



# SCIENT INSTITUTE OF TECHNOLOGY

Ibrahimpattam, R.R Dist 501506

(NAAC Accredited, Approved by AICTE & Affiliated to JNTUH)

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

The institute evaluates the attainment of COs, POs and PSOs through its evaluation system and through the process is mentioned below.

The artifacts that demonstrate the skills, personal characteristics and accomplishments required for measuring the attainments are collected from:

1. Direct attainment
2. In-Direct attainment

**CO Attainment of a Course:**

**Computation of CO In-Direct Attainment in the course:**

Attainment of CO in a course =  $((\text{Level1} \times \text{No. of Students Attempted}) + (\text{Level2} \times \text{No. of Students Attempted}) + (\text{Level3} \times \text{No. of Students Attempted})) / \text{Total No. of Students}$ .

**COs INDIRECT ASSESSMENT TOOLS**

**End of Semester Course Evaluation Form:** During the survey, students provide their responses on a given scale to the questions which are the COs of the respective courses. Procedure to measure the Indirect-CO attainment of a course is same as direct attainment method, where the results are student's responses.

**OVERALL CO ATTAINMENT**

**Computation of Attainment of COs in a course = 70% of Direct CO Attainment + 30% of Indirect CO Attainment**

**PO and PSO Attainment:**

Evaluations of attainment of POs and PSOs based on 70% of direct assessment + 30% of indirect assessment combined to arrive at the Final Evaluation

## **PO and PSO INDIRECT ASSESSMENT TOOLS**

**Graduate Exit Survey:** At the end of 4 years after graduation, a questionnaire is given to graduates to obtain feedback on Program Outcomes/ Program Specific Outcomes.

**Alumni Survey:** After completion of graduation, a questionnaire is given to graduates to obtain feedback on Program Outcomes/ Program Specific Outcomes.

### **Final PO Attainment:**

The final attainment of each PO of a program is computed by summing up Direct- PO attainment and Indirect-PO attainment values in the proportion of 70:30.

If the achievement level of a PO reached/completed the PO target then that PO is attained, else PO is considered not attained. The procedure for PSOs is similar to POs.



**PRINCIPAL**  
Sole Institute of Technology  
(Brahmapatnam, R. R. Dt.-501 50)



# SCIENT INSTITUTE OF TECHNOLOGY

Ibrahimpatnam, R.R Dist - 501506  
(Approved by AICTE & Affiliated to JNTUH, Hyderabad)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Computation of CO-PO/ PSO Attainment

PROGRAM:IV B.TECH	DEGREE: UG (B.Tech.)
COURSE: ECE	SEMESTER: I
COURSE CODE: A10501	COURSE TYPE: CORE
CONTACT HOURS: 4 (Theory) /Week	CREDITS: 4
COURSE AREA/DOMAIN: CORE	REGULATION: JNTUH R-18
CORRESPONDING LAB COURSE CODE (IF ANY):	LAB COURSE NAME (IF ANY): A10501

PROGRAM OUTCOMES	
PO1:	<b>Engineering knowledge:</b> Apply the knowledge in mathematics, science, Engineering fundamentals and an Engineering specialization to the solution of complex Engineering problems
PO2:	<b>Problem analysis:</b> Identify, formulate, research literature, and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and Engineering sciences.
PO3:	<b>Design/development of solutions:</b> Design solution for complex Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the health and safety, and the cultural, societal, and environmental consideration.
PO4:	<b>Conduct investigations of complex problems:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5:	<b>Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6:	<b>The engineer and society:</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional Engineering practice.
PO7:	<b>Environment and sustainability:</b> Understand the impact of the professional Engineering solutions in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.
PO8:	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the Engineering practice.
PO9:	<b>Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10:	<b>Communication:</b> Communicate effectively on complex Engineering activities with the Engineering community and with society at large. Some of them are, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
PO11:	<b>Project management and finance:</b> Demonstrate knowledge and understanding of the Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12:	<b>Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)	
PSO1:	<b>Professional Skills:</b> The student will be able to apply the knowledge of Mathematics, Sciences and Engineering fundamentals to formulate, analyze and provide solutions to the problems related to Mechanical Engineering and communicate them effectively to the concerned.
PSO2:	<b>Problem-Solving Skills:</b> Design Mechanical systems in various fields such as Machine elements, thermal, manufacturing, industrial and inter-disciplinary fields by using various Engineering/technological tools to meet the mercurial needs of the industry and society at large.
PSO3:	<b>Practical implementation and testing skills:</b> The ability to grasp the latest development, methodologies of Mechanical Engineering and possess competent knowledge of design process, practical proficiencies, skills and knowledge of programme and developing ideas towards research.

