Attainment of Course Outcomes

The POs and PSOs are evaluated using Microsoft excel that simplifies CO attainment calculation for every course.

1. Direct Assessment Process

The approach in evaluating the attainment of CO is using existing data from students' marks. This method is chosen because of the information is readily available and it is common for most courses. In general, assessment methods used are: (1) Internal Assessment Examinations (IAE) (2) Assignments (3) End Semester Examination. Each of these categories contributes a certain portion of the marks into some of the COs.

R-2017 -Direct CO Attainment = 80% Weightage of End Semester Examination + 20% of IAE

R-2021 -Direct CO Attainment = 60% Weightage of End Semester Examination + 40% of IAE

2. Indirect Assessment Process

Indirect assessment strategies are calculated from course end survey reports collected at the end of every semester.

After collection of individual survey forms, the marks for COs are calculated based on the following formula:

CO Indirect attainment =Average of (CO1+CO2+CO3+CO4+CO5) from Course End Survey

Final Overall CO Attainment

Final CO attainment for each course is calculated based on the contribution of direct and indirect assessments as per the weightage given below:

1. Direct Assessment (80%)

2. Indirect Assessment (20%)

Final CO attainment level = (80% Direct assessment + 20 % Indirect assessment)
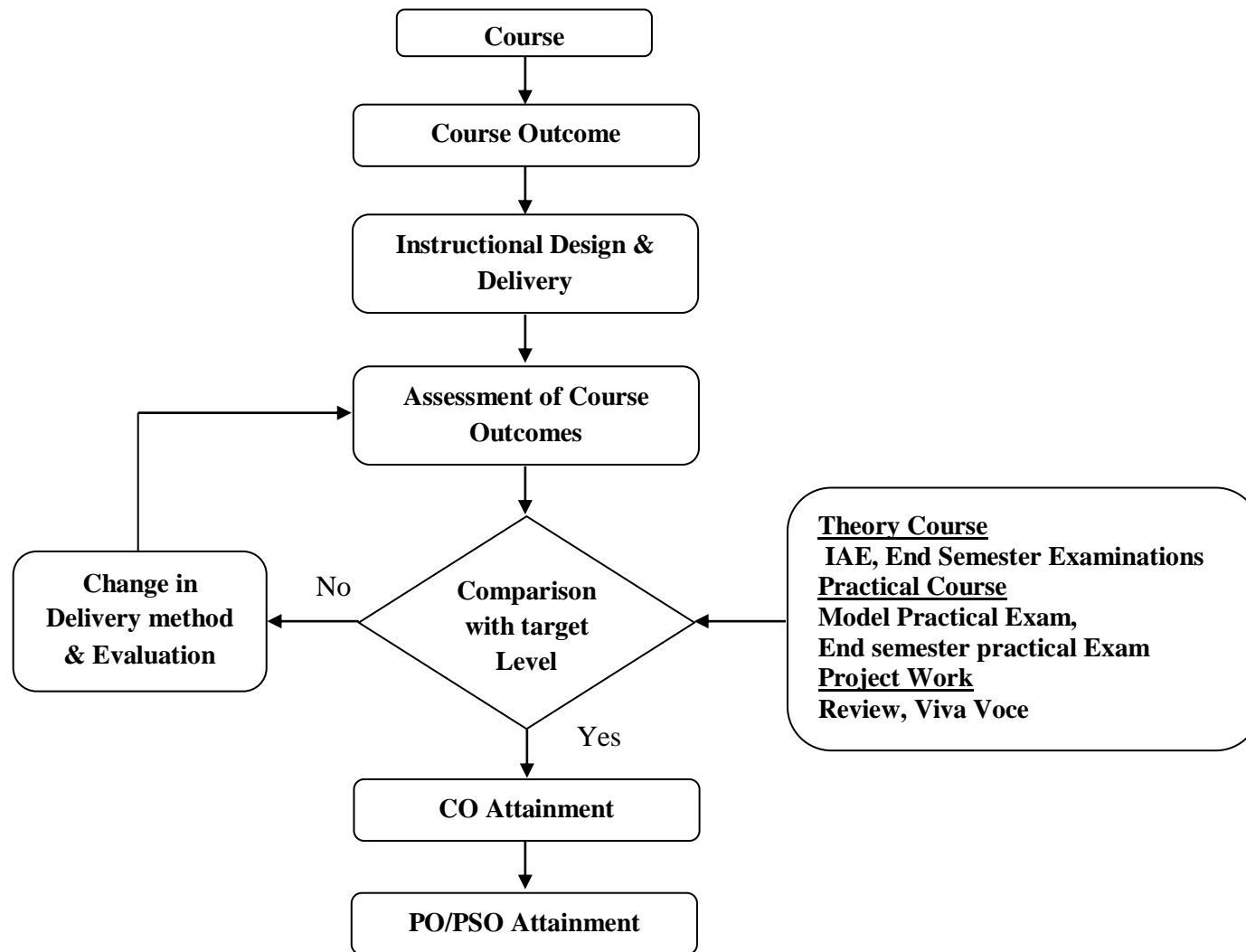
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                    ┌─────────────────┐
                    │     Course      │
                    └─────────────────┘
                             │
                             ▼
                    ┌─────────────────┐
                    │ Course Outcome  │
                    └─────────────────┘
                             │
                             ▼
                    ┌─────────────────────┐
                    │ Instructional Design &│
                    │      Delivery       │
                    └─────────────────────┘
                             │
                             ▼
                    ┌─────────────────────┐
                    │ Assessment of Course│
                    │      Outcomes       │
                    └─────────────────────┘
```

Theory Course
 IAE, End Semester Examinations
Practical Course
Model Practical Exam,
End semester practical Exam
Project Work
Review, Viva Voce

Change in Delivery method & Evaluation

No

Comparison with target Level

Yes

CO Attainment

PO/PSO Attainment

Fig. Assessment method to assess the attainment of the Course Outcomes

Course Outcomes Attainment Calculations

Table A. Ratio of Internal and End Semester Mark Split up for various Courses

S.No.	Regulation	Category of Course	Internal Mark %	University Semester Exam Marks %	Total Marks
1	R2017	Theory course	20	80	100
2		Laboratory courses /Project work	20	80	100
1	R2021	Theory course	40	60	100
2		Laboratory courses /Project work	60	40	100
