5	Distinguish between correlation coefficient and regression
	CO6	Understand tests for hypothesis and its significance
SE(SEM-II) 217529: Internet of Things	CO1	Have a thorough understanding of the structure, function and characteristics of computer systems and Understand the structure of various number systems and its application in digital design.
	CO2	Develop the skill set to build IoT systems and sensor interfacing.
	CO3	Explain the concept of Internet of Things and identify the technologies that make up the internet of things
	CO4	Analyze trade-offs in interconnected wireless embedded device networks. Select Appropriate Protocols for IoT Solutions
	CO5	Design a simple IoT system comprising sensors by analyzing the requirements of IoT Application
	CO6	Identify the Application of IoT in automation of Commercial and Real World examples
SE(SEM-II) 210252: Data Structures and Algorithms	CO1	Identify and articulate the complexity goals and benefits of a good hashing scheme for real- world applications.
	CO2	Apply non-linear data structures for solving problems of various domain
	CO3	Design and specify the operations of a nonlinear-based abstract data type and implement them in a high-level programming language.
	CO4	Analyze the algorithmic solutions for resource requirements and optimization
	CO5	Use efficient indexing methods and multiway search techniques to store and maintain data
	CO6	Use appropriate modern tools to understand and analyze the functionalities confined to the secondary storage
SE(SEM-II) 210253: Software Engineering	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.

	CO7	Construct software of high quality – software that is reliable, and that is reasonably easy to understand, modify and maintain efficient, reliable, robust and cost-effective software solutions
SE(SEM-II) 217530: Management Information Systems	CO1	Explain the concepts of Management Information System and Business intelligence for MIS.
	CO2	Illustrate the need of information systems in global business and ethical issues.
	CO3	List the IT infrastructure components and explain security in the Information System.
	CO4	Demonstrate the importance of project management and extend its use in the international information system.
	CO5	Illustrate the concepts of decision support systems for business applications.
	CO6	Relate artificial intelligence and data science for Management Information System.
TE (SEM I) 310241: Database Management Systems	CO1	Analyze and design Database Management System using ER model
	CO2	Implement database queries using database languages
	CO3	Normalize the database design using normal forms
	CO4	Apply Transaction Management concepts in real-time situations
	CO5	Use NoSQL databases for processing unstructured data
	CO6	Differentiate between Complex Data Types and analyze the use of appropriate data types
TE (SEM I) 317521: Computer Networks	CO1	Summarize fundamental concepts of Computer Networks, architectures, protocols and technologies
	CO2	Analyze the working of physical layer protocols
	CO3	Analyze the working of different routing protocols and mechanisms
	CO4	Implement client-server applications using sockets
	CO5	Illustrate role of application layer with its protocols, client-server architectures
	CO6	Summarize concepts of MAC and ethernet
TE (SEM I) 310252: Web Technology	CO1	Implement and analyze behavior of web pages using HTML and CSS
	CO2	Apply the client side technologies for web development
	CO3	Analyze the concepts of Servlet and JSP
	CO4	Analyze the Web services and frameworks
	CO5	Apply the server side technologies for web development
	CO6	Create the effective web applications for business functionalities using latest web development platforms
TE (SEM I) 310253:	CO1	Identify and apply suitable Intelligent agents for various AI applications
	CO2	Build smart system using different informed search / uninformed search

Artificial Intelligence		or heuristic approaches
	CO3	Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem
	CO4	Apply the suitable algorithms to solve AI problems
	CO5	Implement ideas underlying modern logical inference systems
	CO6	Represent complex problems with expressive yet carefully constrained language of representation
TE (SEM I) Elective I 310245(B): Human Computer Interface	CO1	Design effective Human-Computer-Interfaces for all kinds of users
	CO2	Apply and analyze the user-interface with respect to golden rules of interface
	CO3	Analyze and evaluate the effectiveness of a user-interface design
	CO4	Implement the interactive designs for feasible data search and retrieval
	CO5	Analyze the scope of HCI in various paradigms like ubiquitous computing, virtual reality ,multi-media, World wide web related environments
	CO6	Analyze and identify user models, user support, and stakeholder requirements of HCI systems
TE (SEM II) 317529: Data Science	CO1	Analyze needs and challenges for Data Science
	CO2	Apply statistics for Data Analytics
	CO3	Apply the lifecycle of Data analytics to real world problems
	CO4	Implement Data Analytics using Python programming
	CO5	Implement data visualization using visualization tools in Python programming
	CO6	Design and implement Big Databases using the Hadoop ecosystem
TE (SEM II) 317530: Cyber Security	CO1	Gauge the security protections and limitations provided by today's technology.
	CO2	Identify cyber security threats
	CO3	Analyze threats in order to protect or defend it in cyberspace from cyber-attacks
	CO4	Build appropriate security solutions against cyber-attacks
	CO5	Understand the advances in cyber security
	CO6	Understand Personally Identifiable Information, Information protection, cybercrime and Hacking
TE (SEM II) 317531: Artificial Neural Network	CO1	Understand the basic features of neural systems and be able to build the neural model.
	CO2	Perform the training of neural networks using various learning rules.
	CO3	Grasping the use of Associative learning Neural Network
	CO4	Describe the concept of Competitive Neural Networks
	CO5	Implement the concept of Convolutional Neural Networks and its models

	CO6	Use a new tool /tools to solve a wide variety of real-world problem
TE (SEM II) Elective II 310254(C): Cloud Computing	CO1	Understand the different Cloud Computing environment
	CO2	Use appropriate data storage technique on Cloud, based on Cloud application
	CO3	Analyze virtualization technology and install virtualization software
	CO4	Develop and deploy applications on Cloud
	CO5	Apply security in cloud applications
	CO6	Use advance techniques in Cloud Computing
BE (SEM I) 417521: Machine Learning	CO1	Describe and compare different models of machine learning
	CO2	Design ML models to make predictions by using linear, non-linear and logistic regression techniques
	CO3	Implement classification models for two class problems and multiclass problems
	CO4	Implement clustering models for unlabeled data
	CO5	Integrate multiple machine learning algorithms in the form of ensemble learning
	CO6	Apply reinforcement learning and its algorithms for different applications
BE (SEM I) 417522: Data Modeling and Visualization	CO1	Summarize data analysis and visualization in the field of exploratory data science
	CO2	Analyze the characteristics and requirements of data and select an appropriate data model
	CO3	Describe to load, clean, transform, merge and reshape data
	CO4	Design a probabilistic data modeling, interpretation, and analysis
	CO5	Evaluate time series data
	CO6	Integrate real world data analysis problems
BE (SEM I) Elective III 417523(A): Quantum Artificial Intelligence	CO1	Understand quantum requirements and formulate design solutions using quantum circuits.
	CO2	Illustrate applicable solutions in one or more application domains using a quantum architecture that integrates ethical, social, and legal concerns
	CO3	Apply the Advanced Quantum Algorithms on real time problem
	CO4	Analyze the quantum machine learning algorithms and their relevant application
	CO5	Analyze quantum information processing & its relevant algorithms
	CO6	Evaluate suitable algorithms for AI problems
BE (SEM I) Elective IV 417524(B): Information Retrieval	CO1	Understand the concept of Information Retrieval
	CO2	To use an indexing approach for retrieval of documents
	CO3	Evaluate and analyze the retrieved information
	CO4	Apply appropriate method of Text Classification and Clustering
	CO5	Design and implement innovative features in search engines
	CO6	Analyze different real-life application of Information Retrieval

BE (SEM II) 417529: Computational Intelligence	CO1	Understand Computational Intelligence techniques to solve real-life problems
	CO2	Apply fuzzy logic techniques to solve real life problems
	CO3	Design and implement evolutionary algorithms to solve optimization problem
	CO4	Analyze and evaluate the performance of genetic algorithms in terms of convergence and computational efficiency
	CO5	Interpret and analyze the results obtained from computational intelligence models in NLP, providing meaningful insights and recommendations
	CO6	Design and Develop Artificial Immune System to solve complex problems
BE (SEM II) 417530: Distributed Computing	CO1	Understand the features and properties of Distributed computing system with integration of AI CO2: CO3: CO4: CO5: CO6:
	CO2	Analyze the Concept of data management and storage in distributed computing
	CO3	Understand the algorithm used in distributed computing by applying artificial intelligence
	CO4	Understand the integration of machine learning algorithm and advanced tools used in distributed computing
	CO5	Analyze how big data is processed in distributed computing
	CO6	Identify Security and privacy issues of distributed computing and apply on specific application
BE (SEM II) Elective V 417531 (D): Deep Learning	CO1	Understand the basics of Deep Learning and apply the tools to implement deep learning applications
	CO2	Evaluate the performance of deep learning models
	CO3	Implement the technique of Convolution neural network (CNN)
	CO4	Solve the language translation problem by Recurrent neural network (RNN)
	CO5	Construct new data by deep generative models
	CO6	Apply on-policy reinforcement learning algorithms
BE (SEM II) Elective VI 417533(B): Business Intelligence	CO1	Apply conceptual knowledge on how BI is used in decision support systems
	CO2	Use Modelling Concepts in Business Intelligence
	CO3	Understand and apply the concept of data provisioning and data Visualization
	CO4	Apply different data pre-processing techniques on data set
	CO5	Implement machine learning algorithms as per business needs
	CO6	Identify role of BI in Management, Inventory, Production, Logistics and Management

7. CO – PO AND CO – PSO MAPPING OF COURSES

All the courses together must cover all the POs (and PSOs). For a course we map the COs to POs through the CO-PO matrix and to PSOs through the CO-PSO matrix as shown below. The various correlation levels are:

- “1” – Slight (Low) Correlation
- “2” – Moderate (Medium) Correlation
- “3” – Substantial (High) Correlation
- “-” indicates there is no correlation

7.1 Levels of Outcomes

There are three levels of outcome such as Course Outcome (CO), Program Outcome (PO), Program Specific Outcome (PSO).

Course Outcomes are the statements that declare what students should be able to do at the end of a course. POs are defined by Accreditation Agencies of the country (NBA in India), which are the statements about the knowledge, skills and attitudes, graduate attributes of a formal engineering program should have. Graduates Attributes (GAs) are the components indicative of the graduate potential to acquire competence to practice at the appropriate level. GAs form a set of individually assessable outcomes of the programme. The NBA laid down the graduate attributes relating to programme outcomes and is to be derived by program.

The Program outcomes reflect the ability of graduates to demonstrate knowledge in fundamentals of Basic Sciences, Humanities and Social Sciences, Engineering Sciences and apply these principles in understanding and practically apply the knowledge in professional core subjects, electives and projects which enables the graduates to be competent at the time of graduation. The graduates must adhere to professional and ethical responsibilities in the pursuit of their careers and also for the benefit of the society. These outcomes also enable the graduate to pursue higher studies and engage in R&D for a successful professional career.

The proper definition and the attainment of POs contribute to the attainment of Program

Educational Objectives which will help the graduate to perform his/ her duties, professional responsibilities, design, development, production and testing of novel products, ability to deal with finances and project management during his/her early professional career of 3 to 4 years.

Program Specific Outcomes are the statements that assert what the graduates of a specific engineering program should do what they can able to do. Program Educational Objectives are the broad statements which describe in detail about the career and professional accomplishments after significant years of graduation that the program prepares the graduate to achieve.

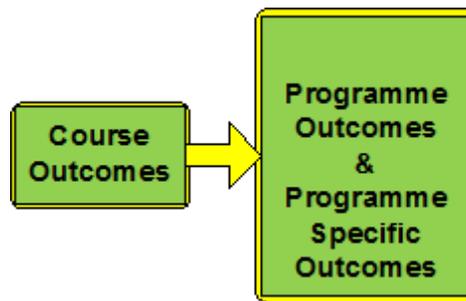


Figure 7.1: Relating the outcomes (CO-PO&PSO)

Figure 7.1 shows the building block of CO-PO&PSO relationship. After CO statements are developed by the course in-charge, CO will map with any possible PO's based on the relationship exist between them. But the PO's are not necessarily mapped with any one CO and it may be left blank. Anyhow, it is mandatory that all POs should be mapped with any one of PSO which are specified in the program. This is shown in figure 7.2.

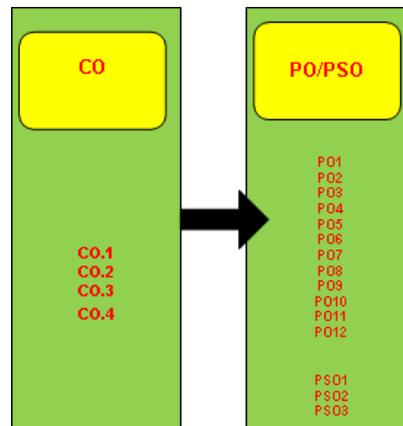


Figure 7.2: Relationship between CO, PO & PSO

7.2 Process involved in CO-PO Mapping

The role of CO-PO mapping will be assigned to the faculty as per hierarchy followed in figure 7.3. After the course (subject) allotment from the department, the course in-charge of the course

has to write appropriate COs for their corresponding course. It should be narrower and measurable statements. By using the action verbs of learning levels, CO's will be designed. CO statements should describe what the students are expected to know and able to do at the end of each course, which are related to the skills, knowledge and behavior that students will acquire through the course.

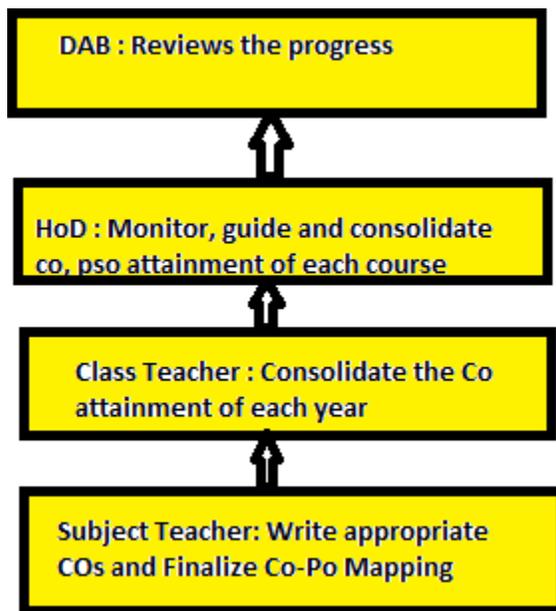


Figure 7.3: Hierarchy of faculty involvement

After writing the CO statements, CO will be mapped with PO of the department. If the department is having more than one section in a year or the same course is available for more than one program of the same institute in a semester, the subject expert will be nominated as course coordinator of the corresponding course. The role of the course coordinator is to review the CO statements and the CO-PO mapping which has been done by course in-charge. The year wise coordinator has to consolidate the CO's of the respective year and maintain the documentation of the CO attainment level of the respective year courses as well as documentation of the individual students extra- curricular and co-curricular activities. These details will hand over to the program coordinator in order to evaluate PO attainment of the individual student as well as individual course at the end of the eighth semester. The Program coordinator has to evaluate the PO attainment of individual student through direct and indirect method after the student completing their program. All these works have to be done under the guidance of Department Advisory Board (DAB).

7.3 CO-PO AND CO-PSO MAPPING:

A sample course outcome statements and sample CO-PO matrix are given in Table

7.1, based on CO statements given in table 6.1.

The CO-PO mapping has been done with correlation levels of 3, 2, 1 and '-'. The notation of 3, 2 and 1 denotes substantially (high), moderately (medium) and slightly (low). The meaning of '-' is no correlation between CO and PO.