Bloom's taxonomy Levels	
L1. Remember	– recalling relevant terminology, specific facts, or different procedures related to information and/or course topics. At this level, a student can remember something, but may not really understand it.
L2. Understand	– the ability to grasp the meaning of information (facts, definitions, concepts, etc.) that has been presented.
L3. Apply	– being able to use previously learned information in different situations or in problem solving.
L4. Analyze	– the ability to break information down into its component parts. Analysis also refers to the process of examining information in order to make conclusions regarding cause and effect, interpreting motives, making inferences, or finding evidence to support statements/arguments.
L5. Evaluate	– being able to judge the value of information and/or sources of information based on personal values or opinions.
L6. Create	– the ability to creatively or uniquely apply prior knowledge and/or skills to produce new and original thoughts, ideas, processes, etc. At this level, students are involved in creating their own thoughts and ideas.

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

Course	CO. No.	Course Outcomes (CO)	Knowledge Level (Blooms Level)
PPS	CO1	Demonstrate the basic knowledge of computer hardware and software.	L2
	CO2	Ability to apply sorting and logical skills to programming in C language and also in other languages.	L3
	CO3	Ability to work with arrays of complex objects	L2,L1
	CO4	Understanding a concept of object thinking within the framework of functional model.	L6,L4
	CO5	Understanding a defensive programming concept. Ability to handle possible errors during program execution.	L3

**HOW PROGRAM OUTCOMES (POs) ARE ASSESSED:**

Program Outcomes (PO)		Level	Proficiency assessed by
PO1	<b>Engineering knowledge:</b> Apply the knowledge in mathematics, science, Engineering fundamentals and an Engineering specialization to the solution of complex Engineering problems	3.00	Assignment, Mid Exam, External exam
PO2	<b>Problem analysis:</b> Identify, formulate, research literature, and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and Engineering sciences.	2.00	Assignment, Mid Exam, External exam
PO3	<b>Design/development of solutions:</b> Design solution for complex Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the health and safety, and the cultural, societal, and environmental consideration.	0.00	Assignment, Mid Exam, External exam
PO4	<b>Conduct investigations of complex problems:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.	0.00	Assignment, Mid Exam, External exam
PO5	<b>Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	0.00	Assignment, Mid Exam, External exam
PO6	<b>he engineer and society:</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional Engineering practice.	3.00	Assignment, Mid Exam, External exam
PO7	<b>Environment and sustainability:</b> Understand the impact of the professional Engineering solutions in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.	2.00	Assignment, Mid Exam, External exam
PO8	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the Engineering practice.	0.00	Assignment, Mid Exam, External exam
PO9	<b>Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	0.00	Assignment, Mid Exam, External exam
PO10	<b>Communication:</b> Communicate effectively on complex Engineering activities with the Engineering community and with society at large. Some of them are, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	0.00	Assignment, Mid Exam, External exam
PO11	<b>Project management and finance:</b> Demonstrate knowledge and understanding of the Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	2.00	Assignment, Mid Exam, External exam
PO12	<b>Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.	0.00	Assignment, Mid Exam, External exam

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

- : None

**HOW PROGRAM SPECIFIC OUTCOMES (PSOs) ARE ASSESSED:**

Program Specific Outcomes (PSO)		Level	Proficiency assessed by
PSO1	<b>Professional Skills:</b> The student will be able to apply the knowledge of Mathematics, Sciences and Engineering fundamentals to formulate, analyze and provide solutions to the problems related to Mechanical Engineering and communicate them effectively to the concerned.	1.80	Assignment, Mid Exam, External exam
PSO2	<b>Problem-Solving Skills:</b> Design Mechanical systems in various fields such as Machine elements, thermal, manufacturing, industrial and inter-disciplinary fields by using various Engineering/technological tools to meet the mercurial needs of the industry and society at large.	1.30	Assignment, Projects
PSO3	<b>Practical implementation and testing skills:</b> The ability to grasp the latest development, methodologies of Mechanical Engineering and possess competent knowledge of design process, practical proficiencies, skills and knowledge of programme and developing ideas towards research.	2.20	Assignment, Mid Exam, External exam

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

- : None

MAPPING COURSE OUTCOMES (COs) LEADING TO THE ACHIEVEMENT OF PROGRAM OUTCOMES (POs):													
Course	CO'S	Program Outcomes (POs)											
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PPS	CO1	3						2					
	CO2	3	2										
	CO3											2	3
	CO4						3						
	CO5	3											
Average		3	2				3	2				2	3

#### MAPPING COURSE OUTCOMES (COs) LEADING TO THE ACHIEVEMENT OF PROGRAM SPECIFIC OUTCOMES (PSO)

Course	CO'S	Program Specific Outcomes (PSOs)		
		PSO1	PSO2	PSO3
PPS	CO1	1		2
	CO2	3	2	2
	CO3	2	1	1
	CO4	1		3
	CO5	2	1	3
Average		1.8	1.30	2.2