3		Theory cum Lab course	50	50	100

Internal Assessment Process for Theory Courses

Table B Internal Assessment Process for Theory Courses

S.No	Components for IAP	Syllabus Coverage for the test	Duration of the test in Hrs.	Marks (Max)
R2017				
1	Internal Assessment Examinations I	First 1.5 Units	1 hr 30 min	50 Marks (Converted to 20)
2	Internal Assessment Examinations II	1.5 – 3 Units	1 hr 30 min	
3	Internal Assessment Examinations III	4-5 Units	1 hr 30 min	
4	University Examination	All 5 Units	3 hrs	100 Marks (Converted to 80)
			Total	100

R2021				
1	Internal Assessment Examinations I (60) Assignment I/ Seminar I (40)	First 2.5 units	3 hrs	100 Marks (Converted to 40)
		2.5 – 5 units	3 hrs	
2	Internal Assessment Examinations I (60) Assignment I / Seminar I (40)	2.5 – 5 units	3 hrs	
3	University Examination	All 5 Units	3 hrs	100 (Converted to 60)
			Total	100

Internal Assessment Process for Theory Cum Lab Courses

Table C Internal Assessment Process for Theory Cum Lab Courses

R2021				
1	Internal Assessment Examinations I (60) Assignment I/ Seminar I (40)	First 2.5 units	3 hrs	100 Marks (Converted to 50)
		First 2.5 units	3 hrs	
2	Record (75) Model Exam (25)	All Excercises	3 hrs	
3	University Examination	All 5 Units	3 hrs	100 (Converted to 50)
			Total	100

Internal Assessment Process for Laboratory Courses

Table D Internal Assessment Process for Laboratory Courses

S.No	Components for IAM	Marks (max.)	Attainment Calculation
R2017			
1	Record	75	Record & Model Mark Converted to 20 Marks
2	Model Exam	25	
3	University Practical Exam	100	University Practical Exam converted to 80 Marks
		Total	100
R2021			
1	Record	75	Record & Model Mark Converted to 60 Marks
2	Model Exam	25	
3	University Practical Exam	100	Converted to 40 Marks
		Total	100

Internal Assessment Process for Project Work

Table E Internal Assessment Process for Project work

S.No	Components for IAM	Marks (max.)	Attainment Calculation
1	Project Review	100	3 Review marks (5+7.5+7.5) Converted to 20 marks
2	University Viva-Voce	100	Converted to 80 marks
		Total	100

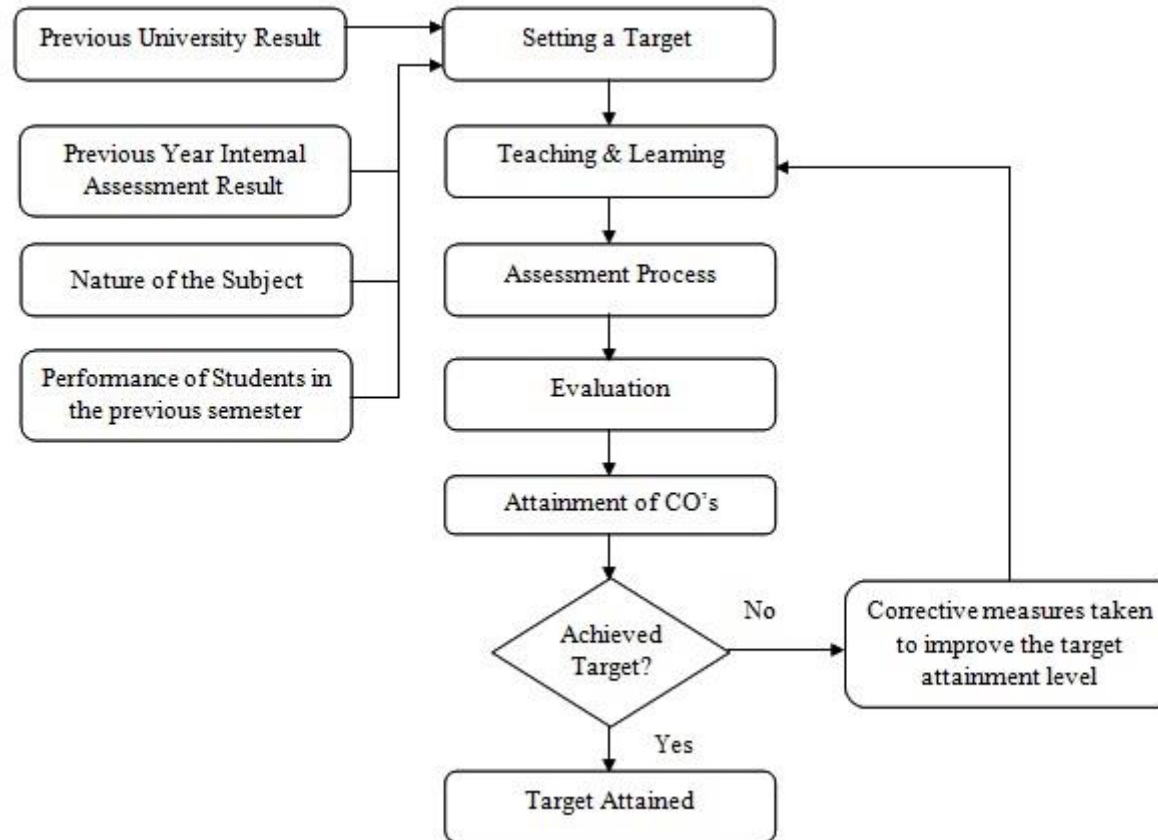**Methodology for attainment of Course Outcomes**

Fig. Attainment of all Courses

IAE Attainment calculation:

NANDHA COLLEGE OF TECHNOLOGY, PERUNDURAI, ERODE-638052
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ACADEMIC YEAR 2020 -2021 (EVEN)
IAE-1 ANALYSIS
COURSE CODE & NAME: CS8451 - DESIGN AND ANALYSIS OF ALGORITHMS
FACULTY NAME: Mrs.D.MOHANAPRIYA(CS)   Mrs.M.SARANYA(CS)
Each question Expected Level of attainment -   64 %
TOTAL STRENGTH   78

S.No	REGISTER NO	NAME	Q1	Q2	Q3	Q4	Q5	Q6(13)				Q7 (13)				Q8(14)				TOTAL SCORE (50)
								a(i)	a(ii)	b(i)	b(ii)	a(i)	a(ii)	b(i)	b(ii)	a(i)	a(ii)	b(i)	b(ii)	
			CO1	CO1	CO1	CO2	CO2	CO1	-	CO1	-	CO2	-	CO2	-	CO1	CO1	CO1	-	
		Marks	2	2	2	2	2	13	0	13	0	13	0	13	0	7	7	14	0	
	Expected Marks to attainment		1.28	1.28	1.28	1.28	1.28	8.32	0	8.32	0	8.32	0	8.32	0	4.48	4.48	8.96	0	
1	732119104001	ABDUL RAZZAK R	2	0	2	0	2	10				7				6	7			36