Course Name	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
SE(SEM-I) 210241 Discrete Mathematics	CO1	1	1	2	1	-	-	-	-	-	-	-	-
	CO2	1	2	-	2	-	-	-	-	-	-	-	-
	CO3	2	1	2	1	-	-	-	-	-	-	-	-
	CO4	1	2	-	2	-	-	-	-	-	-	-	-
	CO5	-	-	2	-	-	-	-	-	-	-	-	-
	CO6	-	2	1	2	-	-	-	-	-	-	-	-
	CO7	1	2	2	-	-	-	-	-	-	-	-	-
SE(SEM-I) 210242 Fundamentals of Data Structures	CO1	2	2	1	2	-	-	-	-	-	-	-	-
	CO2	1	2	2	1	-	-	-	-	-	-	-	-
	CO3	1	1	1	-	-	-	-	-	-	-	-	-
	CO4	1	-	1	-	-	-	-	-	-	-	-	-
	CO5	1	1	-	1	-	-	-	-	-	-	-	-
	CO6	1	1	1	1	1	-	-	-	-	-	-	-
SE(SEM-I) 210243: Object Oriented Programming (OOP)	CO1	2	2	1	2	-	-	-	-	-	-	-	-
	CO2	1	2	2	1	-	-	-	-	-	-	-	-
	CO3	1	1	1	-	-	-	-	-	-	-	-	-
	CO4	1	-	1	-	-	-	-	-	-	-	-	-
	CO5	1	1	-	1	-	-	-	-	-	-	-	-
	CO6	1	1	1	1	1	-	-	-	-	-	-	-
SE(SEM-I) 210244: Computer Graphics	CO1	2	1	1	-	-	-	-	-	-	-	-	-
	CO2	3	-	1	1	-	-	-	-	-	-	-	-
	CO3	1	2	-	1	-	-	-	-	-	-	-	-
	CO4	2	1	1	1	-	-	-	-	-	-	-	-
	CO5	1	-	1	-	-	-	-	-	-	-	-	-
	CO6	-	2	2	1	-	-	-	-	-	-	-	-
SE(SEM-I) 217521:	CO1	2	-	-	-	-	-	-	-	-	-	-	-
	CO2	2	2	-	1	-	-	-	-	-	-	-	1

Operating Systems	C03	2	2	-	1	-	-	-	-	-	-	-	1
	C04	2	2	-	1	-	-	-	-	-	-	-	1
	C05	2	2	-	1	-	-	-	-	-	-	-	1
	C06	2	2	-	1	-	-	-	-	-	-	-	1
SE(SEM-II) 217528 : Statistics	C01	1	-	-	-	-	-	-	-	-	-	-	-
	C02	1	-	-	-	-	-	-	-	-	-	-	-
	C03	1	-	-	-	-	-	-	-	-	-	-	-
	C04	1	1	-	1	-	-	-	-	-	-	-	-
	C05	1	-	1	1	-	-	-	-	-	-	1	-
	C06	1	-	1	1	-	-	-	-	-	-	1	1
SE(SEM-II) 217529: Internet of Things	C01	1	-	-	-	-	-	-	-	-	-	-	-
	C02	1	2	-	-	-	-	-	-	-	-	-	-
	C03	1	-	-	-	-	-	-	-	-	-	-	2
	C04	1	2	-	2	-	-	-	-	-	-	-	-
	C05	2	2	-	-	-	-	-	-	-	-	-	-
	C06	1	1	-	-	-	-	-	-	-	-	-	-
SE(SEM-II) 210252: Data Structures and Algorithms	C01	2	1	2	1	-	-	-	-	-	-	-	-
	C02	1	2	-	-	-	-	-	-	-	-	-	-
	C03	2	-	-	-	-	-	-	-	-	-	-	-
	C04	-	2	-	1	-	-	-	-	-	-	-	-
	C05	1	-	1	1	-	-	-	-	-	-	-	-
	C06	2	1	1	1	-	-	-	-	-	-	-	-
SE(SEM-II) 210253: Software Engineering	C01	-	2	-	-	-	-	-	-	-	-	-	-
	C02	1	-	-	-	-	2	2	2	-	-	-	-
	C03	-	-	2	-	-	2	-	-	-	-	-	-
	C04	-	2	2	-	-	-	-	-	-	-	-	-
	C05	-	2	2	-	-	-	-	-	-	-	-	-
	C06	-	2	2	-	-	-	-	-	-	-	-	-
	C07	1	-	1	1	-	-	-	-	-	-	-	-
SE(SEM-II) 217530: Management Information Systems	C01	1	2	1	1	-	-	-	-	-	-	-	-
	C02	1	1	1	-	-	-	-	1	1	-	-	-
	C03	2	1	1	-	-	-	-	-	-	-	-	-
	C04	2	1	1	1	-	-	-	-	-	-	1	-
	C05	2	2	2	1	1	-	-	-	-	-	-	-
	C06	2	2	2	1	1	-	-	-	-	-	-	-
TE (SEM I)	C01	2	2	3	1	-	-	-	1	-	-	-	3

310241: Database Management Systems	C02	-	2	3	-	-	2	-	-	-	-	-	3
	C03	-	2	3	-	1	-	-	-	-	-	-	3
	C04	2	2	2	2	-	-	-	-	-	1	-	3
	C05	-	2	3	-	-	-	-	-	-	-	1	3
	C06	2	2	-	-	-	-	1	-	2	-	1	1
TE (SEM I) 317521: Computer Networks	C01	1	1	-	2	1	1	-	-	2	2	-	1
	C02	1	1	-	1	1	1	-	-	2	2	-	1
	C03	2	3	-	2	1	1	-	-	2	2	-	1
	C04	1	1	1	-	1	-	-	-	1	-	1	1
	C05	1	3	-	-	1	-	1	1	-	-	-	-
TE (SEM I) 310252: Web Technology	C01	1	1	2	1	1	-	-	-	-	-	-	-
	C02	-	2	1	3	1	-	-	-	1	-	-	-
	C03	2	-	2	1	-	1	-	-	-	-	1	-
	C04	1	3	1	2	2	1	-	1	-	-	-	1
	C05	1	1	2	-	3	-	1	1	-	1	-	-
	C06	2	1	-	2	1	1	-	1	-	-	-	-
TE (SEM I) 310253: Artificial Intelligence	C01	1	2	2	1	-	-	1	3	-	2	-	-
	C02	1	3	3	2	3	1	-	3	1	2	-	-
	C03	3	2	2	2	1	1	1	-	-	2	-	-
	C04	1	2	2	1	-	-	1	3	1	2	-	-
	C05	1	2	2	1	-	-	1	3	1	2	-	-
	C06	1	2	2	1	-	-	1	3	1	2	-	-
TE (SEM I) Elective I 310245(B): Human Computer Interface	C01	1	3	2	1	1	1	-	-	1	1	3	1
	C02	2	2	-	1	-	-	-	2	1	-	-	-
	C03	-	1	2	3	-	1	-	1	-	-	1	-
	C04	-	-	-	2	3	1	-	-	1	-	-	-
	C05	3	2	2	-	2	2	2	-	-	2	2	3
	C06	-	1	2	1	2	3	-	1	-	-	-	2
TE (SEM II) 317529: Data Science	C01	1	3	2	1	-	-	-	-	1	-	-	1
	C02	1	2	1	2	-	1	-	-	1	-	-	1
	C03	2	1	2	1	-	1	-	-	1	-	-	1
	C04	1	2	2	2	2	-	-	-	1	-	-	1
	C05	1	2	2	1	2	-	-	-	1	-	-	1
	C06	1	2	1	2	2	-	-	-	1	-	-	1

TE (SEM II) 317530: Cyber Security	C01	2	2	-	-	-	1	-	-	-	-	-	1
	C02	2	2	-	1	-	1	-	-	-	-	-	1
	C03	2	2	-	-	-	1	-	-	-	-	-	1
	C04	2	2	2	2	2	1	-	-	-	-	-	1
	C05	2	2	1	2	1	1	1					
	C06	2	2	2	2	-	1	1					
TE (SEM II) 317531: Artificial Neural Network	C01	3	1	3	-	-	1	1	1	2	-	2	1
	C02	3	2	3	2	1	1	1	-	3	1	2	1
	C03	2	1	2	1	3	1	-	1	2	-	1	2
	C04	1	1	1	1	-	-	-	1	-	2	-	1
	C05	2	2	3	2	2	1	1	1	2	1	3	1
	C06	3	3	3	2	3	2	1	1	3	1	2	1
TE (SEM II) Elective II 310254(C): Cloud Computing	C01	1	2	1	-	-	-	-	-	-	-	-	1
	C02	1	2	1	-	-	-	-	-	-	-	-	-
	C03	1	2	1	-	2	-	-	-	-	-	-	-
	C04	1	2	2	1	-	-	-	-	-	-	-	1
	C05	1	2	2	2	-	-	-	-	-	-	-	-
	C06	1	2	2	1	1	-	-	-	-	-	-	1
BE (SEM I) 417521: Machine Learning	C01	3	1	-	-	-	-	-	-	1	-	-	1
	C02	3	3	3	2	3	-	-	-	1	-	-	1
	C03	3	3	3	2	3	-	-	-	1	-	-	1
	C04	3	3	3	2	3	-	-	-	1	-	-	1
	C05	3	3	3	2	3	-	-	-	1	-	-	1
	C06	3	3	3	2	3	-	-	-	1	-	-	1
BE (SEM I) 417522: Data Modeling and Visualization	C01	2	3	2	2	-	-	-	-	-	-	-	1
	C02	3	2	2	2	3	3	-	-	-	-	-	1
	C03	3	3	1	2	2	2	-	-	-	-	-	2
	C04	2	2	2	2	3	2	-	-	-	-	-	2
	C05	1	3	2	3	2	-	-	-	-	-	-	2
	C06	-	2	2	2	3	-	-	-	-	-	-	2
BE (SEM I) Elective III 417523(A): Quantum Artificial Intelligence	C01	3	2	1	-	-	-	-	-	2	-	1	2
	C02	3	2	3	1	2	1	-	-	-	-	-	1
	C03	3	2	3	2	3	1	-	-	-	-	-	1
	C04	3	3	2	3	2	-	-	-	-	-	2	1
	C05	3	3	2	2	1	2	-	-	-	-	-	1

	C06	3	3	2	2	1	-	1	2	1	-	3	2
BE (SEM I) Elective IV 417524(B): Information Retrieval	C01	1	-	-	-	-	-	-	-	-	-	-	-
	C02	-	1	2	-	-	-	-	-	-	-	-	-
	C03	1	2	1	1	1	-	-	-	-	-	-	2
	C04	1	-	1	1	-	-	-	-	1	-	-	1
	C05	1	-	-	-	-	-	-	1	1	-	-	1
	C06	-	-	-	-	1	-	-	-	-	-	-	1
BE (SEM II) 417529: Computational Intelligence	C01	3	2	1	2	-	-	-	-	-	-	-	-
	C02	3	2	2	2	1	-	-	-	-	-	-	-
	C03	2	2	3	2	-	-	-	-	-	-	-	-
	C04	2	3	3	2	-	-	-	-	-	-	-	-
	C05	2	2	2	2	1	1	-	-	-	1	-	1
	C06	2	2	3	2	1	1	-	-	-	-	-	1
BE (SEM II) 417530: Distributed Computing	C01	1	-	1	1	-	-	-	-	-	-	1	-
	C02	1	-	1	2	-	-	-	-	-	-	-	-
	C03	-	-	1	1	-	-	-	-	-	-	1	-
	C04	2	-	2	1	1	-	-	-	-	-	1	-
	C05	1	-	1	2	2	-	-	-	-	-	-	-
	C06	1	-	2	2	3	-	-	-	-	-	1	-
BE (SEM II) Elective V 417531 (D): Deep Learning	C01	3	3	3	3	3	-	-	-	-	-	-	2
	C02	3	2	2	2	2	-	-	-	-	-	-	1
	C03	3	2	2	2	2	-	-	-	-	-	-	1
	C04	2	2	2	2	2	-	-	-	-	-	-	1
	C05	2	2	3	2	2	-	-	-	-	-	-	1
	C06	2	2	2	2	2	-	-	-	-	-	-	1
BE (SEM II) Elective VI 417533(B): Business Intelligence	C01	2	-	2	-	-	-	-	-	-	-	-	-
	C02	-	-	2	-	3	-	-	-	-	-	-	-
	C03	-	2	2	2	3	-	-	-	-	-	-	-
	C04	-	3	-	-	3	-	-	-	-	-	-	-
	C05	-	3	3	2	3	-	-	-	-	-	-	-
	C06	-	-	-	-	-	2	-	2	-	-	2	-

Table 7.1: CO-PO Matrix

7.4 PROCESS USED TO IDENTIFY THE CURRICULAR GAPS TO THE ATTAINMENT OF COS/POS

The process used to identify the curricular gaps to the attainment of COs/POs is given in figure 7.3 and is explained as below:

Step-1:

The subject teacher; after CO-PO mapping, would analyze the curriculum gap for CO attainment.

Step-2:

The subject teacher would submit the CO-PO attainment along with curriculum gap identified in the course and recommendations to conduct co-curricular activities & identify content beyond the syllabus to academic coordinator.

Step-3:

The Academic Coordinator (AC) who is a member of the Academic Monitoring Committee (AMC) would consolidate curricular gaps and recommendations to conduct co-curricular activities reported by course coordinators to prepare the department level academic calendar.

Step-4:

The HOD and AC would consolidate the CO and PO attainment of the programme with all the identified gaps and discuss with DAB members in DAB meeting.

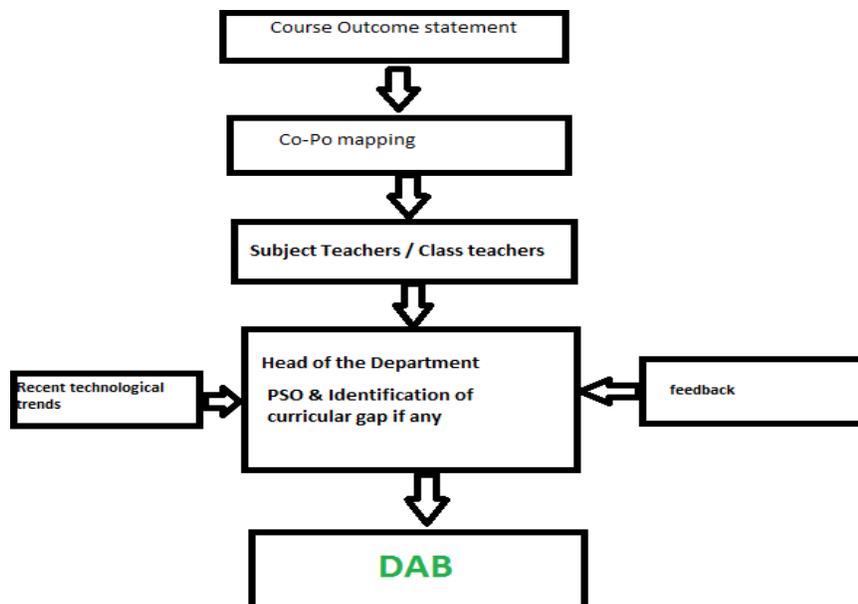


Figure 7.4: Identification of curricular gap

The department after getting prior approval from DAB about the steps to be taken to bridge the curricular Gap and content beyond the syllabus may be delivered to the students through teaching, arranging guest lectures, industrial visit, in plant training, online quiz, etc.