1: Slight (Low)

2: Moderate  
(Medium)

3: Substantial  
(High)

- : None

#### COURSE OUTCOME ASSESSMENT

##### Assessment Pattern:

Assessment Type	Weightage	Assessment Tool
Direct Attainment	70%	Mid-1: 25 marks • Objective(10) + Assignment (05) • Descriptive (10) based on question wise CO mapping
		Mid-2: 25 marks • Objective(10) + Assignment (05) • Descriptive (10) based on question wise CO mapping
		End Semester Examination (75 Marks)
Indirect Attainment	30%	Course End Semester Feedback

#### COURSE ASSESSMENT SHEET

##### Course Outcome Attainment

Assessment Methods	Attainment Levels	
Mid Exam: For Objective(10) + Assignment (5) =15	Threshold Value: For Objective(10) + Assignment (5), threshold value is 60% of their total, i.e., $0.5*(10+5) > 9$ Marks	
	Level 1	50-59% of students scoring more than 7 marks in Objective+ Assignment
	Level 2	60-69% of students scoring more than 7 marks in Objective+ Assignment
	Level 3	$\geq 70\%$ of students scoring more than 7 marks in Objective+ Assignment
Mid Exam: Descriptive Test=10	For Descriptive(10), question wise threshold value is 60% of respective question marks, i.e., $0.6*5 > 3$ Marks	
	Level 1	50-59% of students scoring more than 3 marks question/ CO wise (60% of 5 marks is 3) out of the max.(5) marks.
	Level 2	60-69% of students scoring more than 3 marks question/ CO wise (60% of 5 marks is 3) out of the max.(5) marks.
	Level 3	$\geq 70\%$ of students scoring more than 3 marks question/ CO wise (60% of 5 marks is 3) out of the max.(5) marks.
End Semester Exam(EE)	Level 1	50% of students scoring pass marks (26 or $>26$ out of 75) in the End Semester Examination.
	Level 2	60% of students scoring pass marks (26 or $>26$ out of 75) in the End Semester Examination.
	Level 3	70% of students scoring pass marks (26 or $>26$ out of 75) in the End Semester Examination.

Student's performance:

Mid Exam: For Objective (10) + Assignment (5)