2	732119104002	ABINATHAN P	2	2	2	2	2	10				7				5	4			36
3	732119104003	ABIRAMI M	2	2	2	2	2	12				9						12		43
4	732119104004	AJEETH KUMAR S	2	2	2	2	2	6				10				4	6			36
5	732119104005	ALOK C	2	2	2	2	2	6				8				6	6			36
6	732119104006	ANITHA S	2	2	2	2	2			10				8		7	7			42
7	732119104007	BHARATH J R	2	2	2	2	2			12		6				6	7			41
8	732119104008	BOOBESH K	2	2	2	2	2	6				12				4	5			37
9	732119104009	CHANDRU G	2	2	2	2	2	10				10				5	7			42
10	732119104010	DARSHAN B	2	2	2	2	2	8				11				5	4			38
11	732119104011	DEEPANCHAKKARAVART	2	2	2	2	2	8				12				6	6			42
12	732119104012	DEVI G	2	2	2	2	2	6				9				5	6			36
13	732119104013	DHATCHAYAN G	2	0	0	0	2			11		10				5	6			36
14	732119104014	DHEIVANANTH V	2	1	1	2	2			10		11				4	3			36
15	732119104015	DURGA DEVI K	2	2	2	2	2	6				7				6	7			36
16	732119104016	EBINSON R	2	0	0	0	2	9				10				6	7			36
17	732119104017	GAYATHRI B	2	2	2	2	2	6				9				5	6			36
18	732119104018	GAYATHRI V	2	0	2	2	2	11				12				6	5			42
19	732119104019	GNANASURYA P	2	2	2	2	2	6				9				5	6			36
20	732119104020	GOKUL PRASATH A	2	2	2	2	2	9				8				5	4			36
21	732119104021	GOKULSANKAR T	2	2	2	2	2	10				10				6	5			41

S.No	Register Number	Name																		Total
22	732119104022	GOMATHI P	2	2	2	2	2			10		11								10		41
23	732119104023	GOVARTHANAN J	2	0	0	2	2	11						10	4	5					36
24	732119104024	GUHAN SHANMUGAM A	2	2	2	2	2	10				6			4	6					36
25	732119104025	GUNAVATHI S	2	2	2	2	2			12		11			6	5					44
26	732119104026	HARIHARAN S	2	2	2	0	2			11				7	4	6					36
27	732119104028	HARSHATH M	2	2	2	2	2	10						9					10		39
28	732119104029	ILAMUGIL B S	2	2	2	2	2	8				8			5	5					36
29	732119104033	KARTHICKRAJA S	2	2	2	2	2	7				8							11		36
30	732119104034	KARTHIKEYAN S	2	2	2	2	2			8				7	5	6					36
31	732119104035	KARTHIKEYAN S	2	2	2	2	2	6				10							10		36
32	732119104036	KARTHIKRAJA S	2	0	2	2	2			8		8			6	6					36
33	732119104037	KAVIYA SRI C	2	2	2	2	2	9				11							10		40
34	732119104038	KISHOR V	2	2	2	2	2			8				10	5	5					38
35	732119104039	LEELA E	2	2	2	2	2	9				10							10		39
36	732119104040	LINGAPRABU S	2	2	2	2	0			8				10					10		36
37	732119104041	MAHASAKTHIVEL A	2	2	2	2	2	10				11			5	5					41
38	732119104042	MANIKANDAN R	2	2	2	2	2	7				10			6	6					39
39	732119104043	MAYILSAMY S	2	2	2	2	1			8				11					8		36
40	732119104044	MOHANRAJ R	2	2	2	2	2			11		12			6	6					45
41	732119104045	MOUNESHWARAN S C	2	2	1	0	2	7				12			5	5					36
42	732119104046	MOUNIKA A	2	2	2	2	2	8				12			6	6					42
43	732119104047	NAFREEN BANU N	1	2	0	2	1			10		12			4	4					36
44	732119104048	NARMATHA M	2	2	2	2	2	6				10			5	5					36
45	732119104049	NAVEEN J	2	2	2	2	2	7				7			5	6					35
46	732119104050	NAVEENKUMAR V	2	1	0	1	2	10				8			6	6					36
47	732119104051	NAVEEN PANDIAN P	2	2	2	1	2			12				12					10		43
48	732119104052	NIHAL M	2	1	2	2	2	11				11			7	6					44
49	732119104053	PRASANNA VENKATESAN	2	2	2	2	2	10						10	5	5					40
50	732119104055	PRAVEEN KUMAR P M	2	2	2	2	2	8				8			5	5					36
51	732119104056	PRIYA V	2	2	2	2	2			13				13	6	6					48
52	732119104057	PRIYANGA S	2	1	0	1	2	10				10			5	6					37