"Empowerment through Quality Technical Education"							
Ajeenkya DY Patil School of Engineering							
D Y Patil Knowledge City, Charoli (Bk), Via Lohegaon, Pune 412105							
Department of Artificial Intelligence & Data Science							
Department Academic Calendar 2022-23 [Tentative] Form No: IQAC/01(b)							
JUNE 2022							
SUN	MON	TUE	WED	THU	FRI	SAT	
			1	2	3	4	a-b
5	6	7	8	9	10	11	
12	13	14	15	16	17	18	c-d
19	20	21	22	23	24	25	
25	27	28	29	30			
JULY 2022							
SUN	MON	TUE	WED	THU	FRI	SAT	
					1	2	
3	4	5	6	7	8	9	a-b
10	11	12	13	14	15	16	d-e
17	18	19	20	21	22	23	c-f-g
24	25	26	27	28	29	30	
31							
AUGUST 2022							
SUN	MON	TUE	WED	THU	FRI	SAT	
	1	2	3	4	5	6	a
7	8	9 Mohram	10	11	12	13	b
14	15-Aug	16-Parsi	17	18	19	20	c-d
21	22	23	24	25	26	27	e-f
28	29	30	31-Ganesh				g-h-i
September 2022							
SUN	MON	TUE	WED	THU	FRI	SAT	
				1	2	3	a
4	5	6	7	8	9	10	b
11	12	13	14	15	16	17	c
18	19	20	21	22	23	24	d
25	26	27	28	29	30		e-f
October 2022							
SUN	MON	TUE	WED	THU	FRI	SAT	
						1	
2	3	4	5-Dasra	6	7	8	a
9	10	11	12	13	14	15	b
16	17	18	19	20	21	22	c-d-e
23	24-Diwali	25	26-Bhaubij	27	28	29	f
30	31						
November 2022							
SUN	MON	TUE	WED	THU	FRI	SAT	
		1	2	3	4	5	a-b-e
6	7	8-Gurunanak	9	10	11	12	c
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30				d
December 2022							
SUN	MON	TUE	WED	THU	FRI	SAT	
				1	2	3	
4	5	6	7	8	9	10	a
11	12	13	14	15	16	17	b
18	19	20	21	22	23	24	c
25	26	27	28	29	30	31	

a. Staff identification, advertisement, recruitment
b. A. Y. 2021-22 Teacher diary submission
c. Staff performance appraisal
d. Dead stock verification

a. Department Academic Calendar
b. Load Distribution, Staff Portfolio & Time table
c. **Commencement of Teaching: SEM-I (18/07/2022)**
d. NAAC & AQAR Meeting with Criteria Chairperson & Dept. Co-ordinator
e. Lab installation
f. Staff Performance Appraisals
g. Induction Programs for Staff & Students

a. Identification of slow & advanced Learners
b. Result Analysis of Baseline Test
c. Bridge Course for Slow Learners (Add-on course)
d. 15th August - Independence Day Celebration
e. Student's Feedback - I, Feedback Analysis & Action Taken Report
f. Unit Test - I & Result Analysis
g. Academic Progress Report - I
h. Student's attendance, defaulter List-I & Action Taken Report
i. Department Advisory Board Meeting-I

a. Activity for slow Learners/ Advanced Learners (e.g. Guest Lecture)
b. Remedial Teaching & Retest
c. SPPU INSEM EXAM, Invigilation & CAP duty
d. Parents Teacher's Meet- I (PTM-I)
e. Academic Progress Report - II (APR-II)
f. Student's attendance & defaulter List-II

a. Remedial Teaching & Retest -1
b. 5th OCT Holiday Dasra
c. Activity for slow Learners/ Advanced Learners
d. Unit Test -II (UT- II) & Result Analysis of UT-II
e. Student Feedback -II FEEDBACK ANALYSIS & ACTION TAKEN REPORT
f. Diwali Holidays

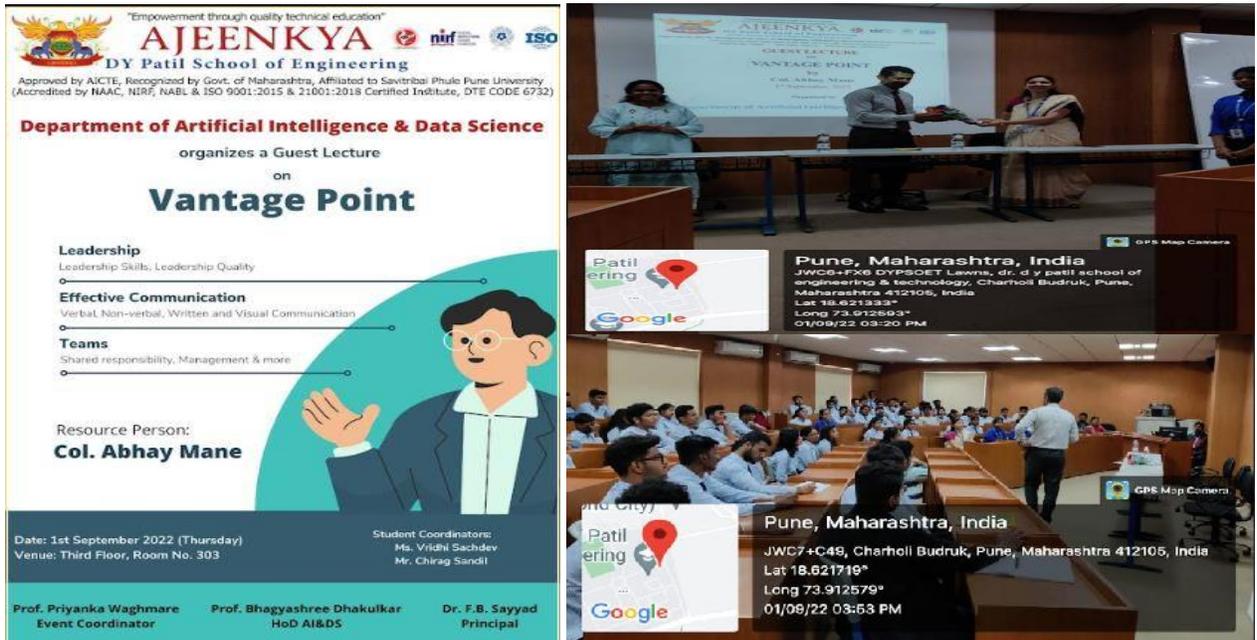
a. Mock Examination (OR/PR), Course Exit Survey, Student Submission
b. Conclusion of Teaching: SEM-I (5/11/2022)
c. SPPU OR / PR EXAM
d. SPPU ENDSEM EXAM - Invigilation, CAP duty & Vacation
e. Meeting for planning of Industrial Visits /Field Projects

a. Load Distribution, Staff Portfolio & Time-Table for SEM-II
b. SEM-I Course File Submission
c. Planning of Faculty Development Program on Recent trends

During the CO-PO Mapping and Analysis it was observed that PO1 to PO5 are directly mapping with most of the courses but curricular gap was identified to map PO6 to PO10. PO11 and PO12 were mapped through courses like Project Based Learning, Mini Projects and Project Stage I and II. According to the gaps identified by the subject teacher, academic coordinator and Head of the department, various curricular activities are listed and discussed in the DAB meeting. The shortlisted activities are planned and included in the Department Academic Calendar which is made available to staff and students. Following are details of sample activities conducted in the academic year 2021-22, 2022-23 and 2023-24.

Department of Artificial Intelligence and Data Science Engineering						
For AY 2021-22 and 2023-24						
Sr.No.	A.Y.	Name of Faculty	Name of Guest	Subject/Domain	Date	Name of the Event
1	2021-22	Prof. Sonal Durgule	Prof. Sayli Belhe	Environment and Ecosystem	11th May 2022	Guest Lecture on Initiative for Paperless Work
2	2022-23	Prof. Priyanka Waghmare	Col. Abhay Mane	Personality Development	1st September 2022	Guest Lecture on Vantage Point
3	2022-23	Prof. Gopika Fattepurkar	Aman Mistry	Cloud computing	18 March 2023	Guest lecture on AWS
4	2022-23	Prof. Hemangi Patil	Mr. Vikram Kansara	SE	02nd May 2023	Guest Lecture on Agile Software Development
5	2022-23	Prof. Shakti Kaushal	Mr. Pramod Hankare	IoT	1st May 2023	Guest Lecture on Development of IoT and its Applications
6	2023-24	Prof. Ankita Tidake	Prof. Sneha Kanawde	IR	1st Nov. 2023	Guest lecture on "Career Opportunities in the field of Information Retrieval"
7	2023-24	Prof. Poonam Nagale		DBMS	21st Oct. 2023	Guest Lecture on MongoDB
8	2023-24	Prof. Shakti Kaushal	Mr. Deepak Chopade	CN	11th September 2023	Guest Lecture on OSI Layers
9	2023-24	Prof. Rupali N. Wagh & Prof. Sweta Wankhade	Mr. Kushal Sharma & Mr. Shiv Patel	QA	20th October 2023	Guest Lecture on Quantum Problem Solving and AI Applications
10	2023-24	Prof. Rohini N. Shrikhande and Prof. Gopika Fattepurkar	Dr. Nakul Sharma	FDS	30th Nov. 2023	Guest Lecture of Queue
11	2023-24	Prof. Sushma Gunjal	Prof. Kshirsagar Vitthal Ajinath	DS	4th Nov. 2023	Guest Lecture of Discrete Mathematics
12	2023-24	Prof. Rohini N. Shrikhande and Prof. Shakti Kaushal	Ashwini Nawadkar	IOT	13th April 2024	Guest lecture on IOT Design and Applications
13	2023-24	Prof. Priyanka S. Bhore & Prof. Sweta Wankhade	Mohd Wajahatullah Naseem	CG	02 December 23	Guest Lecture on Animation

Guest lecture on Vantage Point (Leadership, Effective Communication and Teams)



Technical Event : Technovanza (A. Y. 2021-22)



Seminar and Technical Communication (A. Y. 2022-23):



List of Certifications of skill development courses completed by TE students in A.Y. 2022-23:

Sr. No.	Name of the Student	Name of the course	Certification Authority
1.	AMEYA SANDIP SHINDE	MACHINE LEARNING WITH PYTHON & AI	ATS Learning Solutions
2.	Rutuja Raju Burde	MACHINE LEARNING WITH PYTHON & AI	ATS Learning Solutions
3.	Utkarsha Umesh Dhane	Navigating the Workplace with Emotional Intelligence	Infosys Springboard
4.	Vridhi Ritesh Sachdev	Introduction to Business Intelligence	Infosys Springboard
5.	Rachita Bisht	Machine Learning	Infosys Springboard
6.	Prathamesh Zade	Getting Started with AWS Machine Learning	Coursera
7.	Vridhi Ritesh Sachdev	Goethe Zertifikat B2- Writing, Speaking, Listening	(Association of Language Testers in Europe) ALTE
8.	Manali Gaikwad	Microsoft Excel – Excel from Beginner to Advanced	Udemy
9.	Rutuja Raju Burde	DevOps Workshop on Automating Software Lifecycle in E-comm	Edureka

List of sample Internship:

Sr. No.	Name of the Student	Role at Internship	Source of Internship
10.	Mr Chaitanya Sonawane	Data Annotator -Semantic Segmentation	Ideas to Impacts Digital Pvt. Ltd., Pune
11.	Manali Gaikwad	Campus Ambassador Program 2022	Entrepreneurship and Development Cell, IIT Delhi,
12.	Prathamesh Zade	Virtual Internship Program	Future Skill Prime, Microsoft, AICTE

Seminar on GATE/ PSU:



Department of Artificial Intelligence and Data Science Engineering					
For AY 2022-23 and 2023-24					
Sr.No.	A.Y.	Faculty Coordinator	Date	Resource Person	Name of the Seminar / Webinar
1	2022-2023	Prof. Shakti Kaushal	24/4/2023.	Mrs. Aishwaria Vijay	Webinar on "Importance of Aptitude for Placements and Higher Studies – Tips and Tricks"
2	2022-2023	Prof. Rachana Chaptre	17/3/2023	Mr. Naveen Bhatt	Seminar on "Overview to University Admissions Overseas "
3	2022-2023	Prof. Poonam Nagale	29/9/2022	Mr. Shankar Wadne	Seminar on "Importance of GATE/PSUs for Higher Studies and Government Jobs"
4	2022-2023	Prof. Shakti Kaushal	12/4/2023	Mrs. Namrata Bhingarde	Webinar on "Women’s Health and Hygiene"
5	2022-2023	Prof. Hemangi Patil	02/11/2022	Adv. Divya Dwivedi	Webinar on "Cyber Jagrukta Divas"
6	2022-23	Prof. Hemangi Patil	23/3/2023	Mr. Dhiraj Patil	Seminar on "Work life balance for women"
8	2023-24	Prof. Hemangi Patil	3/4/2024	Dr. Geetali Vinayak Mandakini	Seminar on "Sexual harrasment in the organization"
9	2023-24	Prof. Hemangi Patil	7/2/2024	Asmita Self esteem Event Rotary Club	Seminar on "Self esteem Event"
10	2023-24	Prof. Rohini Shrikhande	3/8/2023	CANAM	Higher Studies Outside India
11	2023-24	Prof. Rohini Shrikhande	24/8/2023	Mr. Alan Das	Foreign Studies
12	2023-24	Prof. Rohini Shrikhande	26/9/2023	Prof. Prasanna Gandhi	regarding awareness of GATE 2024(Webinar)
13	2023-24	Prof. Rohini Shrikhande	19/10/2023	Mr. Sumit Aacharya	Higher Studies abroad (UK)
14	2023-24	Prof. Rohini Shrikhande	25/11/2024	Mr. Amandeep kaur, Ms. Mansi	Higher education Abroad
15	2023-24	Prof. Rohini Shrikhande	20/2/2024	Mr. Gagandeep Singh, Ms. Parneet Kaur	Oppourtunities for Higher Education
16	2023-24	Prof. Priyanka Bhore and Prof. Rohini Shrikhande	5/4/2024	Mr. Dhiraj Patil	Seminar on " Yoga and Meditation"

8. COURSE OUTCOMES TO PO AND PSO MAPPING

Mapping strength of a course to PO/ PSO has been obtained by taking the average of the CO-PO/ PSO mapping matrices of that course.

Course Name	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SE(SEM-I) 210241 Discrete Mathematics	CO1	1	1	2	1	-	-	-	-	-	-	-	-	-	2	
	CO2	1	2	-	2	-	-	-	-	-	-	-	-	-	-	2
	CO3	2	1	2	1	-	-	-	-	-	-	-	-	-	-	1
	CO4	1	2	-	2	-	-	-	-	-	-	-	-	-	2	-
	CO5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
	CO6	-	2	1	2	-	-	-	-	-	-	-	-	2	-	-
	CO7	1	2	2	-	-	-	-	-	-	-	-	-	1	-	-
SE(SEM-I) 210242 Fundamentals of Data Structures	CO1	2	2	1	2	-	-	-	-	-	-	-	-	1	-	-
	CO2	1	2	2	1	-	-	-	-	-	-	-	-	1	1	-
	CO3	1	1	1	-	-	-	-	-	-	-	-	-	1	1	-
	CO4	1	-	1	-	-	-	-	-	-	-	-	-	1	1	-
	CO5	1	1	-	1	-	-	-	-	-	-	-	-	1	-	-
	CO6	1	1	1	1	1	-	-	-	-	-	-	-	1	-	-
SE(SEM-I) 210243: Object Oriented Programming (OOP)	CO1	2	2	1	2	-	-	-	-	-	-	-	-	1		-
	CO2	1	2	2	1	-	-	-	-	-	-	-	-	-	1	-
	CO3	1	1	1	-	-	-	-	-	-	-	-	-	-		-
	CO4	1	-	1	-	-	-	-	-	-	-	-	-	-	1	-
	CO5	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-
	CO6	1	1	1	1	1	-	-	-	-	-	-	-	1	-	-
SE(SEM-I) 210244: Computer Graphics	CO1	2	1	1	-	-	-	-	-	-	-	-	-		-	-
	CO2	3	-	1	1	-	-	-	-	-	-	-	-	1	-	-
	CO3	1	2	-	1	-	-	-	-	-	-	-	-	1	-	-
	CO4	2	1	1	1	-	-	-	-	-	-	-	-	1	-	-
	CO5	1	-	1	-	-	-	-	-	-	-	-	-		-	-
	CO6	-	2	2	1	-	-	-	-	-	-	-	-	2		-
SE(SEM-I) 217521: Operating Systems	CO1	2	-	-	-	-	-	-	-	-	-	-	-		2	-
	CO2	2	2	-	1	-	-	-	-	-	-	-	1	1	2	-
	CO3	2	2	-	1	-	-	-	-	-	-	-	1	-	2	
	CO4	2	2	-	1	-	-	-	-	-	-	-	1	-		2
	CO5	2	2	-	1	-	-	-	-	-	-	-	1	1	2	