S.No.	Roll. No.	MID-1 Exam				MID-2 Exam				END SEMESTER EXAM	
		OBJECTIVE+ASSIGNMENT				OBJECTIVE+ASSIGNMENT				(Secured Grade /Marks): 75	
		SUB	OBJ	ASSIG	TOTAL	SUB	OBJ	ASSIG	TOTAL	Internal	External
		10	10	5	15	10	10	5	15	25	75
1	21C01A0401	7	5	5	10	10	4	5	9	18	29
2	21C01A0402	8	7	5	12	10	6	5	11	20.5	43
3	21C01A0403	7	6	5	11	3	5	5	10	15.5	26
4	21C01A0404	10	9	5	14	10	8	5	13	23.5	43
5	21C01A0405	5	6	5	11	9	4	5	9	17	31
6	21C01A0406	10	10	5	15	10	10	5	15	25	55
7	21C01A0407	5	5	5	10	7	6	5	11	16.5	40
8	21C01A0408	10	7	5	12	9	5	5	10	20.5	32
9	21C01A0409	4	4	5	9	4	3	5	8	12.5	12
10	21C01A0410	5	4	5	9	6	2	5	7	13.5	16
11	21C01A0411	6	6	5	11			5	5	11	
12	21C01A0412	4	7	5	12	9	5	5	10	17.5	28
13	21C01A0413	7	5	5	10	8	7	5	12	18.5	39
14	21C01A0414	10	8	5	13	9	4	5	9	20.5	38
15	21C01A0415	8	3	5	8	10	5	5	10	18	33
16	21C01A0416	7	5	5	10	9	7	5	12	19	9
17	21C01A0417	7	7	5	12	5	3	5	8	16	29
18	21C01A0418	5	5	5	10	0	4	5	9	12	26
19	21C01A0419	0	5	5	10	1	4	5	9	10	14
20	21C01A0420	0	3	5	8			5	5	6.5	8
21	21C01A0421	4	3	5	8	4	3	5	8	12	14
22	21C01A0422	2	3	5	8	3	8	5	13	13	8
23	21C01A0423	10	9	5	14	10	10	5	15	24.5	56
24	21C01A0424			5	5			5	5	5	6
25	21C01A0425	8	8	5	13	8	5	5	10	19.5	26
26	21C01A0426	8	5	5	10	9	4	5	9	18	12
27	21C01A0427	8	7	5	12	10	9	5	14	22	51
28	21C01A0428	10	9	5	14	10	6	5	11	22.5	29
29	21C01A0429	4	5	5	10	2	5	5	10	13	31
30	21C01A0430	10	10	5	15	8	7	5	12	22.5	32
31	21C01A0431	9	6	5	11	9	7	5	12	20.5	35
32	21C01A0432	7	5	5	10	2	3	5	8	13.5	9
33	21C01A0433			5	5	1	3	5	8	7	7
34	21C01A0434	10	8	5	13	10	8	5	13	23	32
35	21C01A0435			5	5	0	3	5	8	6.5	4
36	21C01A0436	10	8	5	13	10	10	5	15	24	53
37	21C01A0437	10	8	5	13	10	10	5	15	24	63
38	21C01A0438	2	4	5	9	8	4	5	9	14	26
39	21C01A0439	0	3	5	8	3	3	5	8	9.5	5
40	21C01A0440	9	8	5	13	10	5	5	10	21	52
41	21C01A0441	5	6	5	11	10	10	5	15	20.5	47
42	21C01A0442	10	8	5	13	10	4	5	9	21	35
43	21C01A0443	7	6	5	11	8	4	5	9	17.5	15
44	21C01A0444	9	8	5	13	10	4	5	9	20.5	29
45	21C01A0445	7	8	5	13	10	6	5	11	20.5	35
46	21C01A0446	10	10	5	15	10	7	5	12	23.5	57
47	21C01A0447	8	6	5	11	6	10	5	15	20	26
48	21C01A0448	10	7	5	12	10	5	5	10	21	40
49	21C01A0449	7	7	5	12	4	5	5	10	16.5	12
50	21C01A0450	5	6	5	11	9	4	5	9	17	27
51	21C01A0451	10	9	5	14	10	7	5	12	23	34
52	21C01A0452	5	5	5	10	4	4	5	9	14	31
53	21C01A0453	5	5	5	10	9	6	5	11	17.5	26
54	21C01A0454	7	3	5	8	5	8	5	13	16.5	16
55	21C01A0455	7	4	5	9	8	3	5	8	16	-1
56	21C01A0456			5	5			5	5	5	0
57	21C01A0457	3	4	5	9	6	4	5	9	13.5	26
58	21C01A0458	6	2	5	7	3	5	5	10	13	26
59	21C01A0459	0	2	5	7			5	5	6	6
60	21C01A0460	6	6	5	11	8	5	5	10	17.5	29
61	21C01A0461			5	5	10	7	5	12	13.5	19

No. of Students Attempted	56	61	61	56	56	61	61	61	60
No. of Students secured >Threshold marks			56				56	50	40
% of Students secured >Threshold marks			91.80				91.80	81.97	66.67
Attainment Level			3				3	3	2
CO AVERAGE			3				3	3	2

**Mid Exam-1: Descriptive Test**

S.No.	Roll. No.	Set No.\ Related COs	MID-1 Exam				
			Descriptive Test (10) Question wise marks (Best TWO will be considered)				Total (Best two Score): 10
			Q1 (5)	Q2 (5)	Q3 (5)	Q4 (5)	
SET-1 Cos	CO1	CO1	CO2	CO2			
1	21C01A0401		3	4			7
2	21C01A0402		5		3		8
3	21C01A0403		4			3	7
4	21C01A0404		5	5			10
5	21C01A0405			5			5
6	21C01A0406		5	5			10
7	21C01A0407				3	2	5
8	21C01A0408		5	5			10
9	21C01A0409		2		2		4
10	21C01A0410		2	3			5
11	21C01A0411		5	1			6
12	21C01A0412		2		2		4
13	21C01A0413		4	3			7
14	21C01A0414		5		5		10
15	21C01A0415		5		3		8
16	21C01A0416		4	3			7
17	21C01A0417		3	4			7
18	21C01A0418		5				5
19	21C01A0419		0				0
20	21C01A0420		0				0
21	21C01A0421		2	2			4
22	21C01A0422				2		2
23	21C01A0423		5			5	10
24	21C01A0424						AB
25	21C01A0425		4	4			8
26	21C01A0426		5	3			8
27	21C01A0427			4	4		8
28	21C01A0428		5		5		10
29	21C01A0429			4			4
30	21C01A0430		5	5			10
31	21C01A0431		5	4			9
32	21C01A0432		4		3		7
33	21C01A0433						AB
34	21C01A0434		5		5		10
35	21C01A0435						AB
36	21C01A0436		5	5			10
37	21C01A0437				5	5	10
38	21C01A0438			2			2
39	21C01A0439			0			0
40	21C01A0440			4	5		9
41	21C01A0441			5			5
42	21C01A0442		5	5			10
43	21C01A0443		4		3		7
44	21C01A0444		4	5			9
45	21C01A0445			5		2	7
46	21C01A0446				5	5	10
47	21C01A0447		4			4	8
48	21C01A0448			5	5		10
49	21C01A0449		4	3			7
50	21C01A0450				5		5
51	21C01A0451		5		5		10
52	21C01A0452					5	5
53	21C01A0453		5				5
54	21C01A0454		4		3		7
55	21C01A0455		4	3			7
56	21C01A0456						AB
57	21C01A0457		3				3
58	21C01A0458		3		3		6
59	21C01A0459		0				0
60	21C01A0460		5		1		6