53	732119104058	RAHUL KUMAR S	2	2	2	2	2	6				10			5	5					36
54	732119104059	RAJESH SHANMUGAM S	2	2	2	2	2			10		10							10		40
55	732119104060	RAJMOHAN V	2	2	2	2	2	11				6			5	4					36
56	732119104061	RAMKUMAR V	2	2	1	2	2	10				10			6	6					41
57	732119104062	RENUKA S	2	2	2	2	2	12				7			4	5					38
58	732119104063	REVATHI N	2	1	1	0	2	13				13			7	6					45

#	Reg No.	Name	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	Total
59	732119104064	RUBAVARSHINI S	2	1	0	1	2			10				12				13		41
60	732119104065	SANTHOSH S	2	2	2	0	2	10				10				6	5			39
61	732119104066	SATHISHKUMAR C	2	0	2	0	2	12				6				7	5			36
62	732119104067	SHANKAR M	2	2	2	2	2	9				8				6	6			39
63	732119104068	SHARMILA N	2	1	2	1	0			13				13				14		46
64	732119104069	SHARNITHASHRI L	2	2	2	2	2	7				12				6	6			41
65	732119104070	SIVASUBRAMANI T	2	2	2	2	2	7				7				6	6			36
66	732119104071	SNEGA S	2	2	2	2	2	7				7				6	6			36
67	732119104073	SUGANTH J	2	2	2	2	2			10		8				5	5			38
68	732119104074	SURYA M	2	1	1	2	2			10				10		6	5			39
69	732119104075	SUVETHA M	2	2	2	2	2	8				8				6	7			39
70	732119104076	THIRUNAVUKKARASU D	2	0	2	2	2	10				6				6	6			36
71	732119104077	VANNAMATHI K	2	2	2	2	2	12						13		7	7			49
72	732119104078	VIDHYA V	2	2	2	2	2	10				8				2	4			34
73	732119104079	VIDHYASRI R	2	1	2	1	2	13						10				14		45
74	732119104080	VIGNESH R	2	2	2	2	2	13				11				6	6			46
75	732119104081	VIJAYANANTHAN M	2	1	2	0	2	10				11				4	4			36
76	732119104082	VIJAYRAGU M	2	2	2	2	2			10				6				10		36
77	732119104083	VIMALRAJ G	2	2	1	2	2	12				12				7	7			47
78	732119104701	AJAYESWARAN R	2	2	2	2	2	6				6				7	7			36
	No of students scored upto expected level	64	77	60	65	63	74	32	0	17	0	37	0	13	0	53	55	14	0	
	% of scoring above the attainment level		99	77	83	81	95	57.1	0	77.3	0	60.7	0	76.5	0	84.1	87.3	93.3	0	

Course Outcome Attainment Level Indicator %

	3						2						1				
Scale	3						2						1				
Range of attainment	> 64						50 to 64						< 50				
Mapping with CO	CO1	CO1	CO1	CO2	CO2	CO1	-	CO1	-	CO2	-	CO2	-	CO1	CO1	CO1	-
Attainment level of each CO	3	3	3	3	3	2	0	3	0	2	0	3	0	3	3	3	0

Attainment Level of COs in IAE 1	CO1	CO2	CO3	CO4	CO5	Mapping with PO: PO1,PO2,PO3,PO9,PO10,PO12,PSO1,PSO3
	2.9	2.8	0	0	0	

End Semester Attainment:

NANDHA COLLEGE OF TECHNOLOGY, PERUNDURAI, ERODE-638052
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ACADEMIC YEAR 2020 -2021 (EVEN)
END SEMESTER ANALYSIS
COURSE NAME & CODE : CS8451 - DESIGN AND ANALYSIS OF ALGORITHMS
FACULTY NAME: Mrs.D.MOHANAPRIYA(CS)   Mrs.M.SARANYA(CS)
Overall Expected Level of Attainment : 64 %
TOTAL STRENGTH = 78

S.No	Reg No	Name	Grade (O=10, A+=9, A=8, B+=7, B=6, U=0)
1	732119104001	ABDUL RAZZAK R	A
2	732119104002	ABINATHAN P	A
3	732119104003	ABIRAMI M	A+
4	732119104004	AJEETH KUMAR S	A
5	732119104005	ALOK C	A
6	732119104006	ANITHA S	A+
7	732119104007	BHARATH J R	A+
8	732119104008	BOOBESH K	A+
9	732119104009	CHANDRU G	O
10	732119104010	DARSHAN B	A+
11	732119104011	DEEPANCHAKKARAVARTHI S	A+
12	732119104012	DEVI G	A