	CO6	2	2	-	1	-	-	-	-	-	-	-	1	-	-	2
SE(SEM-II) 217528 : Statistics	CO1	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
	CO2	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-
	CO3	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-
	CO4	1	1	-	1	-	-	-	-	-	-	-	-	1	1	-
	CO5	1	-	1	1	-	-	-	-	-	-	1	-	1	-	-
	CO6	1	-	1	1	-	-	-	-	-	-	1	1	1	-	-
SE(SEM-II) 217529: Internet of Things	CO1	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
	CO2	1	2	-	-	-	-	-	-	-	-	-	-	1	1	-
	CO3	1	-	-	-	-	-	-	-	-	-	-	2	1	1	-
	CO4	1	2	-	2	-	-	-	-	-	-	-	-	1	1	-
	CO5	2	2	-	-	-	-	-	-	-	-	-	-	1	-	-
	CO6	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-
SE(SEM-II) 210252: Data Structures and Algorithms	CO1	2	1	2	1	-	-	-	-	-	-	-	-	1	-	-
	CO2	1	2	-	-	-	-	-	-	-	-	-	-	1	-	-
	CO3	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
	CO4	-	2	-	1	-	-	-	-	-	-	-	-	1	-	-
	CO5	1	-	1	1	-	-	-	-	-	-	-	-	1	-	-
	CO6	2	1	1	1	-	-	-	-	-	-	-	-	1	-	-
SE(SEM-II) 210253: Software Engineering	CO1	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-
	CO2	1	-	-	-	-	2	2	2	-	-	-	-	1	2	-
	CO3	-	-	2	-	-	2	-	-	-	-	-	-	-	2	-
	CO4	-	2	2	-	-	-	-	-	-	-	-	-	-	-	2
	CO5	-	2	2	-	-	-	-	-	-	-	-	-	1	2	-
	CO6	-	2	2	-	-	-	-	-	-	-	-	-	-	-	2
	CO7	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-
SE(SEM-II) 217530: Management Information Systems	CO1	1	2	1	1	-	-	-	-	-	-	-	-	-	-	-
	CO2	1	1	1	-	-	-	-	1	1	-	-	-	-	-	-
	CO3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
	CO4	2	1	1	1	-	-	-	-	-	-	1	-	-	1	-
	CO5	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-
	CO6	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-
TE (SEM I) 310241: Database Management Systems	CO1	2	2	3	1	-	-	-	1	-	-	-	3	1	-	-
	CO2	-	2	3	-	-	2	-	-	-	-	-	3	1	-	-
	CO3	-	2	3	-	1	-	-	-	-	-	-	3	1	-	-
	CO4	2	2	2	2	-	-	-	-	-	1	-	3	1	-	-

	C05	-	2	3	-	-	-	-	-	-	-	1	3	1	-	-
	C06	2	2	-	-	-	-	1	-	2	-	1	1	1	-	-
TE (SEM I) 317521: Computer Networks	C01	1	1	-	2	1	1	-	-	2	2	-	1	2	-	-
	C02	1	1	-	1	1	1	-	-	2	2	-	1	1	1	-
	C03	2	3	-	2	1	1	-	-	2	2	-	1	1	2	-
	C04	1	1	1	-	1	-	-	-	1	-	1	1	1	1	-
	C05	1	3	-	-	1	-	1	1	-	-	-	-	1	2	-
	C06	1	1	-	2	1	1	-	-	2	2	-	1	2	2	1
TE (SEM I) 310252: Web Technology	C01	1	1	2	1	1	-	-	-	-	-	-	-	2	-	-
	C02	-	2	1	3	1	-	-	-	1	-	-	-	1	1	-
	C03	2	-	2	1	-	1	-	-	-	-	1	-	1	2	-
	C04	1	3	1	2	2	1	-	1	-	-	-	1	1	1	-
	C05	1	1	2	-	3	-	1	1	-	1	-	-	1	2	-
	C06	2	1	-	2	1	1	-	1	-	-	-	-	2	2	1
TE (SEM I) 310253: Artificial Intelligence	C01	1	2	2	1	-	-	1	3	-	2	-	-	1	-	-
	C02	1	3	3	2	3	1	-	3	1	2	-	-	2	1	-
	C03	3	2	2	2	1	1	1	-	-	2	-	-	2	2	-
	C04	1	2	2	1	-	-	1	3	1	2	-	-	1	-	-
	C05	1	2	2	1	-	-	1	3	1	2	-	-	1	-	1
	C06	1	2	2	1	-	-	1	3	1	2	-	-	1	-	-
TE (SEM I) Elective I 310245(B): Human Computer Interface	C01	1	3	2	1	1	1	-	-	1	1	3	1	1	-	-
	C02	2	2	-	1	-	-	-	2	1	-	-	-	1	-	-
	C03	-	1	2	3	-	1	-	1	-	-	1	-	1	-	-
	C04	-	-	-	2	3	1	-	-	1	-	-	-	2	-	-
	C05	3	2	2	-	2	2	2	-	-	2	2	3	1	1	-
	C06	-	1	2	1	2	3	-	1	-	-	-	2	1	-	-
TE (SEM II) 317529: Data Science	C01	1	3	2	1	-	-	-	-	1	-	-	1	1	-	-
	C02	1	2	1	2	-	1	-	-	1	-	-	1	1	1	-
	C03	2	1	2	1	-	1	-	-	1	-	-	1	1	1	-
	C04	1	2	2	2	2	-	-	-	1	-	-	1	2	2	-
	C05	1	2	2	1	2	-	-	-	1	-	-	1	2	1	-
	C06	1	2	1	2	2	-	-	-	1	-	-	1	2	-	-
TE (SEM II) 317530: Cyber	C01	2	2	-	-	-	1	-	-	-	-	-	1	1	-	-
	C02	2	2	-	1	-	1	-	-	-	-	-	1	1	-	-
	C03	2	2	-	-	-	1	-	-	-	-	-	1	1	-	-

Security	C04	2	2	2	2	2	1	-	-	-	-	-	1	1	-	-
	C05	2	2	1	2	1	1	1						1	-	-
	C06	2	2	2	2	-	1	1						1	-	-
TE (SEM II) 317531: Artificial Neural Network	C01	3	1	3	-	-	1	1	1	2	-	2	1	2	2	-
	C02	3	2	3	2	1	1	1	-	3	1	2	1	2	1	-
	C03	2	1	2	1	3	1	-	1	2	-	1	2	2	2	-
	C04	1	1	1	1	-	-	-	1	-	2	-	1	1	-	-
	C05	2	2	3	2	2	1	1	1	2	1	3	1	3	2	1
	C06	3	3	3	2	3	2	1	1	3	1	2	1	3	3	1
TE (SEM II) Elective II 310254(C): Cloud Computing	C01	1	2	1	-	-	-	-	-	-	-	-	1	1	-	-
	C02	1	2	1	-	-	-	-	-	-	-	-	-	1	2	-
	C03	1	2	1	-	2	-	-	-	-	-	-	-	2	2	-
	C04	1	2	2	1	-	-	-	-	-	-	-	1	-	3	-
	C05	1	2	2	2	-	-	-	-	-	-	-	-	2	1	-
	C06	1	2	2	1	1	-	-	-	-	-	-	1	2	2	-
BE (SEM I) 417521: Machine Learning	C01	3	1	-	-	-	-	-	-	1	-	-	1	-	2	-
	C02	3	3	3	2	3	-	-	-	1	-	-	1	-	-	2
	C03	3	3	3	2	3	-	-	-	1	-	-	1	-	-	1
	C04	3	3	3	2	3	-	-	-	1	-	-	1	-	2	-
	C05	3	3	3	2	3	-	-	-	1	-	-	1	-	-	-
	C06	3	3	3	2	3	-	-	-	1	-	-	1	2	-	-
BE (SEM I) 417522: Data Modeling and Visualization	C01	2	3	2	2	-	-	-	-	-	-	-	1	2	-	-
	C02	3	2	2	2	3	3	-	-	-	-	-	1	3	2	-
	C03	3	3	1	2	2	2	-	-	-	-	-	2	2	-	1
	C04	2	2	2	2	3	2	-	-	-	-	-	2	2	2	-
	C05	1	3	2	3	2	-	-	-	-	-	-	2	-	2	-
	C06	-	2	2	2	3	-	-	-	-	-	-	2	1	-	-
BE (SEM I) Elective III 417523(A): Quantum Artificial Intelligence	C01	3	2	1	-	-	-	-	-	2	-	1	2	1	-	-
	C02	3	2	3	1	2	1	-	-	-	-	-	1	2	1	-
	C03	3	2	3	2	3	1	-	-	-	-	-	1	2	2	-
	C04	3	3	2	3	2	-	-	-	-	-	-	2	1	-	-
	C05	3	3	2	2	1	2	-	-	-	-	-	1	1	-	1
	C06	3	3	2	2	1	-	1	2	1	-	3	2	1	-	-
BE (SEM I) Elective IV	C01	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
	C02	-	1	2	-	-	-	-	-	-	-	-	-	2	1	-

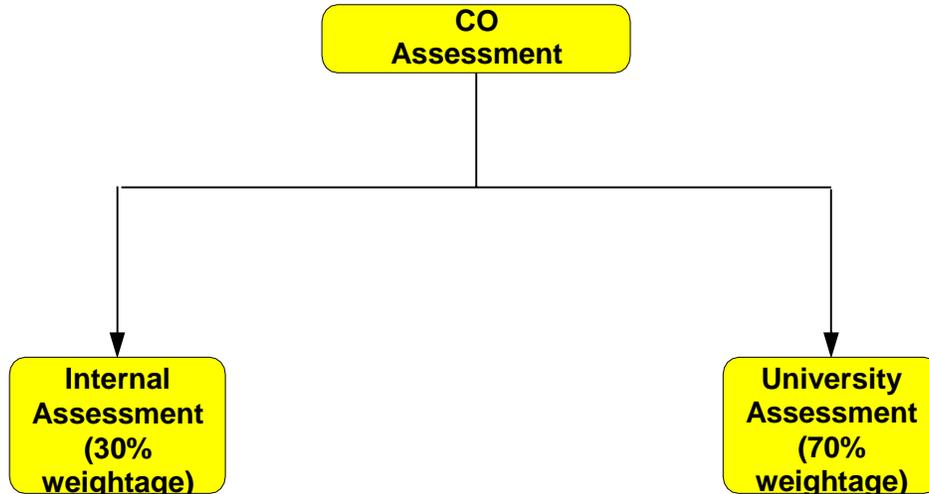
417524(B): Information Retrieval	CO3	1	2	1	1	1	-	-	-	-	-	-	2	2	2	-
	CO4	1	-	1	1	-	-	-	-	1	-	-	1	1	-	-
	CO5	1	-	-	-	-	-	-	1	1	-	-	1	1	-	1
	CO6	-	-	-	-	1	-	-	-	-	-	-	1	1	-	-
BE (SEM II) 417529: Computational Intelligence	CO1	3	2	1	2	-	-	-	-	-	-	-	-	2	-	-
	CO2	3	2	2	2	1	-	-	-	-	-	-	-	2	2	-
	CO3	2	2	3	2	-	-	-	-	-	-	-	-	2	-	-
	CO4	2	3	3	2	-	-	-	-	-	-	-	-	2	1	-
	CO5	2	2	2	2	1	1	-	-	-	1	-	1	2	-	-
	CO6	2	2	3	2	1	1	-	-	-	-	-	1	1	-	-
BE (SEM II) 417530: Distributed Computing	CO1	1	-	1	1	-	-	-	-	-	-	1	-	1	-	-
	CO2	1	-	1	2	-	-	-	-	-	-	-	-	1	-	-
	CO3	-	-	1	1	-	-	-	-	-	-	1	-	1	-	-
	CO4	2	-	2	1	1	-	-	-	-	-	1	-	1	-	-
	CO5	1	-	1	2	2	-	-	-	-	-	-	-	1	-	-
	CO6	1	-	2	2	3	-	-	-	-	-	1	-	1	-	-
BE (SEM II) Elective V 417531 (D): Deep Learning	CO1	3	3	3	3	3	-	-	-	-	-	-	2	1	-	-
	CO2	3	2	2	2	2	-	-	-	-	-	-	1	2	1	-
	CO3	3	2	2	2	2	-	-	-	-	-	-	1	2	2	-
	CO4	2	2	2	2	2	-	-	-	-	-	-	1	1	-	-
	CO5	2	2	3	2	2	-	-	-	-	-	-	1	1	-	1
	CO6	2	2	2	2	2	-	-	-	-	-	-	1	1	-	-
BE (SEM II) Elective VI 417533(B): Business Intelligence	CO1	2	-	2	-	-	-	-	-	-	-	-	-	1	-	-
	CO2	-	-	2	-	3	-	-	-	-	-	-	-	-	2	-
	CO3	-	2	2	2	3	-	-	-	-	-	-	-	-	2	-
	CO4	-	3	-	-	3	-	-	-	-	-	-	-	2	1	-
	CO5	-	3	3	2	3	-	-	-	-	-	-	-	2	1	-
	CO6	-	-	-	-	-	2	-	2	-	-	2	-	-	1	2

9. ASSESSMENT PROCESS

9.1 Assessment Process for CO Attainment:

For the evaluation and assessment of CO's and PO's, rubrics are used. The rubrics considered here are given below:

(i) CO Assessment Rubrics:



the predefined targets, if it is not the course coordinator takes necessary steps for the improvement to reach the Course Outcome is evaluated based on the performance of students in internal assessments and in university examination of a course. Internal assessment contributes 30% and university assessment contributes 70% to the total attainment of a CO.

(ii) CO Assessment Tools:

The description of Assessment tools used for the evaluation of program outcomes is given in Table 9.1. The various assessment tools used to evaluate COs and the frequency with which the assessment processes are carried out are listed in table 9.2.

In each course, the level of attainment of each CO is compared with target. With the help of CO against PO/PSO mapping, the PO/PSO attainment is calculated by the programme coordinator.

Mode of Assessment	Assessment Tool	Description	Evaluation of Course Outcomes	Related POs/PSOs	Frequency of assessment
Direct	Internal Examination	Summative Test (Till A.Y. 2021-22), Unit Test 1 and Unit Test 2 examinations are conducted and its average marks are considered.	The questions in the internal examinations are mapped against COs of respective course. The questions for three internal examinations are framed in such a way to cover all of the course outcomes.	PO 1 to PO 12	Two exams per Semester
	Continuous Assessment	Assignment, Quiz, Internal Viva, Presentations/ Seminars, Internal practical examination are conducted and its marks are considered.	Assignments and quiz questions are mapped against COs of the respective course. The questions for internal practical examinations are framed in such a way to cover all of the Lab course outcomes.	PO 1 to PO 12	Continuous
Indirect	Course Exit Survey	This survey gives the opinion of the student on the attainment of course outcomes.	At the end of the course a survey is collected from students and its considered for the CO attainment under Indirect assessment.	PO 1 to PO 12	At the end of each course

Table 9.1: Mapping of assessment tools to POs/PSOs with frequency

(iii) Quality/Relevance of Assessment Process:

Theory:

(A) Internal Assessment:

Internal Examination- Direct

Internal tests serve to encourage students to keep up with course content covered in class. Two internal examinations are conducted per semester and its average marks are considered. Unit test -1 –is of 30 Marks which is based on Unit 1 & Unit 2 and it covers CO1, CO2. Unit Test -2 is of 30 marks which is based on Units 3 and 4 and it will cover COs 3 and 4 Assignment 5 and 6 is of 30 Marks which is based on Units 5, 6 and it will cover COs 5,6 respectively.