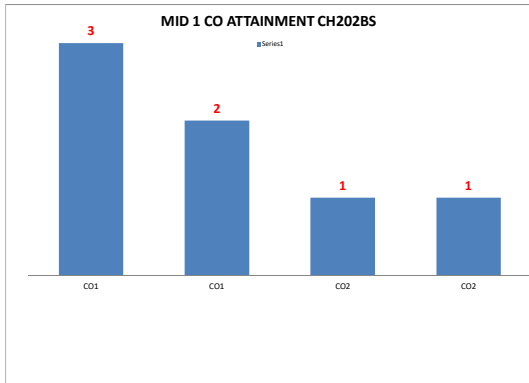


61	21C01A0461						AB
19	Sum		159	106	77	31	
No. of Students Attempted			42	29	22	9	
No. of Students secured >Threshold marks			30	18	10	5	
% of Students secured >Threshold marks			71.43	62.07	45.45	55.56	
Attainment Level			3	2	1	1	
CO AVERAGE			3	2	1	1	



FINAL CO ATTAINMENT IN MID-1 EXAM DESCRIPTIVE					
SET WISE CO VALUES	COs	CO1	CO1	CO2	CO2
	SET-1 VALUE	3	2	1	1
OVERALL CO AVERAGE		3	2	1	1

# Here based on your subject mid 1 question paper change the cos



**Mid Exam-2: Descriptive Test**

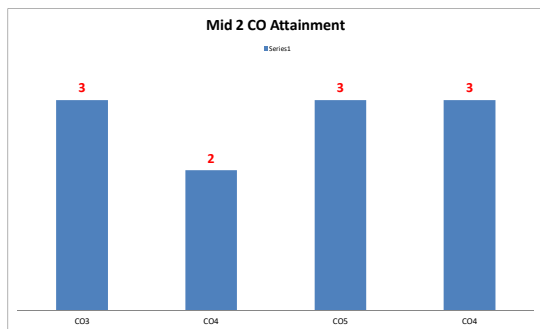
S.No.	Roll. No.	Set No.) Related COs	MID-2 Exam				
			Descriptive Test (10) Question wise marks (Best TWO will be considered)				
			Q1 (5)	Q2 (5)	Q3 (5)	Q4 (5)	Total (Best two Score): 10
			SET-1 Cos	CO3	CO4	CO4	
1	21C01A0401		5	5			10
2	21C01A0402		5		5		10
3	21C01A0403		2	1			3
4	21C01A0404		5	5			10
5	21C01A0405		4	5			9
6	21C01A0406		5	5			10
7	21C01A0407		4	3			7
8	21C01A0408		5		4		9
9	21C01A0409					4	4
10	21C01A0410			3		3	6
11	21C01A0411						AB
12	21C01A0412		5		4		9
13	21C01A0413		4			4	8
14	21C01A0414				5	4	9
15	21C01A0415			5	5		10
16	21C01A0416		4	5			9
17	21C01A0417		3		2		5
18	21C01A0418		0				0
19	21C01A0419			1			1
20	21C01A0420						AB
21	21C01A0421					4	4
22	21C01A0422		2	1			3
23	21C01A0423		5			5	10
24	21C01A0424						AB
25	21C01A0425		4		4		8
26	21C01A0426		5	4			9
27	21C01A0427		5	5			10
28	21C01A0428		5		5		10
29	21C01A0429		1		1		2
30	21C01A0430		4			4	8
31	21C01A0431		5		4		9
32	21C01A0432			2			2
33	21C01A0433		1				1
34	21C01A0434			5		5	10
35	21C01A0435					0	0
36	21C01A0436			5	5		10
37	21C01A0437		5	5			10
38	21C01A0438		5			3	8