13	732119104013	DHATCHAYAN G	A
14	732119104014	DHEIVANANTH V	A
15	732119104015	DURGA DEVI K	B+
16	732119104016	EBINSON R	B+
17	732119104017	GAYATHRI B	A+
18	732119104018	GAYATHRI V	A
19	732119104019	GNANASURYA P	A
20	732119104020	GOKUL PRASATH A	A
21	732119104021	GOKULSANKAR T	A
22	732119104022	GOMATHI P	A
23	732119104023	GOVARTHANAN J	A
24	732119104024	GUHAN SHANMUGAM A	B+

25	732119104025	GUNAVATHI S	A
26	732119104026	HARIHARAN S	A
27	732119104028	HARSHATH M	A
28	732119104029	ILAMUGIL B S	A
29	732119104033	KARTHICKRAJA S	B+
30	732119104034	KARTHIKEYAN S	B+
31	732119104035	KARTHIKEYAN S	A
32	732119104036	KARTHIKRAJA S	A
33	732119104037	KAVIYA SRI C	A
34	732119104038	KISHOR V	A
35	732119104039	LEELA E	A
36	732119104040	LINGAPRABU S	A
37	732119104041	MAHASAKTHIVEL A	A
38	732119104042	MANIKANDAN R	A
39	732119104043	MAYILSAMY S	A
40	732119104044	MOHANRAJ R	A+
41	732119104045	MOUNESHWARAN S C	B+
42	732119104046	MOUNIKA A	A+
43	732119104047	NAFREEN BANU N	A+
44	732119104048	NARMATHA M	A
45	732119104049	NAVEEN J	A
46	732119104050	NAVEENKUMAR V	B+
47	732119104051	NAVEEN PANDIAN P	A+
48	732119104052	NIHAL M	A+
49	732119104053	PRASANNA VENKATESAN K J	A+
50	732119104055	PRAVEEN KUMAR P M	A+
51	732119104056	PRIYA V	A+
52	732119104057	PRIYANGA S	A+
53	732119104058	RAHUL KUMAR S	A+
54	732119104059	RAJESH SHANMUGAM S	A+
55	732119104060	RAJMOHAN V	A+
56	732119104061	RAMKUMAR V	A+

57	732119104062	RENUKA S	A+
58	732119104063	REVATHI N	A+
59	732119104064	RUBAVARSHINI S	A+
60	732119104065	SANTHOSH S	A+
61	732119104066	SATHISHKUMAR C	A+
62	732119104067	SHANKAR M	A+
63	732119104068	SHARMILA N	A+
64	732119104069	SHARNITHASHRI L	A+
65	732119104070	SIVASUBRAMANI T	A+
66	732119104071	SNEGA S	A+
67	732119104073	SUGANTH J	A+
68	732119104074	SURYA M	A+
69	732119104075	SUVETHA M	A+
70	732119104076	THIRUNAVUKKARASU D	A+
71	732119104077	VANNAMATHI K	A+
72	732119104078	VIDHYA V	A+
73	732119104079	VIDHYASRI R	A+
74	732119104080	VIGNESH R	A+
75	732119104081	VIJAYANANTHAN M	A+
76	732119104082	VIJAYRAGU M	A+
77	732119104083	VIMALRAJ G	A+
78	732119104701	AJAYESWARAN R	A

| No of Students Scored upto Expected Level | 78 |
| % of Scored Above the Attainment Level | 100 |

Course Outcome Attainment Level Indicator

Scale	3	2	1
Range of attainment	> 64	50 - 64	<50
Mapping with CO	CO1, CO2,CO3, CO4 and CO5		
Attainment level of all COs	3		
Mapping with PO	PO1,PO2,PO3,PO9,PO10,PO12,PSO1, PSO3		

Course end survey:

	NANDHA COLLEGE OF TECHNOLOGY, PERUNDURAI, ERODE–638052
	DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
	ACADEMIC YEAR 2020 –2021 (EVEN)
	COURSE END SURVEY
	COURSE NAME & CODE : CS8451 – DESIGN AND ANALYSIS OF ALGORITHMS
	FACULTY NAME : Mrs.D.MOHANAPRIYA(CS) Mrs.M.SARANYA(CS)

CO1	**Analyze** the asymptotic performance of algorithms.
CO2	**Design** algorithms for various computing problems.
CO3	**Analyze** the time and space complexity of algorithms.
CO4	**Analyze** the different algorithm design techniques for a given problem.
CO5	**Modify** existing algorithms to improve efficiency.