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 Dr. D. Y. Patil Knowledge City, Charholi (Bk), Lohegaon, Pune – 412 105
 Website: <https://adypsoc.in/>
Department of Artificial Intelligence & Data Science

Test Marks [Direct Assessment- Internal]				Form No. IQAC/36	
Unit Test Number: I			Date: 28/08/2023		
Academic Year.: 2023-24			Semester: I		
Subject: Elect- IV - IR (417524-B)			Max. Marks: 30		
Name of Subject Teacher: Ankita Tidake		Class: BE	Div:		
Question Number		Q.1 Or Q.2		Q.3 Or Q.4	
CO Addressed		CO1		CO2	
Marks		15	Mapping level	15	Mapping level
Roll No.	Name of the Student	Marks Obtained		Marks Obtained	
1	Abhaysinh Padmakar Landge	13	3	13	3
2	Adhav Jay Mohan	13	3	10	3
3	Aditya Verma	9	3	5	0
4	Akash Raj	9	2	9	3
5	Ambule Bhushan Pradip	8	2	12	3
6	Ameya Sandip Shinde	8	2	4	0
7	Anand Digambar Lokhande	9	3	9	3
8	Arondekar Bhargav Nitin	NA	NA	NA	NA
9	Behar Sanskruti Raju	4	0	9	3
10	Bhatode Sahil Suresh	8	2	8	2
11	Bhole Tejal Liladhar	11	3	9	3
12	Burde Rutuja Raju	9	3	11	3
13	Chaitanya Sunil Sonawane	13	3	13	3
14	Chandurkar Yash Pravin	9	3	9	3
15	Chavan Harshad Shankar	10	3	11	3
16	Chavan Prasad Rajendra	11	3	11	3
17	Chavan Rohit Dnyaneshwar	9	3	5	0
18	Chirag Sandil	12	3	13	3
19	Civi Abhilash Gopalkrishna	9	3	11	3
20	Darekar Yash Prakash	8	2	9	3
21	Deokar Chaitanya Rajesh	9	3	10	3
22	Desai Sanjana Praveenkumar	10	3	9	3
23	Dharmavat Arpita Rajendra	8	2	8	2
24	Dupare Jyoti Purushottam	8	2	9	3
25	Gadekar mayur Chintaman	9	3	9	3
26	Gaikwad Manali Sanjay	11	3	10	3
27	Gaikwad Shantamu Anant	10	3	9	3
28	Gaikwad Suhani Ramesh	9	3	9	3
29	Gambhire Abhishek Chandrakant	11	3	8	2
30	Garje viraj Nitin	10	3	9	3



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Department of Artificial Intelligence & Data Science

Test Marks [Direct Assessment- Internal]				Form No. IQAC/36	
Unit Test Number: I			Date: 28/08/2023		
Academic Year.: 2023-24			Semester: I		
Subject: Elect- IV - IR (417524-B)			Max. Marks: 30		
Name of Subject Teacher: Ankita Tidake		Class: BE		Div:	
Question Number		Q.1 Or Q.2		Q.3 Or Q.4	
CO Addressed		CO1		CO2	
Marks		15	Mapping level	15	Mapping level
Roll No.	Name of the Student	Marks Obtained		Marks Obtained	
31	Ghongade Shubham Jagannath	9	3	10	3
32	Gosavi Mayur Sandip	9	3	9	3
33	Goyal Akash Anand	10	3	7	1
34	Inamdar Arman Himmatsaheb	8	2	8	2
35	Jadhav Ajinkya Annarao	9	3	7	1
36	Jadhav Ankit Lajaras	8	2	9	3
37	Jyoti Prakash Rout	7	1	6	1
38	Kolhe Ashish Madhukar	6	1	9	3
39	Kurhe Abhijeet Gorakshnath	9	3	9	3
40	Kushwaha Ritesh Singh Janardan	12	3	10	3
41	Lavankar Gaurav Prabhakar	10	3	9	3
42	Limbore Yogesh Arunlal	9	3	9	3
43	More Vishal Krishnaji	9	3	8	2
44	Para Sai Subhash	12	3	12	3
45	Patil Nilambari Vijay	10	3	9	3
46	Patil Onkar Ashok	13	3	11	3
47	Patil Pranay Vinod	12	3	12	3
48	Patil Tushar Amol	11	3	6	1
49	Patil Vishwajeet Ishwar	11	3	12	3
50	Patil Vivek Arun	10	3	9	3
51	Pradhumna Ravindra Kitukale	9	3	9	3
52	Prathamesh Balwant Patil	9	3	8	2
53	Rachit Bisht	11	3	13	3
54	Rathod Pankaj Raju	9	3	5	0
55	Raut Suraj Sumil	9	3	9	3
56	Rohokale Prathamesh Yashwant	9	3	10	3
57	Sakharkar Yash Ganesh	10	3	11	3
58	Sankpal Shrutika Sanjay	13	3	11	3
59	Sathe Kushal Vilasrao	9	3	6	1
60	Sayali Dnyaneshwar Jadhav	7	1	9	3
61	Shaikh Abdulkarim Mohd Sattar	7	1	7	1

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	Test Marks [Direct Assessment- Internal]			Form No. IQAC/36	
Unit Test Number: I		Date: 28/08/2023			
Academic Year.: 2023-24		Semester: I			
Subject: Elect- IV - IR (417524-B)		Max. Marks: 30			
Name of Subject Teacher: Ankita Tidake		Class: BE		Div:	
Question Number		Q.1 Or Q.2		Q.3 Or Q.4	
CO Addressed		CO1		CO2	
Marks		15	Mapping level	15	Mapping level
Roll No.	Name of the Student	Marks Obtained		Marks Obtained	
62	Shaikh Imran Kalamuddin	9	3	9	3
63	Shelkar Nisha Vikram	9	3	4	0
64	Shinde Piyusha Deepak	10	3	9	3
65	Shreyas Suresh Jadhav	9	3	9	3
66	Shrigan Mrunal Mallikarjun	3	0	10	3
67	Singh Rohit Harishankar	7	1	7	1
68	Sonone Nikhil Visjhwajit	9	3	10	3
69	Tayade Sakshi Vinod	9	3	8	2
70	Utkarsha Umesh Dhane	12	3	12	3
71	Vridhi Ritesh Sachdev	13	3	14	3
72	Wagchhaure Yash Bhausaheb	10	3	6	1
73	Waghmare Shivcharan Suresh	10	3	9	3
74	Wani Pranjal Bharat	10	3	10	3
75	Zade Prathmesh Ganesh	11	3	11	3
Total no of students attempted the question		74		74	
Total no of students securing more than 60%			58		54
Total no of students securing more than 50%			9		7
Total no of students securing more than 40%			0		1
Percentage		78.38		72.97	
CO Addressed		CO-3		CO-4	

Criteria	Mapping Level
≥60%	3
≥50%	2
≥40%	1

CO Addressed	Avg	Mapping
CO1	78.38	3
CO2	72.97	3
CO3		
CO4		
CO5		
CO6		

NOT Addressed



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Test Marks [Direct Assesment- Internal]

Form No. 10

Unit Test Number: II		Date: 06/10/2023			
Academic Year.: 2023-24		Semester: I			
Subject: Elect- IV - IR (417524-B)		Max. Marks:30			
Name of Subject Teacher: Ankita Tidake		Class: BE		Div:	
Question Number		Q.1 Or Q.2		Q.3 Or Q.4	
CO Addressed		CO3		CO4	
Marks		15	Mapping level	15	Mapping level
Roll No.	Name of the Student	Marks Obtained		Marks Obtained	
1	Abhaysinh Padmakar Landge	9	3	8	2
2	Adhav Jay Mohan	10	3	9	3
3	Aditya Verma	9	3	6	1
4	Akash Raj	9	3	6	1
5	Ambule Bhushan Pradip	9	3	9	3
6	Ameya Sandip Shinde	8	2	7	1
7	Anand Digambar Lokhande	9	3	9	3
8	Arondekar Bhargav Nitin	NA	NA	NA	NA
9	Behar Sanskruti Raju	12	3	14	3
10	Bhatode Sahil Suresh	7	1	8	2
11	Bhole Tejal Liladhar	11	3	12	3
12	Burde Rutuja Raju	10	3	10	3
13	Chaitanya Sunil Sonawane	13	3	10	3
14	Chandurkar Yash Pravin	8	2	4	0
15	Chavan Harshad Shankar	9	3	6	1
16	Chavan Prasad Rajendra	5	0	9	3
17	Chavan Rohit Dnyaneshwar	7	1	7	1
18	Chirag Sandil	9	3	7	1
19	Civi Abhilash Gopalkrishna	3	0	11	3
20	Darekar Yash Prakash	9	3	9	3
21	Deokar Chaitanya Rajesh	9	3	8	2
22	Desai Sanjana Praveenkumar	7	1	10	3
23	Dharmavat Arpita Rajendra	8	2	8	2
24	Dupare Jyoti Purushottam	9	3	11	3
25	Gadekar mayur Chintaman	9	3	9	3
26	Gaikwad Manali Sanjay	10	3	12	3
27	Gaikwad Shantanu Anant	9	3	9	3
28	Gaikwad Suhani Ramesh	11	3	10	3
29	Gambhire Abhishek Chandrakant	8	2	7	1
30	Garje viraj Nitin	9	3	8	2



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Department of Artificial Intelligence & Data Science

Test Marks [Direct Assessment- Internal]

Form No. 10

Unit Test Number: II		Date: 06/10/2023			
Academic Year.: 2023-24		Semester: I			
Subject: Elect- IV - IR (417524-B)		Max. Marks:30			
Name of Subject Teacher: Ankita Tidake		Class: BE		Div:	
Question Number		Q.1 Or Q.2		Q.3 Or Q.4	
CO Addressed		CO3		CO4	
Marks		15	Mapping level	15	Mapping level
Roll No.	Name of the Student	Marks Obtained		Marks Obtained	
31	Ghongade Shubham Jagannath	9	3	6	1
32	Gosavi Mayur Sandip	9	3	7	1
33	Goyal Akash Anand	11	3	10	3
34	Inamdar Arman Himmatsaheb	9	3	9	3
35	Jadhav Ajinkya Annarao	9	3	10	3
36	Jadhav Ankit Lajaras	9	3	8	2
37	Jyoti Prakash Rout	8	2	8	2
38	Kolhe Ashish Madhukar	10	3	10	3
39	Kurhe Abhijeet Gorakshnath	9	3	3	0
40	Kushwaha Ritesh Singh Janardan	9	3	9	3
41	Lavankar Gaurav Prabhakar	8	2	7	1
42	Limbore Yogesh Arunlal	8	2	5	0
43	More Vishal Krishnaji	10	3	9	3
44	Para Sai Subhash	10	3	10	3
45	Patil Nilambari Vijay	10	3	6	1
46	Patil Onkar Ashok	10	3	14	3
47	Patil Pranay Vinod	9	3	9	3
48	Patil Tushar Amol	9	3	6	1
49	Patil Vishwajeet Ishwar	8	2	8	2
50	Patil Vivek Arun	9	3	6	1
51	Pradhurna Ravindra Kitukale	9	3	9	3
52	Prathamesh Balwant Patil	12	3	0	0
53	Rachit Bisht	6	1	13	3
54	Rathod Pankaj Raju	9	3	10	3
55	Raut Suraj Sunil	8	2	4	0
56	Rohokale Prathamesh Yashwant	5	0	9	3
57	Sakharkar Yash Ganesh	8	2	9	3
58	Sankpal Shrutika Sanjay	10	3	10	3
59	Sathe Kushal Vilasrao	11	3	11	3
60	Sayali Dnyaneshwar Jadhav	5	0	9	3
61	Shaikh Abdulkarim Mohd Sattar	7	1	8	2



Empowerment Through Quality Technical Education

Ajeenkya DY Patil School of Engineering

Dr. D. Y. Patil Knowledge City, Charholi (Bk), Lohegaon, Pune – 412 105

Website: <https://adypsoe.in/>

Department of Artificial Intelligence & Data Science

Test Marks [Direct Assessment- Internal]

Form No. 10

Unit Test Number: II		Date: 06/10/2023			
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Subject: Elect- IV - IR (417524-B)		Max. Marks:30			
Name of Subject Teacher: Ankita Tidake		Class: BE		Div:	
Question Number		Q.1 Or Q.2		Q.3 Or Q.4	
CO Addressed		CO3		CO4	
Marks		15	Mapping level	15	Mapping level
Roll No.	Name of the Student	Marks Obtained		Marks Obtained	
62	Shaikh Imran Kalamuddin	7	1	8	2
63	Shelkar Nisha Vikram	10	3	10	3
64	Shinde Piyusha Deepak	7	1	13	3
65	Shreyas Suresh Jadhav	9	3	9	3
66	Shrigan Mrunal Mallikarjun	9	3	10	3
67	Singh Rohit Harishankar	11	3	10	3
68	Sonone Nikhil Visjhwajit	9	3	9	3
69	Tayade Sakshi Vinod	12	3	14	3
70	Utkarsha Umesh Dhane	11	3	10	3
71	Vridhi Ritesh Sachdev	11	3	12	3
72	Waghchaure Yash Bhausaheb	6	1	9	3
73	Waghmare Shivcharan Suresh	10	3	10	3
74	Wani Pranjal Bharat	10	3	9	3
75	Zade Prathmesh Ganesh	9	3	5	0
Total no of students attempted the question		74		73	
Total no of students securing more than 60%			52		45
Total no of students securing more than 50%			10		10
Total no of students securing more than 40%			8		13
Percentage		70.27		61.64	
CO Addressed		CO-3		CO-4	

Criteria	Mapping Level
>=60%	3
>=50%	2
>=40%	1

CO	Avg	Mapping
CO1	NOT Addressed	
CO2	NOT Addressed	
CO3	70.27	3
CO4	61.64	3
CO5	NOT Addressed	
CO6	NOT Addressed	

The questions are framed in such a way that it should satisfy Bloom's Taxonomy, wherein each question is mapped to the appropriate course outcome of the respective course, which is evaluated based on the set attainment levels by the department.

Questions framed will be theory questions and written examination will be conducted in each department as per set time table.

	"Empowerment through quality technical education" AJEENKYA DY PATIL SCHOOL OF ENGINEERING Dr. D. Y. Patil Knowledge City, Charholi Bk., Via. Lohegaon, Pune – 412 105. Department of Artificial Intelligence and Data Science Engineering Unit Test-II QUESTION PAPER
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Exam: BE	Department of Artificial Intelligence and Data Science	Semester: VII
A.Y. 2023-24 SEM I		Course Name: Elective-IV (Information Retrieval)
Date of Examination: 06.10.2023		Course Code: 417524B
Duration of paper: 1 Hour		Max. Marks: 30

Instructions to candidates 1) Assume suitable data, if necessary.
 2) Solve Q.1 or Q.2, Q.3 or Q.4
 3) Each question carries 15 marks.
 4) Neat diagrams, if necessary.

Question Number	Question	Marks	BT	CO	PO
UNIT-III					
1	a) What is Okapi BM25? Explain in detail.	06	1	CO3	PO1
	b) Explain the Probability Ranking Principle: The I/O loss case	04	1	CO3	PO1
	c) What are the tree structured dependencies between the terms.	05	1	CO3	PO1
2	a) What are the various types of language models? Explain them in detail.	06	1	CO3	PO1
	b) Explain how ranking is done with language models.	05	1	CO3	PO1
	c) Compare and contrast Probabilistic model and language model.	04	2	CO3	PO1
UNIT-IV					
3	a) Explain Naïve Bayes model for Text classification.	07	1	CO4	PO1
	b) How is vector space classification implemented using hyperplanes?	08	4	CO4	PO1
4	a) Distinguish between Clustering and Classification.	07	2	CO4	PO1
	b) Solve Agglomerative hierarchical clustering for single link with example.	08	4	CO4	PO1

-----ALL THE BEST-----

Continuous Assessment- Direct Attendance / Assignments /quiz-

This includes Assignment, Quiz, Internal Viva, Presentations/Seminars, Internal practical examinations. This assessment is of 25 Marks and this assessment is carried out throughout the semester. This mark distribution will be based on nature of the course, structure of Lab work, students regularity, mode of conduction of practical and quality of submitted of lab journals/assignments/quiz/presentations etc.

The questions of assignments and quiz are framed in such a way that it should satisfy

Bloom's Taxonomy, wherein each question is mapped to the appropriate course outcome of the respective course, which is evaluated based on the set attainment levels by the department.