39	21C01A0439			3			3
40	21C01A0440		5	5			10
41	21C01A0441			5	5		10
42	21C01A0442		5			5	10
43	21C01A0443		5		5		8
44	21C01A0444		5	5			10
45	21C01A0445		5		5		10
46	21C01A0446		5	5			10
47	21C01A0447		4	2			6
48	21C01A0448				5	5	10
49	21C01A0449			4			4
50	21C01A0450		5	4			9
51	21C01A0451			5	5		10
52	21C01A0452					4	4
53	21C01A0453		5		4		9
54	21C01A0454			5			5
55	21C01A0455		4		4		8
56	21C01A0456						AB
57	21C01A0457		2	4			6
58	21C01A0458		2	1			3
59	21C01A0459						AB
60	21C01A0460		5			3	8
61	21C01A0461				5	5	10
No. of Students Attempted			38	29	19	15	406
No. of Students secured >Threshold marks			30	20	17	11	
% of Students secured >Threshold marks			78.95	68.97	89.47	73.33	
Attainment Level			3	2	3	3	
CO AVERAGE			3	2	3	3	

FINAL CO ATTAINMENT IN MID-2 EXAM DESCRIPTIVE

SET WISE CO VALUES	COs	CO3	CO4	CO5	CO4
	SET-1 VALUE		3	2	3
OVERALL CO AVERAGE		3	2	3	3

# Here based on your subject mid 2 question paper change the cos



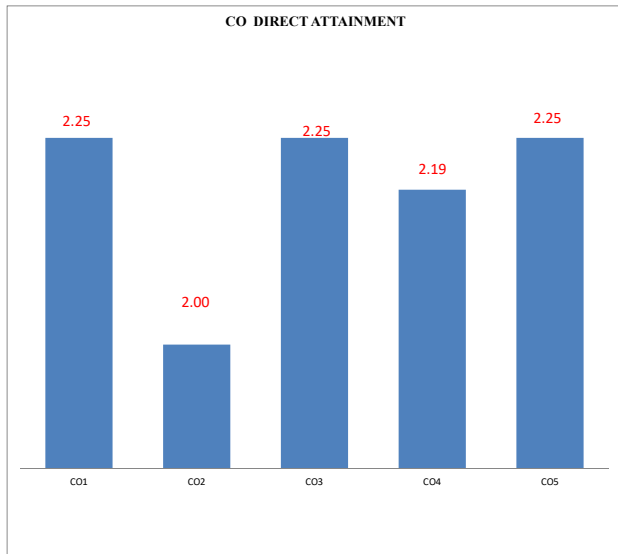
**DIRECT ATTAINMENT:**

**Computation of CO Direct Attainment (DCA) in the Course:**

Attainment of CO in a course A10501 = 25% of INTERNAL EXAM Attainment Level + 75% of EXTERNAL EXAM Attainment Level

Direct Attainment						
CO	Assessment Tool (Internal Examination / External Examination)		Internal Examination(IE)		External Examination (EE)	Direct Co Attainment= ((0.25*IE Attainment Level)+(0.75*EE Attainment Level)
			Attainment Level	Average Attainment Level	Attainment Level	
CO1	Mid-1	Objective-1+Assignment-1	3.0	3	2	2.25
		Descriptive-1	3.0			
CO2	Mid-1	Objective-1+Assignment-1	3.0	2	2	2.00
		Descriptive-1	1.0			
CO3	Mid-2	Objective-1+Assignment-1	3.0	3	2	2.25
		Descriptive-1	3.0			
CO4	Mid-2	Objective-2+Assignment-2	3.0	2.75	2	2.19
		Descriptive-2	2.5			
CO5	Mid-2	Objective-2+Assignment-2	3.0	3	2	2.25
		Descriptive-2	3.0			

COS DIRECT ATTAINMENT					
CO'S	CO1	CO2	CO3	CO4	CO5
Direct Attainment	2.25	2.00	2.25	2.19	2.25



**INDIRECT ATTAINMENT:****Computation of CO Indirect Attainment (ICA) in the course:**

Attainment of CO in a course A10501 = ((Level1 x No. of Students Attempted) + (Level2 x No. of Students Attempted) + (Level3 x No. of Students Attempted)) / Total No. of Students