S.No	Reg. No.	Name	CO1	CO2	CO3	CO4	CO5
1	732119104001	ABDUL RAZZAK R	3	2	3	3	3
2	732119104002	ABINATHAN P	3	3	3	3	3
3	732119104003	ABIRAMI M	3	3	3	2	3
4	732119104004	AJEETH KUMAR S	1	1	1	3	2
5	732119104005	ALOK C	3	3	3	3	3
6	732119104006	ANITHA S	3	3	3	3	1
7	732119104007	BHARATH J R	3	3	2	3	2
8	732119104008	BOOBESH K	3	3	3	3	3
9	732119104009	CHANDRU G	2	3	1	2	3
10	732119104010	DARSHAN B	3	1	3	3	3
11	732119104011	DEEPANCHAKKARAVA	2	2	3	3	3
12	732119104012	DEVI G	3	3	2	2	3
13	732119104013	DHATCHAYAN G	2	2	2	1	2
14	732119104014	DHEIVANANTH V	3	2	3	3	1
15	732119104015	DURGA DEVI K	2	2	2	1	2
16	732119104016	EBINSON R	3	3	3	3	3
17	732119104017	GAYATHRI B	1	1	1	3	1
18	732119104018	GAYATHRI V	3	2	3	3	3
19	732119104019	GNANASURYA P	3	3	3	3	3
20	732119104020	GOKUL PRASATH A	2	2	2	3	2
21	732119104021	GOKULSANKAR T	3	3	3	2	3
22	732119104022	GOMATHI P	3	3	3	3	3
23	732119104023	GOVARTHANAN J	3	3	2	2	3
24	732119104024	GUHAN SHANMUGAM A	2	2	2	3	2
25	732119104025	GUNAVATHI S	1	3	3	3	3
26	732119104026	HARIHARAN S	2	2	3	3	2
27	732119104028	HARSHATH M	3	3	3	3	3
28	732119104029	ILAMUGIL B S	3	3	3	2	3
29	732119104033	KARTHICKRAJA S	2	2	2	2	2
30	732119104034	KARTHIKEYAN S	3	2	2	3	2
31	732119104035	KARTHIKEYAN S	3	3	3	3	3

32	732119104036	KARTHIKRAJA S	2	2	2	3	3
33	732119104037	KAVIYA SRI C	2	2	2	3	2
34	732119104038	KISHOR V	3	3	3	3	3
35	732119104039	LEELA E	3	3	3	2	3
36	732119104040	LINGAPRABU S	1	1	1	3	2
37	732119104041	MAHASAKTHIVEL A	3	3	3	3	3
38	732119104042	MANIKANDAN R	3	3	3	3	3
39	732119104043	MAYILSAMY S	3	3	2	3	2
40	732119104044	MOHANRAJ R	3	3	3	1	3
41	732119104045	MOUNESHWARAN S C	2	3	1	2	3
42	732119104046	MOUNIKA A	3	3	3	3	3
43	732119104047	NAFREEN BANU N	2	2	3	3	3
44	732119104048	NARMATHA M	3	3	2	1	1
45	732119104049	NAVEEN J	2	2	2	3	2
46	732119104050	NAVEENKUMAR V	3	2	3	3	3
47	732119104051	NAVEEN PANDIAN P	2	2	1	3	2
48	732119104052	NIHAL M	3	3	3	3	3
49	732119104053	PRASANNA	1	1	1	3	1
50	732119104055	PRAVEEN KUMAR P M	3	2	3	3	3
51	732119104056	PRIYA V	3	3	3	3	3
52	732119104057	PRIYANGA S	1	2	2	3	2
53	732119104058	RAHUL KUMAR S	3	3	3	2	3
54	732119104059	RAJESH SHANMUGAM	3	1	3	3	3
55	732119104060	RAJMOHAN V	3	3	3	1	3
56	732119104061	RAMKUMAR V	2	2	2	3	2
57	732119104062	RENUKA S	1	3	3	3	3
58	732119104063	REVATHI N	2	2	3	3	2
59	732119104064	RUBAVARSHINI S	3	3	3	3	3
60	732119104065	SANTHOSH S	3	3	3	2	3
61	732119104066	SATHISHKUMAR C	2	2	2	1	2
62	732119104067	SHANKAR M	3	3	3	3	2
63	732119104068	SHARMILA N	3	2	1	3	3
64	732119104069	SHARNITHASHRI L	2	2	3	3	3
65	732119104070	SIVASUBRAMANI T	2	2	2	2	2
66	732119104071	SNEGA S	3	3	3	3	3
67	732119104073	SUGANTH J	3	3	3	2	3
68	732119104074	SURYA M	3	3	3	3	3
69	732119104075	SUVETHA M	2	2	2	3	2
70	732119104076	THIRUNAVUKKARASU	2	3	3	2	3
71	732119104077	VANNAMATHI K	3	3	3	2	3
72	732119104078	VIDHYA V	2	2	3	3	3
73	732119104079	VIDHYASRI R	2	2	2	3	2
74	732119104080	VIGNESH R	1	3	3	3	3
75	732119104081	VIJAYANANTHAN M	2	2	2	3	2
76	732119104082	VIJAYRAGU M	3	3	3	3	3
77	732119104083	VIMALRAJ G	3	3	3	2	3
78	732119104701	AJAYESWARAN R	2	2	2	2	2
	AVERAGE		2.5	2.5	2.5	2.6	2.6

Over all Attainment:

NANDHA COLLEGE OF TECHNOLOGY, PERUNDURAI, ERODE-638052
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
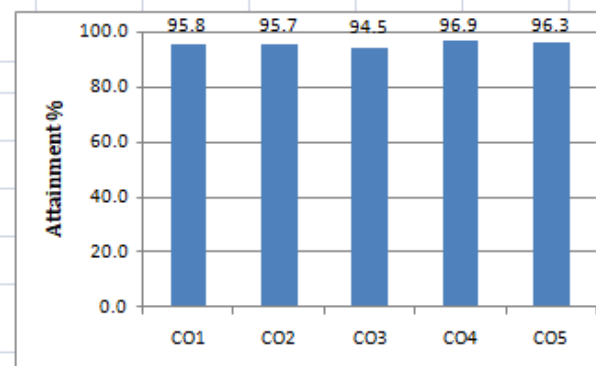**ACADEMIC YEAR 2020 -2021 (EVEN)**
ATTAINMENT OF COURSE OUTCOMES
COURSE CODE & NAME: CS8451 - DESIGN AND ANALYSIS OF ALGORITHMS
FACULTY NAME: Mrs.D.MOHANAPRIYA(CS)   Mrs.M.SARANYA(CS)

DIRECT ATTAINMENT
ATTAINMENT LEVEL IN 3 SCALE