		Empowerment Through Quality Technical Education AJEENKYA D. Y. Patil School of Engineering Dr. D. Y. Patil Knowledge City, Charholi (Bk), Lohegaon, Pune – 412 105 Website: https://adypsoe.in/ Department of Artificial Intelligence & Data Science			
Test Marks [Direct Assesment- Internal]			Form No. IQAC/36		
ASSIGNMENT NO-5 and 6			Date:23/10/2023		
Academic Year.: 2023-24			Semester: I		
Subject: Elect- IV - IR (417524-B)			Max. Marks:30		
Name of Subject Teacher: Ankita Tidake		Class: BE		Div:	
ASSIGNMENT NO.		Assignment 5		Assignment 6	
CO Addressed		CO5		CO6	
Marks		15	Mapping level	15	Mapping level
Roll No.	Name of the Student	Marks Obtained		Marks Obtained	
1	Abhaysinh Padmakar Landge	14	3	13	3
2	Adhav Jay Mohan	12	3	11	3
3	Aditya Verma	14	3	14	3
4	Akash Raj	14	3	14	3
5	Ambule Bhushan Pradip	14	3	14	3
6	Ameya Sandip Shinde	15	3	15	3
7	Anand Digambar Lokhande	11	3	11	3
8	Arondekar Bhargav Nitin		NA		NA
9	Behar Sanskruti Raju	12	3	14	3
10	Bhatode Sahil Suresh	14	3	15	3
11	Bhole Tejal Liladhar	15	3	15	3
12	Burde Rutuja Raju	14	3	14	3
13	Chaitanya Sunil Sonawane	12	3	12	3
14	Chandurkar Yash Pravin	12	3	12	3
15	Chavan Harshad Shankar	13	3	13	3
16	Chavan Prasad Rajendra	12	3	12	3
17	Chavan Rohit Dnyaneshwar	11	3	12	3
18	Chirag Sandil	15	3	15	3
19	Civi Abhilash Gopalkrishna	14	3	14	3
20	Darekar Yash Prakash	12	3	13	3
21	Deokar Chaitanya Rajesh	12	3	12	3
22	Desai Sanjana Praveenkumar	14	3	14	3
23	Dharmavat Arpita Rajendra	15	3	14	3
24	Dupare Jyoti Purushottam	14	3	14	3
25	Gadekar mayur Chintaman	12	3	12	3
26	Gaikwad Manali Sanjay	15	3	15	3
27	Gaikwad Shantanu Anant	15	3	15	3

28	Gaikwad Suhani Ramesh	14	3	13	3
29	Gambhire Abhishek Chandrakant	15	3	15	3
30	Garje viraj Nitin	13	3	13	3
31	Ghongade Shubham Jagannath	13	3	14	3
32	Gosavi Mayur Sandip	13	3	14	3
33	Goyal Akash Anand	14	3	15	3
34	Inamdar Arman Himmatsaheb	13	3	13	3
35	Jadhav Ajinkya Annarao	12	3	12	3
36	Jadhav Ankit Lajaras	14	3	14	3
37	Jyoti Prakash Rout	15	3	15	3
38	Kolhe Ashish Madhukar	15	3	15	3
39	Kurhe Abhijeet Gorakshnath	12	3	12	3
40	Kushwaha Ritesh Singh Janardan	14	3	15	3
41	Lavankar Gaurav Prabhakar	13	3	13	3
42	Limbore Yogesh Arunlal	15	3	15	3
43	More Vishal Krishnaji	12	3	12	3
44	Para Sai Subhash	12	3	12	3
45	Patil Nilambari Vijay	13	3	13	3
46	Patil Onkar Ashok	12	3	13	3
47	Patil Pranay Vinod	14	3	15	3
48	Patil Tushar Amol	11	3	11	3
49	Patil Vishwajeet Ishwar	15	3	15	3
50	Patil Vivek Arun	15	3	14	3
51	Pradhuma Ravindra Kitukale	12	3	12	3
52	Prathamesh Balwant Patil	15	3	15	3
53	Rachit Bisht	15	3	15	3
54	Rathod Pankaj Raju	14	3	15	3
55	Raut Suraj Sunil	13	3	12	3
56	Rohokale Prathamesh Yashwant	15	3	15	3
57	Sakharkar Yash Ganesh	14	3	14	3
58	Sankpal Shrutika Sanjay	14	3	14	3
59	Sathe Kushal Vilasrao	15	3	13	3
60	Sayali Dnyaneshwar Jadhav	14	3	13	3
61	Shaikh Abdulkarim Mohd Sattar	14	3	14	3
62	Shaikh Imran Kalamuddin	15	3	15	3
63	Shelkar Nisha Vikram	12	3	12	3
64	Shinde Piyusha Deepak	14	3	14	3
65	Shreyas Suresh Jadhav	11	3	12	3
66	Shrigan Mrunal Mallikarjun	12	3	12	3
67	Singh Rohit Harishankar	13	3	14	3
68	Sonone Nikhil Visjhwajit	12	3	12	3
69	Tayade Sakshi Vinod	15	3	14	3
70	Utkarsha Umesh Dhane	15	3	15	3
71	Vridhi Ritesh Sachdev	15	3	15	3
72	Waghchaure Yash Bhausaheb	11	3	11	3

73	Waghmare Shivcharan Suresh	11	3	13	3
74	Wani Pranjali Bharat	15	3	14	3
75	Zade Prathmesh Ganesh	13	3	13	3
Total no of students attempted the question		74		74	
Total no of students securing more than 60%			74		74
Total no of students securing more than 50%			0		0
Total no of students securing more than 40%			0		0
Percentage		100.00		100.00	
CO Addressed		CO-3		CO-4	

Criteria	Mapping Level
>=60%	3
>=50%	2
>=40%	1

CO	Avg	Mapping
CO1	NOT Addressed	
CO2	NOT Addressed	
CO3	NOT Addressed	
CO4	NOT Addressed	
CO5	100.00	3
CO6	100.00	3

Internal Practical Examination-

Lab courses provide students first-hand experience with course concepts and the opportunity to explore methods used in their discipline. All the students are expected to be regular and learn the practical aspects of the subject and develop the necessary skills to become professionals. In order to facilitate interaction among the students and to develop team spirit, the students are expected to carry out experiments in groups. Performance assessment is based on the ability of the student to actively participate in the successful conduct of prescribed practical work and draw appropriate conclusions. The student submits a record of practical work performed in each lab session. For practical subjects there shall be a continuous evaluation during a semester. For internal evaluation, day-to-day work in the laboratory shall be evaluated and internal practical examination shall be conducted and evaluated by the laboratory teacher concerned.

Seminar

For the seminar presentation, the student shall collect the information on a specialized topic and prepare a technical report, showing his understanding of the topic, and submit it to the department. It shall be evaluated by the departmental committee consisting of head of the department, seminar supervisor and a senior faculty member. There shall be no external examination for the seminar. The committee evaluates seminar based on following parameters.

Assessment Tool	
Internal Assessment	Presentation
	Viva-voce
	Report

Presentation: The content, quality of the presentation and communication skill is assessed by the evaluation committee.

Viva-voce: At the end of the presentation, the assessment panel and the student audience ask questions and seek clarifications on specific issues related to the seminar. The effectiveness of the student's response to these queries is assessed.

Report: A bona fide report on seminar is submitted at the end of the semester. This report shall include, in addition to the presentation materials, all relevant supplementary materials along with detailed answers to all the questions asked/clarifications sought during presentation. All references must be given toward the end of the report. A student's ability to comprehend and write effective reports and design documentation is assessed by evaluating the report.

Course exit survey- Indirect

At the conclusion of each semester, department will conduct a course exit survey for all the subjects taught in that semester. Students will map the CO of each Unit given as per syllabus to the syllabus covered in the classroom. Students will mark their responses in the course exit survey questionnaire and it shall be on the scale of 1 to 3 as,

1: Slightly

Understood ,

2: Moderately

Understood

3: Clearly Understood

COURSE EXIT SURVEY - Elect IV - Information Retrieval (417524B)

Department of Artificial Intelligence & Data Science Engineering
A.Y. 2023-24 Sem - I

ankitatidake@dypic.in [Switch account](#)



* Indicates required question

Email *

Your email

Name

Your answer

Roll No

Your answer

Have you **Understood** the concept of Information Retrieval

- Clearly (3)
- Moderately (2)
- Slightly (1)

Are you able to Use an indexing approach for retrieval of documents

- Clearly (3)
- Moderately (2)
- Slightly (1)

Are you able to evaluate and analyze the retrieved information

- Clearly (3)
- Moderately (2)
- Slightly (1)

Are you able to apply appropriate method of Text Classification and Clustering

- Clearly (3)
- Moderately (2)
- Slightly (1)

Are you able to Design and implement innovative features in search engines

- Clearly (3)
- Moderately (2)
- Slightly (1)

Are you able to analyze different real-life application of Information Retrieval

- Clearly (3)
- Moderately (2)
- Slightly (1)



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Website: <https://adypsoe.in/>

Department of Artificial Intelligence & Data Science

Course Exit Survey [Indirect Assessment] Form No. IQAC/36

Academic Year.: 2023-24

Semester: I

Subject: Elect- IV - IR (417524-B)

Class: BE

Div:

Name of Subject Teacher: Ankita Tidake

Roll No.	Name of student	CO-1	CO-2	CO-3	CO-4	CO-5	CO-6
1	Abhaysinh Padmakar Landge	2	3	2	3	3	2
2	Adhav Jay Mohan	3	2	2	2	3	2
3	Aditya Verma	2	3	2	2	2	3
4	Akash Raj	3	3	3	3	2	2
5	Ambule Bhushan Pradip	3	2	2	3	2	2
6	Ameya Sandip Shinde	2	2	3	3	3	3
7	Anand Digambar Lokhande	2	2	2	3	2	3
8	Arondekar Bhargav Nitin	NA	NA	NA	NA	NA	NA
9	Behar Sanskruti Raju	3	2	2	3	2	3
10	Bhatode Sahil Suresh	2	2	3	3	3	2
11	Bhole Tejal Liladhar	3	2	2	2	2	3
12	Burde Rutuja Raju	3	2	2	3	2	2
13	Chaitanya Sunil Sonawane	2	2	3	3	3	2
14	Chandurkar Yash Pravin	3	3	2	2	2	3
15	Chavan Harshad Shankar	2	3	3	3	2	3
16	Chavan Prasad Rajendra	2	2	2	2	3	2
17	Chavan Rohit Dnyaneshwar	3	2	2	2	2	3
18	Chirag Sandil	3	2	2	3	3	2
19	Civi Abhilash Gopalkrishna	2	2	2	2	3	3
20	Darekar Yash Prakash	2	3	2	3	3	2
21	Deokar Chaitanya Rajesh	2	2	3	3	3	3
22	Desai Sanjana Praveenkumar	3	2	3	3	2	3
23	Dharmavat Arpita Rajendra	3	2	2	2	2	2
24	Dupare Jyoti Purushottam	3	2	2	2	3	2
25	Gadekar mayur Chintaman	2	2	3	3	3	2
26	Gaikwad Manali Sanjay	3	2	2	3	3	2
27	Gaikwad Shantanu Anant	3	3	3	2	3	2
28	Gaikwad Suhani Ramesh	3	2	3	2	2	3
29	Gambhire Abhishek Chandrakant	3	2	2	2	2	3
30	Garje viraj Nitin	3	2	2	3	2	2
31	Ghongade Shubham Jagannath	2	2	2	3	2	3
32	Gosavi Mayur Sandip	2	3	2	3	2	2
33	Goyal Akash Anand	2	2	3	1	2	2
34	Inamdar Arman Himmatsaheb	2	3	3	2	2	2
35	Jadhav Ajinkya Annarao	3	2	3	3	3	3

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		Course Exit Survey [Indirect Assessment] Form No. IQAC/36					
Academic Year.: 2023-24				Semester: I			
Subject: Elect- IV - IR (417524-B)				Class: BE		Div:	
Name of Subject Teacher: Ankita Tidake							
Roll No.	Name of student	CO-1	CO-2	CO-3	CO-4	CO-5	CO-6
36	Jadhav Ankit Lajaras	2	3	3	2	3	3
37	Jyoti Prakash Rout	3	2	3	3	2	2
38	Kolhe Ashish Madhukar	3	2	3	2	2	2
39	Kurhe Abhijeet Gorakshnath	3	2	2	3	3	3
40	Kushwaha Ritesh Singh Janardan	3	3	3	2	3	2
41	Lavankar Gaurav Prabhakar	3	3	2	2	3	2
42	Limbore Yogesh Arunlal	3	3	2	2	2	3
43	More Vishal Krishnaji	2	3	3	3	2	3
44	Para Sai Subhash	2	2	2	2	3	3
45	Patil Nilambari Vijay	2	2	3	3	3	2
46	Patil Onkar Ashok	2	2	2	3	3	2
47	Patil Pranay Vinod	2	3	2	1	2	3
48	Patil Tushar Amol	3	2	3	3	2	3
49	Patil Vishwajeet Ishwar	2	2	1	3	2	2
50	Patil Vivek Arun	2	3	2	2	3	2
51	Pradhumna Ravindra Kitukale	3	3	3	3	3	2
52	Prathamesh Balwant Patil	3	3	3	2	2	2
53	Rachit Bisht	2	3	2	3	2	3
54	Rathod Pankaj Raju	3	2	3	3	3	3
55	Raut Suraj Sunil	3	2	2	2	2	3
56	Rohokale Prathamesh Yashwant	2	2	3	2	2	3
57	Sakharkar Yash Ganesh	2	2	3	3	3	3
58	Sankpal Shrutika Sanjay	3	3	2	2	3	2
59	Sathe Kushal Vilasrao	2	3	3	2	2	3
60	Sayali Dnyaneshwar Jadhav	3	2	3	3	2	3
61	Shaikh Abdulkarim Mohd Sattar	1	3	3	3	3	3
62	Shaikh Imran Kalamuddin	3	3	3	3	3	3
63	Shelkar Nisha Vikram	2	1	3	2	2	2
64	Shinde Piyusha Deepak	3	3	2	3	3	3
65	Shreyas Suresh Jadhav	3	3	3	3	2	3
66	Shrigan Mrunal Mallikarjun	3	3	3	3	3	3
67	Singh Rohit Harishankar	3	3	3	3	3	3
68	Sonone Nikhil Visjhwajit	3	3	1	3	3	3
69	Tayade Sakshi Vinod	2	3	3	2	2	3
70	Utkarsha Umesh Dhane	3	3	3	3	3	2
71	Vridhi Ritesh Sachdev	3	3	2	3	3	3

	<p align="center">Empowerment Through Quality Technical Education Ajeenkya DY Patil School of Engineering Dr. D. Y. Patil Knowledge City, Charholi (Bk), Lohegaon, Pune – 412 105 Website: https://adypsoe.in/ Department of Artificial Intelligence & Data Science</p>						
	<p align="center">Course Exit Survey [Indirect Assesment] Form No. IQAC/36</p>						
Academic Year.: 2023-24				Semester: I			
Subject: Elect- IV - IR (417524-B)				Class: BE		Div:	
Name of Subject Teacher: Ankita Tidake							
Roll No.	Name of student	CO-1	CO-2	CO-3	CO-4	CO-5	CO-6
72	Waghchaure Yash Bhausahab	3	3	3	3	3	3
73	Waghmare Shivcharan Suresh	1	1	1	3	3	2
74	Wani Pranjal Bharat	2	3	3	2	1	1
75	Zade Prathmesh Ganesh	3	3	3	3	1	3
Total count of students		74	3	3	3	3	3
%		84.44	91.11	86.67	93.33	84.44	88.89
Course Outcome-->		CO1	CO2	CO3	CO4	CO5	CO6

(B) University Assessment- Direct

RESULT ANALYSIS

SPPU Examination: Oct/Nov 2021

Semester: III

Department: Artificial Intelligence & Data Science

Class: SE

Date of declaration of result: 21/04/22

Overall Result Analysis

Sr. No.	Details	No. of Students
1	No. of students appeared	75
2	No. of students passed(All clear)	73
3	No. of students failed	2
4	All clear passing Percentage	97.33%
5	All clear passing Percentage(University)	Not available
6	Percentage of passing with ATKT	100%
7	Percentage of passing with ATKT(University)	Not available
8	No. of students passed with Distinction	73
9	No. of students passed with First Class	00
10	No. of students passed with Higher Second Class	00
11	No. of students passed with Second Class	00
12	No. of students passed with Pass Class	00
13	No. of students failed in 1 Th. Sub	1
14	No. of students failed in 2 Th. Subs	0
15	No. of students failed in 3 Th. Subs	0

16	No. of students failed in more than 3 Th. Subs	0
17	No. of students failed in 1 Pr/Or	00
18	No. of students failed in 2 Pr/Or	00
19	No. of students failed in 3 Pr/Or	00

A. Subject Wise Result Analysis:

Sr. No.	Name of the Subject	TH/PR	Name of the Staff Member	No. of Students Appeared	No. of Students Passed	% of Passing
01	DM 210241	TH	Prof. Tejashri Kore	75	73	93.33%
02	FDS 210242	TH	Prof.Sonal Durgule	75	75	100%
03	OOP 210243	TH	Prof. Tejashri Kore	75	75	100%
04	CG 210244	TH	Prof. Sayali Belhe	75	75	100%
05	OS 217521	TH	Prof.Sonal Durgule	75	75	100%

B. Subject Wise Scoring Pattern:

Sr. No.	Subject	No. of students appeared	No. of students obtaining marks in the range				Name of Topper	Marks Obtained
			66 to 100	60 to 65	55 to 59	54 to 40		
1	DM 210241	75	72	1	0	0	VRIDHI SACHDEV	100
2	FDS 210242	75	75	0	0	0	VRIDHI SACHDEV & UTKARSHA UMESH DHANE	100
3	OOP 210243	75	74	1	0	0	VRIDHI SACHDEV	100
4	CG 210244	75	74	1	0	0	VRIDHI SACHDEV	100
5	OS 217521	75	75	0	0	0	VRIDHI SACHDEV & UTKARSHA UMESH DHANE	100

C. Toppers:

Rank	Examination Seat Number	Name of students	CGPA	Class Obtained
01	S190882071	VRIDHI SACHDEV	9.828	First Class with Distinction
02	S190882070	UTKARSHA UMESH DHANE	9.614	
03	S190882053	RACHITA BISHT	9.485	
04	S190882028	GAIKWAD SUHANI RAMESH	9.214	
05	S190882011	BHOLE TEJAL LILADHAR	9.171	

Savitribai Phule Pune University (SPPU) will be conducting all the University examinations which includes In-Sem examination of 30 marks, End Sem examination of 70 Marks, Practical examination, and project examination where marks are as per course structure.