S.No.	Roll. No.	CO1	CO2	CO3	CO4	CO5
1	21C01A0401	3	2	3	1	2
2	21C01A0402	3	2	2	1	3
3	21C01A0403	2	3	3	3	3
4	21C01A0404	3	2	3	2	3
5	21C01A0405	2	3	2	3	1
6	21C01A0406	2	2	2	3	2
7	21C01A0407	3	2	2	2	2
8	21C01A0408	2	2	3	2	1
9	21C01A0409	3	2	2	3	2
10	21C01A0410	2	3	2	2	2
11	21C01A0411	3	2	2	3	2
12	21C01A0412	2	2	3	2	3
13	21C01A0413	1	3	3	3	2
14	21C01A0414	2	2	2	3	3
15	21C01A0415	3	3	2	2	2
16	21C01A0416	2	3	2	3	1
17	21C01A0417	2	2	2	3	3
18	21C01A0418	2	1	2	3	1
19	21C01A0419	2	3	2	3	1
20	21C01A0420	2	2	2	3	2
21	21C01A0421	3	2	2	2	2
22	21C01A0422	2	2	3	2	1
23	21C01A0423	3	2	2	3	2
24	21C01A0424	2	3	2	2	2
25	21C01A0425	3	2	2	3	2
26	21C01A0426	2	2	3	2	3
27	21C01A0427	1	3	3	3	2
28	21C01A0428	2	2	2	3	3
29	21C01A0429	3	3	2	2	2
30	21C01A0430	2	3	2	3	1
31	21C01A0431	2	2	2	3	3
32	21C01A0432	2	1	2	3	1
33	21C01A0433	2	2	2	3	3
34	21C01A0434	3	3	2	2	2
35	21C01A0435	2	3	2	3	1
36	21C01A0436	2	2	2	3	3
37	21C01A0437	2	1	2	3	1
38	21C01A0438	2	2	2	3	3
39	21C01A0439	3	3	2	2	2
40	21C01A0440	2	3	2	3	1
41	21C01A0441	2	2	2	3	3
42	21C01A0442	2	1	2	3	1
43	21C01A0443	2	2	2	3	3
44	21C01A0444	3	3	2	2	2
45	21C01A0445	2	3	2	3	1
46	21C01A0446	2	2	2	3	3
47	21C01A0447	2	1	2	3	1
48	21C01A0448	2	2	2	3	3
49	21C01A0449	3	3	2	2	2
50	21C01A0450	2	3	2	3	1
51	21C01A0451	2	2	2	3	3
52	21C01A0452	2	1	2	3	1
53	21C01A0453	2	2	2	3	3
54	21C01A0454	3	3	2	2	2
55	21C01A0455	2	3	2	3	1
56	21C01A0456	2	2	2	3	3
57	21C01A0457	2	1	2	3	1
58	21C01A0458	1	3	3	3	2
59	21C01A0459	2	2	2	3	3

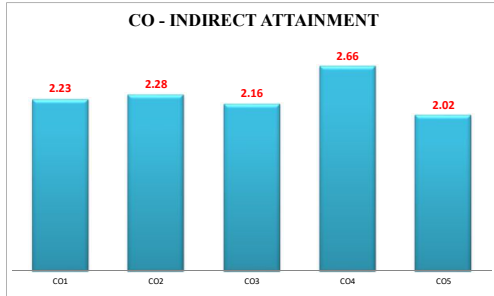
<b>60</b>	21C01A0460	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>61</b>	21C01A0461	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>1</b>
	Students Answered Level-1	3	7	0	2	19
	Students Answered Level-2	41	30	51	17	22
	Students Answered Level-3	17	24	10	42	20
	Total Students participated	61	61	61	61	61
	CO Attainment Level=	2.23	2.28	2.16	2.66	2.02

Computation of CO Indirect Attainment in the course:

COs	CO1	CO2	CO3	CO4	CO5
Students Answered Level-1	3	7	0	2	19
Students Answered Level-2	41	30	51	17	22
Students Answered Level-3	17	24	10	42	20
Total Students participated	61	61	61	61	61
CO Attainment Level=	2.23	2.28	2.16	2.66	2.02

CO - INDIRECT ATTAINMENT

COs	CO1	CO2	CO3	CO4	CO5
CO Attainment Level	2.23	2.28	2.16	2.66	2.02



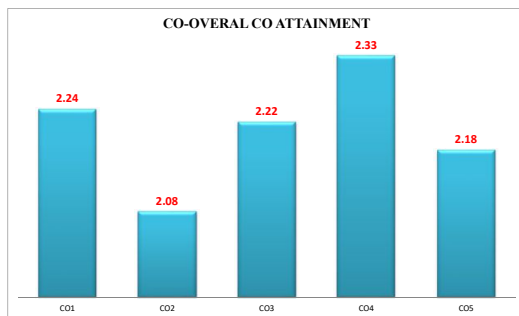
Overall CO Attainment

Computation of Attainment of COs in Course = 70 % of Direct CO Attainment + 30% of Indirect CO Attainment

CO	Direct CO Attainment Level (DA)	Indirect CO Attainment (IDA)	Overall CO Attainment Level
CO1	2.25	2.23	2.24
CO2	2.00	2.28	2.08
CO3	2.25	2.16	2.22
CO4	2.19	2.66	2.33
CO5	2.25	2.02	2.18
Average CO Attainment			2.21