ASSESSMENT TOOLS	CO1	CO2	CO3	CO4	CO5	
IAE 1	2.88	2.75				
IAE 2		3.00	2.57			
IAE 3				2.88	2.86	
AVERAGE OF IAE	2.88	2.88	2.57	2.88	2.86	2.81
END SEMESTER	3	3	3	3	3	
80% of END SEM +20 % of IAE	2.98	2.98	2.91	2.98	2.97	
Overall CO Direct Attainment			2.96			

INDIRECT ATTAINMENT
ATTAINMENT LEVEL IN 3 SCALE

ASSESSMENT TOOLS	CO1	CO2	CO3	CO4	CO5
Course End Survey	2.47	2.46	2.51	2.63	2.56
Overall CO Indirect Attainment			2.53		

OVERALL FINAL CO ATTAINMENT
(80% of Direct +20% of Indirect)
ATTAINMENT LEVEL IN 3 SCALE

CO1	CO2	CO3	CO4	CO5
2.87	2.87	2.83	2.91	2.89
		2.88		

ATTAINMENT LEVEL IN %

CO1	CO2	CO3	CO4	CO5
95.8	95.7	94.5	96.9	96.3

Mapping with Pos : PO1,PO2,PO3,PO9,PO10,PO12,PSO1,PSO3

CO-PO-PSO Attriculation Matrix

CO No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	2	-	-	-	-	-	3	3	-	3	2	-	2
2	2	3	2	-	-	-	-	-	2	3	-	3	2	-	2
3	3	2	3	-	-	-	-	-	3	2	-	2	3	-	3
4	3	2	3	-	-	-	-	-	3	2	-	2	2	-	2
5	2	3	2	-	-	-	-	-	2	3	-	3	2	-	2
AVERAGE	**2.6**	**2.6**	**2.4**						**2.6**	**2.6**		**2.6**	**2.2**		**2.2**

PO & PSO Attainment %

CO Attainment	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2.87	2.87	2.87	1.92						2.87	2.87		2.87	1.92		1.92
2.87	1.91	2.87	1.91						1.91	2.87		2.87	1.91		1.91
2.83	2.83	1.89	2.83						2.83	1.89		1.89	2.83		2.83
2.91	2.91	1.94	2.91						2.91	1.94		1.94	1.94		1.94
2.89	1.93	2.89	1.93						1.93	2.89		2.89	1.93		1.93
Overall PO/PSO ATTAINMENT OUT OF 3	**2.49**	**2.49**	**2.30**						**2.49**	**2.49**		**2.49**	**2.11**		**2.11**
Overall PO/PSO ATTAINMENT	**95.8**	**95.9**	**95.8**						**95.8**	**95.9**		**95.9**	**95.7**		**95.7**

COs Attainment of all Courses

Table : COs Attainment of all Courses for the batch 2018-2022

S.NO	Course	Course Code	Course Name	Direct Attainment		Overall Direct Attainment	Indirect Attainment	Target Fixed	Over all CO Attainment	Attained or Not Attained
				IAE	End Sem					
Semester I										
1	C101	HS8151	Communicative English	0.25	2.4	2.65	1.96	1.92	2.51	Attained
2	C102	MA8151	Engineering Mathematics - I	0.36	0.8	1.16	2.62	1.92	1.45	Not Attained
3	C103	PH8151	Engineering Physics	0.26	1.6	1.86	2.53	1.95	1.99	Attained
4	C104	CY8151	Engineering Chemistry	0.24	2.4	2.64	2.60	1.92	2.63	Attained
5	C105	GE8151	Problem Solving and Python Programming	0.24	0.8	1.04	2.70	1.92	1.37	Not Attained
6	C106	GE8152	Engineering Graphics	0.23	2.4	2.63	2.88	1.92	2.68	Attained
7	C107	GE8161	Problem Solving and Python Programming Laboratory	0.60	2.4	3.00	2.63	2.1	2.93	Attained
8	C108	BS8161	Physics and Chemistry Laboratory	0.40	2.4	2.80	2.69	2.1	2.78	Attained

			Semester II							
9	C109	HS8251	Technical English	0.20	2.4	2.60	1.85	1.92	2.77	Attained
10	C110	MA8251	Engineering Mathematics - II	0.20	2.4	2.60	2.67	1.92	2.84	Attained
11	C111	PH8252	Physics for Information Science	0.20	2.4	2.60	2.66	1.92	2.84	Attained
12	C112	BE8255	Basic Electrical, Electronics and Measurement Engineering	0.20	1.6	1.80	2.67	1.92	1.99	Attained
13	C113	GE8291	Environmental Science and Engineering	0.20	2.4	2.60	2.59	1.92	2.83	Attained
14	C114	CS8251	Programming in C	0.60	2.4	3.00	2.38	1.92	2.95	Attained
15	C115	GE8261	Engineering Practices Laboratory	0.60	2.4	3.00	2.88	2.1	2.98	Attained
16	C116	CS8261	C Programming Laboratory	0.50	2.4	2.90	2.49	2.1	2.90	Attained

			Semester III							
17	C201	MA8351	Discrete Mathematics	0.59	2.4	2.99	2.54	1.92	2.90	Attained
18	C202	CS8351	Digital Principles and System Design	0.58	2.4	2.98	2.63	1.98	2.91	Attained
19	C203	CS8391	Data Structures	0.60	2.4	3.00	2.59	1.92	2.92	Attained