(iv) Attainment Levels:

Course outcomes of all courses are assessed with the help of above mentioned assessment tools and attainment level is evaluated based on set attainment rubrics as per table 9.2. If the average attainment of a particular course for two consecutive years is greater than 80% of the maximum attainment value (i.e. 80% of 3 = 2.4), then for that particular course the current rubrics for attainment must be changed to analyze continuous improvement.

Table 9.2. Attainment Levels of Cos

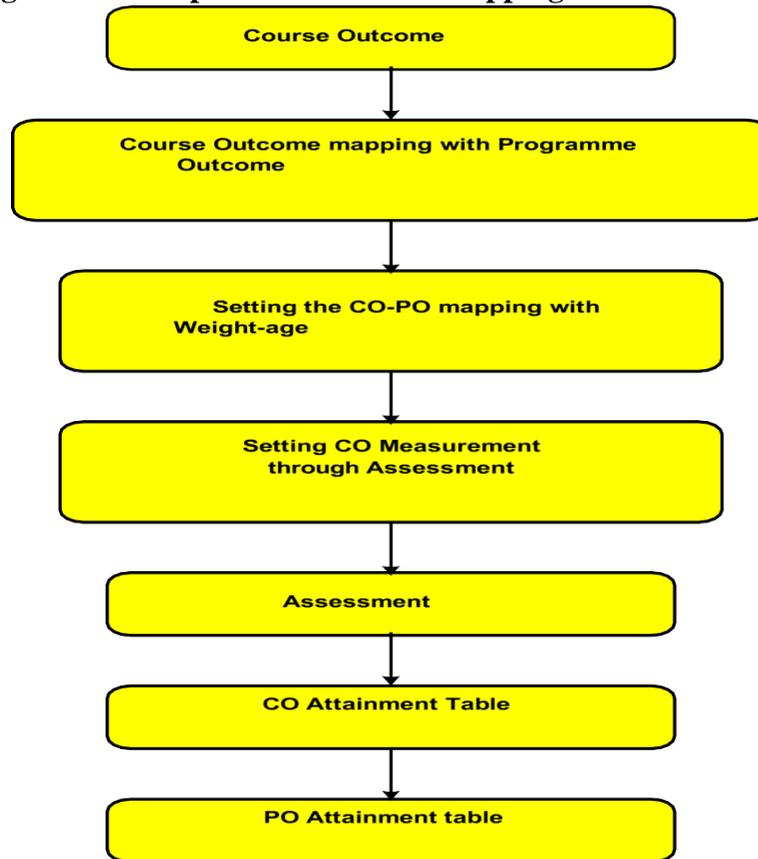
Assessment Methods	Attainment Levels	
Internal Assessment	Level 1	60% of students scoring more than 40% marks in internal assessment tools
	Level 2	70% of students scoring more than 40% marks in internal assessment tools
	Level 3	75% of students scoring more than 40% marks in internal assessment tools
University Assessment	Level 1	60% of students scoring more than 40% marks in university examination.
	Level 2	70% of students scoring more than 40% marks in university examination.
	Level 3	75% of students scoring more than 40% marks in university examination.

As a part of continuous improvement, the updated rubric for internal assessment is formulated. The cut off of 40% is increased to 60% in internal tools assessment.

Assessment Methods	Attainment Levels	
Internal Assessment	Level 1	40% of students scoring more than 60% marks in internal assessment tools
	Level 2	50% of students scoring more than 60% marks in internal assessment tools
	Level 3	60% of students scoring more than 60% marks in internal assessment tools
University Assessment	Level 1	40% of students scoring more than 60% marks in university examination.
	Level 2	50% of students scoring more than 60% marks in university examination.
	Level 3	60% of students scoring more than 60% marks in university examination.

Validation of CO-PO mapping:

Figure 9.1: The process of CO-PO mapping validation



The process of CO-PO mapping validation is given in figure 9.1 and is explained as below:

Step 1 : Obtain course outcome.

Step 2 : Mapping of course outcome with program outcome.

Step 3 : Setting weightage for CO assessment.

Step 4 : CO measurement through assessment.

Step 5 : Obtain CO attainment table through direct and indirect assessment methods.

Step 6 : Obtain PO attainment table through direct and indirect assessment methods.

CO-PO-PSO Mapping with Justification:

A comprehensive mapping of **COs** with all **POs** ensures that students develop both technical expertise and a broader understanding of how to apply subject knowledge in professional and ethical contexts. It provides **clear guidance for instructors** on how their course contributes to the overall program outcomes. It guarantees that students acquire the knowledge, skills, and attitudes required to meet the expectations of the engineering or technology field. By offering a structured approach to curriculum design, assessment, and continuous improvement, the mapping process plays a key

role in achieving high-quality education and preparing students for successful careers.

		<p style="text-align: center;">Empowerment Through Quality Technical Education Ajeenkya DY Patil School of Engineering Dr. D. Y. Patil Knowledge City, Charholi (Bk), Lohegaon, Pune – 412 105 Website: https://adypsoe.in/ Department of Artificial Intelligence & Data Science</p>														
		CO-PO-PSO Mapping												Form No. IQAC/36		
Academic Year.: 2023-24												Semester: I				
Subject: Elect- IV - IR (417524-B)												Class: BE		Div:		
Name of Subject Teacher: Ankita Tidake																
PO CO	BT LEVEL	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	2-Understand	1												1		
CO-2	3-Apply		1	2										2	1	
CO-3	5-Evaluate	1	2	1	1	1							2	2	2	
CO-4	3-Apply	1		1	1					1			1	1		
CO-5	6-Create	1							1	1			1	1		1
CO-6	4-Analyze	1		1	1								1	1		
Average		1.00	1.50	1.25	1.00	1.00	-	-	1.00	1.00	-	-	1.25	1.33	1.50	1.00
Rounded off		1	2	2	1	1			1	1			2	2	2	1
(Strength of Correlation): 3-Strong, 2-Medium, 1-Weak, Keep Blank-if No Correlation																

Justification for CO-PO Mapping.

CO No.	PO/PSO Mapped	Level	Justification of Mapping
CO-1	PO1	1	Slightly the student will be able to understand the concept of information retrieval
	PSO1	1	Slightly the student will have an understanding of the various models in Information Retrieval
CO-2	PO2	1	Slightly the student will apply indexing to solve various complex engineering problems having big datasets
	PO3	2	Moderately Students will be able to apply the knowledge of index construction to design solution for complex engineering problems
	PSO1	2	Moderately Students will be able to apply dynamic indexing and query processing for ranked retrieval to provide better solutions as a part of professional skills
	PSO2	1	Slightly the student will be able to provide solutions using pre-computing score contribution, impact ordering and query optimization techniques
	PO1	1	Slightly the student will be able to evaluate and analyze retrieved information through probabilistic retrieval
	PO2	2	Moderately Students will be able to solve the real-time problems by generating queries from documents using language models for information retrieval
	PO3	1	Slightly the student will be able to design solutions for the improved ranking through language models for fast and accurate information retrieval

		Empowerment Through Quality Technical Education Ajeenkya DY Patil School of Engineering Dr. D. Y. Patil Knowledge City, Charholi (Bk), Lohegaon, Pune - 412 105 Website: https://adypsoe.in/ Department of Artificial Intelligence & Data Science	
		CO-PO-PSO Mapping	
Academic Year.: 2023-24 Subject: Elect- IV - IR (417524-B) Name of Subject Teacher: Ankita Tidake		Form No. IQAC/36 Semester: I Class: BE Div:	
CO-3	PO4	1	Slightly the student will be able to conduct investigation on complex problems related to tree structured dependencies between terms, Relevance feedback and Ranking with Language model
	PO5	1	Slightly the students will be able to build their models from the probabilistic models and language models using modern tools such as Jupyter or Google Colab
	PO12	2	Moderately Students will be able to provide solutions to complex engineering problems through the knowledge of Probabilistic and language models that will be helpful throughout life
	PSO1	2	Moderately Students will be able to build models for various problems through probabilistic and language models
	PSO2	2	Moderately Students will be able to provide optimized solutions to complex engineering problems through language models
CO-4	PO1	1	Slightly Students will be able to apply the knowledge of text classification and clustering for improved document organization and retrieval
	PO3	1	Slightly Students will be able to apply the knowledge of spam filtering, SVM classifier etc. to design and develop effective solution
	PO4	1	Slightly Students will be able to use modern tools for effective design of models using text classification and clustering
	PO9	1	Slightly Students will be able to work in a team and present the model with text classification and clustering in various problem statement such as digital library
	PO12	1	Slightly Students will be able to apply the knowledge of text classification and clustering for improved document organization and retrieval as a part of lifelong learning.
	PSO1	1	Slightly Students will be able to apply the knowledge of text classification and clustering on a real world problem or dataset showcasing their professional skills
CO-5	PO1	1	Slightly Students will be able to design efficient solutions to enable parallel information retrieval using Mapreduce
	PO8	1	Slightly Students will be able to design ethical models to enable page ranking algorithms and simple ranking algorithm and evaluation alongwith web scraping
	PO9	1	Slightly Students will be able to work in a team to create the model of web retrieval and web crawler for various search engines
	PO12	1	Slightly Students will be able to create applications addressing complex problem statement using Python scrapy and beautiful Soup
	PSO1	1	Slightly Students will be able to build Search Engines, cluster, or distributed architecture using various ranking algorithms
	PSO3	1	Slightly Students will be able to provide solutions related to optimized ranking algorithms and web crawlers for better applications and Search Engine performance.
CO-6	PO1	1	Slightly student will be able to analyze different applications of information retrieval
	PO3	1	Slightly student will be able to analyze different recommender systems and integrate specialized information on the web
	PO4	1	Slightly student will be able to demonstrate collaborative filtering using any dataset to recommended items
	PO12	1	Slightly students will be able to analyze different types of multimedia information retrieval useful for various applications
	PSO1	1	Slightly students will be able to extract data from text, Semantic Web, Collect and integrate specialized information on the web.

Assessment and Attainment methods

Assessment is one or more processes which is carried out by the institution, that identify, collect and prepare data to evaluate the achievement of course outcomes and program outcomes. Attainment is the action or fact of achieving a standard result towards accomplishment of desired

goals. Primarily attainment is the standard of academic attainment as observed by test and/or examination result. Assessment methods are categorized into two as direct method and indirect method to assess CO's and PO's. The direct methods display the student's knowledge and skills from their performance in the continuous internal assessment tests, semester examinations and supporting activities such as seminars, assignments, case study, group discussion, online quiz, mini project etc., These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning. The indirect method done through surveys and interviews, it asks the stakeholders to reflect their views on student's learning. The institute assesses opinions or thoughts about graduate's knowledge or skills by different stakeholders.

CO assessment methods are employed

- Direct assessment method and indirect assessment method are considered for 80% and 20% weightages respectively.
- Internal test assessment and end semester examination assessment are considered with the weightage of 30% and 70% respectively for the direct assessment of CO.

a. Procedure for Attainment of Program Outcomes

At the end of the each programme, the PO/PSO assessment is done from the CO attainment of all curriculum components. As per NBA guidelines, program can appropriately define the attainment level. The attainment level may be set by the particular program or commonly by the institution. The attainment can be made as best the choice by the institution or the program by analyzing the students knowledge. This can be achieved by using different supporting activities. This attainment is mainly for the purpose of making an esteemed engineer with good analytical, practical and theoretical knowledge about the program by attaining PSO's of the program and the institution. For the evaluation and assessment of CO's and PO's, rubrics are used. The rubrics considered here are given below:

Attainment Level 1: 40% of students score more than 60% marks out of the maximum relevant marks.

Attainment Level 2: 50% of students score more than 60% marks out of the maximum relevant marks.

Attainment Level 3: 60% of students score more than 60% marks out of the maximum relevant marks.

b. CO Attainment Calculation of a Course:

Overall CO attainment of a course must be prepared as shown below

Mapping of Course outcome with Program Outcomes

Course: ELECT IV- INFORMATION RETRIEVAL (417524B)

CO-PO-PSO Mapping													Form No. IQAC/36			
Academic Year.: 2023-24													Semester: I			
Subject: Elect- IV - IR (417524-B)													Class: BE		Div:	
Name of Subject Teacher: Ankita Tidake																
PO CO	BT LEVEL	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	2-Understand	1												1		
CO-2	3-Apply		1	2										2	1	
CO-3	5-Evaluate	1	2	1	1	1							2	2	2	
CO-4	3-Apply	1		1	1					1			1	1		
CO-5	6-Create	1							1	1			1	1		1
CO-6	4-Analyze	1		1	1								1	1		
Average		1.00	1.50	1.25	1.00	1.00	-	-	1.00	1.00	-	-	1.25	1.33	1.50	1.00
Rounded off		1	2	2	1	1			1	1			2	2	2	1
(Strength of Correlation): 3-Strong, 2-Medium, 1-Weak, Keep Blank-if No Correlation																

CO-PO attainment of the course ELECT IV- INFORMATION RETRIEVAL (417524B)

Internal attainment of each COs of IR is the average of attainments obtained using various internal assessment tools. University exam covers the entire syllabus of a course and hence it is useful to measure the attainment of all COs related to a course. The total attainment is the sum of 30% of internal attainment and 70% of university attainment.