CO-OVERAL CO ATTAINMENT

COs	CO1	CO2	CO3	CO4	CO5
Overall CO Attainment	2.24	2.08	2.22	2.33	2.18

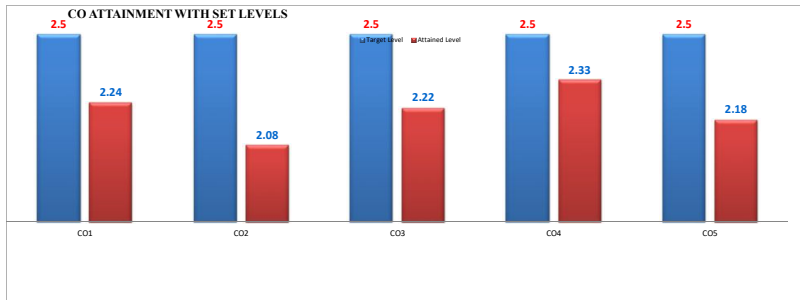


**CO Attainment:**

CO Attainment	
Level 1	50% of students, performing above threshold (50%) {0-50%: Low}
Level 2	60% & Above, till 69%, students, performing above threshold (50%) {61-69%: Medium}
Level 3	70% & Above students, performing above threshold (50%) {70-100%: High}

**CO Action Plan**

CO	Target Level	Attained Level	Attainment % ((Attained Level/3)*100)	Action Plan
CO1	2.5	2.24	74.80	NO REMARKS
CO2	2.5	2.08	69.45	NO REMARKS
CO3	2.5	2.22	74.14	NO REMARKS
CO4	2.5	2.33	77.60	NO REMARKS
CO5	2.5	2.18	72.66	NO REMARKS



**Programme Outcomes (POs) Attainment:**

$$PO = (\text{Weighted Average value of PO} * \text{CO ATTAINMENT AVERAGE})/3$$

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
LELEL	3.00	2.00	0.00	0.00	0.00	3.00	2.00	0.00	0.00	0.00	2.00	3.00
Weighted Average	3.00	2.00	0.00	0.00	0.00	3.00	2.00	0.00	0.00	0.00	2.00	3.00

**PO Attainment Level:**

PO	Attainment Level								
	(	3.00	*	2.21	/	3.00	)	=	2.21
PO1	(	3.00	*	2.21	/	3.00	)	=	2.21
PO2	(	2.00	*	2.21	/	3.00	)	=	1.47
PO3	(	0.00	*	2.21	/	3.00	)	=	0.00
PO4	(	0.00	*	2.21	/	3.00	)	=	0.00
PO5	(	0.00	*	2.21	/	3.00	)	=	0.00
PO6	(	3.00	*	2.21	/	3.00	)	=	2.21
PO8	(	0.00	*	2.21	/	3.00	)	=	0.00
PO9	(	0.00	*	2.21	/	3.00	)	=	0.00
PO10	(	0.00	*	2.21	/	3.00	)	=	0.00
PO11	(	2.00	*	2.21	/	3.00	)	=	1.47



**Result of PO Attainment:**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
LELEL	3.00	2.00	0.00	0.00	0.00	3.00	2.00	0.00	0.00	0.00	2.00	3.00
Attainment	2.21	1.47	0.00	0.00	0.00	2.21	0.00	0.00	0.00	0.00	1.47	0.00

**Programme Specific Outcomes (PSO) Attainment:**

PSO Attainment = (Weighted Average value PSO \* CO ATTAINMENT AVERAGE)/3

Course	PSO1	PSO2	PSO3
LELEL	1.80	1.30	2.20
Weighted	1.80	1.30	2.20

**PSO Attainment**

PSO	Attainment Level								
PSO1	(	1.80	*	2.21	/	3.00	)	=	1.33
PSO2	(	1.30	*	2.21	/	3.00	)	=	0.96
PSO3	(	2.20	*	2.21	/	3.00	)	=	1.62

**Result of PSO Attainment**

Course	PSO1	PSO2	PSO3
LELEL	3	2	2.2
Weighted	1.33	0.96	1.62

**Action Taken Report**

PO	Target set by Program Assessment Committee (PAC)	Attained	Action Taken (write an action taken report based on your subject pos attained in the last)
PO1	1.8	2.21	NO REMARKS
PO2	1.8	1.47	Remedial classes taken, Assignments given, Tests conducted and evaluated
PO3	1.8	0.00	NO REMARKS
PO4	1.8	0.00	NO REMARKS
PO5	1.8	0.00	NO REMARKS
PO6	1.8	2.21	NO REMARKS
PSO1	1.8	1.33	Remedial classes taken, Assignments given, Tests conducted and evaluated
PSO2	1.8	0.96	Remedial classes taken, Assignments given
PSO3	1.8	1.62	Remedial classes taken, Assignments given

  
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