- Internal Attainment is the average of attainments obtained using various internal assessment tools.
- Total Attainment = 30% internal attainment + 70% university attainment

Continuous Assessment (CA)



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 Charholi (Bk), Lohegaon, Pune – 412105
 Website: <https://adypsoe.in/>
Department of Artificial Intelligence & Data Science

Continuous Assessment (CA) [Direct Assessment -Internal]													Form No. IQAC/36		
Academic Year.: 2023-24													Semester: I		
Subject: Elect- IV - IR (417524-B)													Class: BE		Div:
Name of Subject Teacher: Ankita Tidake													CO1-CO6		
Roll No.	Name of the Student													CA (out of 25)	
1	Abhaysinh Padmakar Landge													22	

2	Adhav Jay Mohan	17
3	Aditya Verma	19
4	Akash Raj	19
5	Ambule Bhushan Pradip	19
6	Ameya Sandip Shinde	18
7	Anand Digambar Lokhande	16
8	Arondekar Bhargav Nitin	AB
9	Behar Sanskruti Raju	15
10	Bhatode Sahil Suresh	17
11	Bhole Tejal Liladhar	23
12	Burde Rutuja Raju	19
13	Chaitanya Sunil Sonawane	22
14	Chandurkar Yash Pravin	16
15	Chavan Harshad Shankar	19
16	Chavan Prasad Rajendra	17
17	Chavan Rohit Dnyaneshwar	15
18	Chirag Sandil	21
19	Civi Abhilash Gopalkrishna	20
20	Darekar Yash Prakash	19
21	Deokar Chaitanya Rajesh	20
22	Desai Sanjana Praveenkumar	20
23	Dharmavat Arpita Rajendra	18
24	Dupare Jyoti Purushottam	14
25	Gadekar mayur Chintaman	19
26	Gaikwad Manali Sanjay	22
27	Gaikwad Shantanu Anant	20
28	Gaikwad Suhani Ramesh	18
29	Gambhire Abhishek Chandrakant	19
30	Garje viraj Nitin	17
31	Ghongade Shubham Jagannath	19
32	Gosavi Mayur Sandip	17
33	Goyal Akash Anand	19
34	Inamdar Arman Himmatsaheb	17
35	Jadhav Ajinkya Annarao	20
36	Jadhav Ankit Lajaras	16
37	Jyoti Prakash Rout	18
38	Kolhe Ashish Madhukar	19
39	Kurhe Abhijeet Gorakshnath	14
40	Kushwaha Ritesh Singh Janardan	21
41	Lavankar Gaurav Prabhakar	18

42	Limbore Yogesh Arunlal	17
43	More Vishal Krishnaji	19
44	Para Sai Subhash	20
45	Patil Nilambari Vijay	16
46	Patil Onkar Ashok	20
47	Patil Pranay Vinod	19
48	Patil Tushar Amol	14
49	Patil Vishwajeet Ishwar	20
50	Patil Vivek Arun	19
51	Pradhumna Ravindra Kitukale	11
52	Prathamesh Balwant Patil	19
53	Rachit Bisht	23
54	Rathod Pankaj Raju	16
55	Raut Suraj Sunil	18
56	Rohokale Prathamesh Yashwant	19
57	Sakharkar Yash Ganesh	18
58	Sankpal Shrutika Sanjay	19
59	Sathe Kushal Vilasrao	20
60	Sayali Dnyaneshwar Jadhav	18
61	Shaikh Abdulkarim Mohd Sattar	17
62	Shaikh Imran Kalamuddin	20
63	Shelkar Nisha Vikram	18
64	Shinde Piyusha Deepak	19
65	Shreyas Suresh Jadhav	14
66	Shrigan Mrunal Mallikarjun	19
67	Singh Rohit Harishankar	14
68	Sonone Nikhil Visjhwajit	16
69	Tayade Sakshi Vinod	22
70	Utkarsha Umesh Dhane	22
71	Vridhi Ritesh Sachdev	24
72	Waghchaure Yash Bhausahab	16
73	Waghmare Shivcharan Suresh	17
74	Wani Pranjal Bharat	19
75	Zade Prathmesh Ganesh	18
TOTAL COUNT OF STUDENTS		74
TOTAL MARKS OF STUDENTS		1358
AVERAGE MARKS		18.35
% ASSESSMENT OF AVERAGE MARKS (out of 25)		67.57

CO-PO attainment of the Program (Summary):

Semester I																																					
Sr. No.	Class (Div) & Subject	CO No.	Attainment	PO1	Attainment	PO2	Attainment	PO3	Attainment	PO4	Attainment	PO5	Attainment	PO6	Attainment	PO7	Attainment	PO8	Attainment	PO9	Attainment	PO10	Attainment	PO11	Attainment	PO12	Attainment	PSO1	Attainment	PSO2	Attainment	PSO3	Attainment				
1	SE-A - DM (210241)	CO-1	3	1	1	1	1	2	2	1	1																										
		CO-2	3	1	1	2	2																														
		CO-3	3	2	2	1	1	2	2	1	1																										
		CO-4	3	1	1	2	2																														
		CO-5	3							2	2																										
		CO-6	3			2	2	1	1	2	2																										
		CO-7	2.62	1	1	2	2	2	2	2	2																										
				</																																	

10. OUTCOME OF OBE

Academic Outcome:

The first outgoing batch of AI&DS performed with flying colors in the Oct-Nov 2023 SPPU Examination with 100% All Clear Result. The Senior Management of ADYPSOE, appreciated the department for outstanding results.



ankita tidake <ankitatidake@dypic.in>

Appreciation to all AIDS faculties - for Outstanding Results

2 messages

Principal DYPSOE <principal_dypsoe@dypic.in>
To: AIDS FACULTY GROUP <aidsfacultygroup@dypic.in>

Thu, Feb 29, 2024 at 4:00 PM

Dear All,

I am writing to extend my heartfelt appreciation to all the faculties of Artificial Intelligence and Data Science Engineering, for their remarkable dedication and efforts that have resulted in outstanding performance in the Oct-Nov 2023 SPPU Examination. Your unwavering commitment to academic excellence and your relentless pursuit of nurturing and guiding our students have played a pivotal role in their success. The exceptional results attained by our students are a reflection of your dedication, passion, and commitment to fostering an environment of learning and growth. On behalf of the Management, I extend my sincere gratitude to every one of you for your invaluable contributions and unwavering dedication to academic excellence. Your commitment to nurturing the intellect and potential of our students is truly commendable and deserving of the highest praise. I am confident that with your continued guidance and support, our students will continue to excel and make significant contributions to their respective fields of study and society at large. Your contributions are deeply appreciated and do not go unnoticed.

Regards.....

Dr F B Sayyad
Principal
Ajeenkya DY Patil School of Engineering
Lohegaon Pune-412105
Contact- 9422646654/7387350118
Website: <https://adypsoe.in/>



Student Progression:

Higher Education Student Details A.Y. 2023-24

Sr.No.	Name of Student	Institute Name
1	Tejal Bhole	Namtech,IIT Gandhinagar,Gujarat
2	Mrunal Shrigan	Namtech,IIT Gandhinagar,Gujarat
3	Shantanu Gaikwad	VIT Vellore
4	Mayur Gadekar	Visvesvaraya National Institute of Technology (VNIT), Nagpur
5	Tushar Patil	Visvesvaraya National Institute of Technology (VNIT), Nagpur
6	Chaitanya Devka	Technological University Dublin
7	Pradumn Kitkule	Dr. D. Y. Patil Institute of Technology

Placement Details A.Y. 23-24

Sr.No.	Name of Student	Company Name	Package
1	Bhushan Ambule	Telstra	10 LPA
2	Onkar Ashok Patil	Telstra	10 LPA
3	Para Sai Subhash	Telstra	10 LPA
4	Vridhi Ritesh Sachdev	Telstra	10 LPA
5	Kushal Sathe	EPAM	8.0 LPA
6	Yogesh Limbore	Turing	8 LPA
7	Pranjal Wani	Turing	8 LPA
8	Sayli Jadhav	Turing	8 LPA
9	Sakshi Tayade	Equifax	7.0 LPA
10	Abhilash Civi	InOrg	7.5 LPA
11	Vishal More	Entrata	6.5 LPA
12	Suraj Raut	Corizo	6.5 LPA
13	Aditya Verma	Deloitte	6 LPA
14	Rohit Chavan	Global Steps	6 LPA
15	Prathamesh Balwant Patil	Societe Generale	5.45 LPA
16	Rachita Bisht	Societe Generale	5.45 LPA
17	Vishwajeet Ishwar Patil	Societe Generale Global Solution Centre, TCS	5.4 LPA
18	Ajinkya Annarao Jadhav	Wurth IT India	4.5 LPA
19	Chirag Sandil	KPIT	4.5 LPA
20	Yash Chandurkar	Wurth IT India	4.5 LPA
21	Abhaysinh Padmakar Landge	ITC Infotech	4.25 LPA
22	Ameya Shinde	Renault Nissan	4.25 LPA
23	Arpita Dharmavat	Capgemini	4.25 LPA
24	Ashish Madhukar Kolhe	ITC infotech	4.25 LPA
25	Chaitanya Rajesh Deokar	ITC INFOTECH	4.25 LPA
26	Manali Sanjay Gaikwad	ITC Infotech	4.25 LPA

27	Mayur Chintaman Gadekar	ITC Infotech	4.25 LPA
28	Mayur Sandip Gosavi	ITC Infotech	4.25 LPA
29	Nilambari Patil	Capgemini	4.25 LPA
30	Piyusha Shinde	Capgemini	4.25 LPA
31	Prathamesh Yashwant Rohokale	ITC Infotech	4.25 LPA
32	Prathamesh Zade	ITC Infotech	4.25 LPA
33	Ritesh Singh Kushwaha	ITC Infotech	4.25 LPA
34	Sahil Suresh Bhatode	ITC Infotech	4.25 LPA
35	Utkarsha Umesh Dhane	ITC Infotech, Capgemini	4.25 LPA
36	Viraj Nitin Garje	ITC Infotech	4.25 LPA
37	Nikhil Sonone	Infogen	3.5 LPA
38	Harshad Shankar Chavan	TCS	3.36 LPA
39	Aditya Verma	Global Steps	3.25 LPA
40	Jyoti Prakash Rout	Global Steps	3.25 LPA

Internship Details TE A. Y. 2023-24

Sr. No.	Name of Student	Mode of Internship	Start Date of Internship/Project	End Date of Internship/Project	Name of Company or organization
1	Anurag Amale	Online	15/02/24	15/03/24	Unified Mentor
2	Shahil Digambar Ambule	Online	1/1/2024	1/31/2024	PRODIGY INFOTECH
3	Anushka Nandakumar Pansare	Online	10/1/2024	23/02/24	DCDIUM TECHNOLOGIES
4	Sandeep Balappa Athani	Online	12/18/2023	1/31/2024	DCDIUM TECHNOLOGIES
5	Harshan Attar	Online	2/1/2024	28/02/24	TechLeaper Systems Pvt. Ltd.
6	Harshan Attar	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
7	Ayushi Lanjewar	Online	8/4/2024	8/5/2024	Altellity
8	Komal Bhagvat Barhate	Online	1/12/2023	1/2/2024	TwiLearn Edutech
9	Sujeet barote	Online	12/18/2023	1/31/2024	DCDIUM TECHNOLOGIES
10	Abhishek Suresh Bhandwalkar	Online	27/12/2023 to 22/02/2024	22/02/24	iGurus Consultancy Services LLP

11	Bhanudas Thorbole	Online	12/17/2023	1/31/2024	INEURON INTELLIGENCE PVT. LTD
12	Sahil biradar	Online	27/12/2023 to 22/02/2024	22/02/24	iGurus Consultancy Services LLP
13	Ganesh bodakhe	Online	1/1/2024	2/10/2024	TechLeaper Systems pvt ltd
14	Saraswati Mallesh Chalwadi	Online	18/12/2023	31/01/2024	DCDIUM TECHNOLOGIES PVT LTD
15	Snehal chendage	Online	12/18/2023	1/31/2024	DCDIUM Technologies Pvt Ltd
16	Om Rajesh Dabade	Online	27/12/23	22/2/24	iGurus Consultancy Services LLP
17	Jay Dake	Online	18/12/24	31/01/24	DCDIUM Technologies
18	Omkar Darekar	Online	12/18/2023	1/31/2024	DCDIUM TECHNOLOGIES PVT LTD
19	Vaishnavi Ratnakar Dekate	Online	1/2/2024	1/31/2024	iNeuron
20	Shivam Shriram Devne	Online	27/12/2023	22/02/2024	iGurus Consultancy Services LLP
21	Varun Dhamode	Online	1/1/2024	31/01/2024	Let's Grow More
22	avadoothdhumal11@gmail.com	Online	2/1/2024	02/02/24	Aller technologies private limited
23	Meshka Dhumal	Offline	1/15/2024	6/15/2024	KPMG
24	Dinesh Anil Salunkhe	Online	14/01/24	16/02/24	iNeuron.ai
25	Aditya Ekhande	Online	27/12/23	27/12/2023 to 22/02/2023	iGurus Consultancy Services LLP
26	Sumit Sampat Gaikwad	Online	1/2/2024	2/2/2024	Aller Technologies Pvt.Ltd
27	Harshal Ravsaheb Gangurde	Online	1/12/2023	1/2/2024	Twilearn edutech pvt.lmt
28	Geetansh Chopra	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
29	Krushna Santosh Ghatkar	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
30	Prithviraj Sandip Ghorpade	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
31	Harshal Ghugal	Online	27/12/2023 to 22/02/2024	22/02/24	iGurus Consultancy Services LLP
32	Anmol Girase	Online	18/12/23	31/1/24	DCDIUM Technologies

33	Prathamesh Govekar	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
34	Nayanesh Nilesh Gugale	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
35	Nayanesh Nilesh Gugale	Online	8/1/2024	29/02/2024	TechLeaper Systems Pvt Ltd
36	Gunjan Samir Gandhi	Online	12/18/2023	1/31/2024	DCDIUM Technologies Pvt.Ltd
37	Aditya Arun Jadhav	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
38	Ajit Santosh Jadhav	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
39	Shivraj Jagtap	Online	15/1/2024	15/3/2024	KAASHIV INFOTECH
40	Jigyasa Choudhari	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
41	Siddhi Kale	Online	12/18/2023	1/31/2024	DCDIUM Technologies
42	Kartiki Joshi	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
43	Vishwatej Sanjay Kashid	Online	1/2/2024	2/2/2024	Aller technologies
44	Prerana Sunil Kawade	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
45	Aman Khandale	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
46	Om Khandve	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
47	Sushant Khedkar	Online	15/12/23	15/01/24	Edunexa Tech
48	Nagesh Shankar Khichade	Online	12/1/2023	1/31/2023	Twilearn Edutech
49	Niranjan khude	Online	12/18/2023	1/31/2024	DCDIUM Technologies pvt ltd
50	Gururaj Khule	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
53	Prajwal Ananda kindre	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP
54	Akshay Thombre	Online	27/12/23	22/02/24	iGurus Consultancy Services LLP

NCC and NSS Summary of Contribution and Achievement (PO6 to PO12):

NSS - SUMMARY			
SR.NO	NAME OF STUDENT	ACHIEVEMENT	YEAR
1	Sandep Athani	NSS SPECIAL PROGRAM -SPPU	2023
2	Sandep Athani	PARTICIPATED IN NSS WORKSHOP-ARTS SCIENCE COMMERCE COLLEGE WAGHOLI	2024
3	Yash Udupure	PARTICIPATED IN ONE DAY NSS WORKSHOP- AISSMS,COE,PUNE	2024
4	Sakshi Mhase	PARTICIPATED IN ONE DAY NSS WORKSHOP- AISSMS,COE,PUNE	2024
4	Pragati Akhare	PARTICIPATED IN NSS WORKSHOP-ARTS SCIENCE COMMERCE COLLEGE WAGHOLI	2024

NCC - SUMMARY			
SR.NO	NAME OF STUDENT	CAMP NAME	YEAR
1	Rajveer Patil	2 MAH GIRLS BN NCC PUNE	2023
2	Anushka Ambre	NCC GIRLS CADET ARMY ATTCHMENT CAMP,PUNE	2023
3	Rajveer Patil	2 MAH SIG COY NCC PUNE	2023
4	Pranav Jadhav	2 MAH SIG COY NCC PUNE	2023
5	Pranav Jadhav	ARMY ATTACHMENT TRAINING,PUNE	2023
6	Niranjan Khude	ARMY ATTACHMENT TRAINING,PUNE	2023
7	Niranjan Khude	2 MAH GIRLS BN NCC PUNE	2023
8	Pranav Jadhav	1 MAH SIG COY NCC PUNE	2023
9	Sanket Rajkumar Shinde	1 MAH SIG COY NCC PUNE	2024
10	Rajveer Patil	50 MAH BATTALION NCC,CHH SAMBHAJINAGAR	2024
11	Pawar Abhay Madhukar	1 MAH SIG COY NCC PUNE	2024
12	Sneha Gupta	1 MAH SIG COY NCC PUNE	2024
13	Rajveer Patil	1 MAH SIG COY NCC PUNE	2024
14	Anushka Ambre	1 MAH SIG COY NCC PUNE	2024
15	Niranjan Khude	1 MAH SIG COY NCC PUNE	2024
16	Suraj Dombe	1 MAH SIG COY NCC PUNE	2024
17	Pranav Jadhav	1 MAH SIG COY NCC PUNE	2024
18	Nikhil Malvi	1 MAH SIG COY NCC PUNE	2024
19	Pranav Jadhav	50 MAH BATTALION NCC,CHH SAMBHAJINAGAR	2024
20	Bhagwat Koli	1 MAH SIG COY NCC PUNE	2023
21	Bhagwat Koli	2 MAH GIRLS BN NCC PUNE	2023
22	Bhagwat Koli	3 MAH AIR SQUADRON NCC PUNE	2023
23	Bhagwat Koli	NCC DIRECTORATE BASIC LEADERSHIP CAMP	2023
24	Bhagwat Koli	ADVANCE LEADERSHIP CAMP - VI	2024