20	C204	CS8392	Object Oriented Programming	0.58	2.4	2.98	2.58	1.92	2.90	Attained
21	C205	EC8395	Communication Engineering	0.59	2.4	2.99	2.59	1.98	2.91	Attained
22	C206	CS8381	Data Structures Laboratory	0.60	2.4	3.00	2.59	2.1	2.92	Attained
23	C207	CS8383	Object Oriented Programming Laboratory	0.60	2.4	3.00	2.57	2.1	2.91	Attained
24	C208	CS8382	Digital Systems Laboratory	0.60	2.4	3.00	2.56	2.1	2.91	Attained
25	C209	HS8381	Interpersonal Skills/Listening & Speaking	0.60	2.4	3.00	2.53	1.92	2.91	Attained

			Semester IV							
26	C210	MA8402	Probability and Queuing Theory	0.56	2.4	2.96	2.51	1.92	2.87	Attained
27	C211	CS8491	Computer Architecture	0.53	2.4	2.93	2.55	1.98	2.85	Attained
28	C212	CS8492	Database Management Systems	0.56	2.4	2.96	2.52	1.92	2.87	Attained
29	C213	CS8451	Design and Analysis of Algorithms	0.56	2.4	2.96	2.53	1.92	2.88	Attained
30	C214	CS8493	Operating Systems	0.60	2.4	3.00	2.54	1.92	2.91	Attained
31	C215	CS8494	Software Engineering	0.56	2.4	2.96	2.57	1.98	2.88	Attained
32	C216	CS8481	Database Management Systems Laboratory	0.60	2.4	3.00	2.56	2.1	2.91	Attained
33	C217	CS8461	Operating Systems Laboratory	0.60	2.4	3.00	2.59	2.1	2.92	Attained
34	C218	HS8461	Advanced Reading and Writing	0.60	2.4	3.00	2.54	2.1	2.91	Attained

			Semester V							
35	C301	MA8551	Algebra and Number Theory	0.57	2.4	2.97	2.62	1.92	2.90	Attained
36	C302	CS8591	Computer Networks	0.58	2.4	2.98	2.60	1.98	2.90	Attained
37	C303	EC8691	Microprocessors and Microcontrollers	0.51	2.4	2.91	2.51	1.92	2.83	Attained
38	C304	CS8501	Theory of Computation	0.58	2.4	2.98	2.63	1.92	2.91	Attained
39	C305	CS8592	Object Oriented Analysis and Design	0.54	2.4	2.94	2.38	1.95	2.82	Attained
40	C306	OCE551	Air Pollution And Control Engineering	0.57	2.4	2.97	2.58	1.92	2.89	Attained
41	C307	EC8681	Microprocessors and Microcontrollers Laboratory	0.60	2.4	3.00	2.46	2.1	2.89	Attained
42	C308	CS8582	Object Oriented Analysis and Design Lab	0.60	2.4	3.00	2.59	2.1	2.92	Attained
43	C309	CS8581	Networks Laboratory	0.60	2.4	3.00	2.47	2.1	2.89	Attained

			Semester VI							
44	C310	CS8651	Internet Programming	0.56	2.4	2.96	2.13	1.86	2.79	Attained
45	C311	CS8691	Artificial Intelligence	0.56	2.4	2.96	2.48	1.95	2.86	Attained
46	C312	CS8601	Mobile Computing	0.51	1.6	2.11	2.63	1.92	2.21	Attained
47	C313	CS8602	Compiler Design	0.53	2.4	2.93	2.71	1.92	2.89	Attained
48	C314	CS8603	Distributed Systems	0.52	1.6	2.12	2.61	1.92	2.22	Attained
49	C315	IT8076	Software Testing	0.58	2.4	2.98	2.56	1.92	2.90	Attained
50	C316	CS8661	Internet Programming Lab	0.60	2.4	3.00	2.52	2.1	2.90	Attained
51	C317	CS8662	Mobile Application Development Lab	0.60	2.4	3.00	2.55	2.1	2.91	Attained
52	C318	CS8611	Mini Project	0.60	2.4	3.00	2.50	2.1	2.90	Attained
53	C319	HS8581	Professional Communication	0.60	2.4	3.00	2.54	2.1	2.91	Attained

			Semester VII						
54	C401	MG8591	Principles of Management	0.56	2.4	2.96	2.63	1.98	2.89	Attained
55	C402	CS8792	Cryptography and Network Security	0.58	2.4	2.98	2.63	1.92	2.91	Attained
56	C403	CS8791	Cloud Computing	0.55	2.4	2.95	2.63	1.98	2.89	Attained
57	C404	OCE 751	Environmental and Social Impact Assessment	0.58	1.6	2.18	2.65	1.92	2.28	Attained
58	C405	HX8001	Professional Readiness For Innovation Employability and Entrepreneurship	0.60	2.4	3.00	2.62	2.1	2.92	Attained
59	C406	CS8079	Human Computer Interaction	0.58	2.4	2.98	2.64	1.92	2.91	Attained
60	C407	CS8711	Cloud Computing Laboratory	0.60	2.4	3.00	2.66	2.1	2.93	Attained
61	C408	IT8761	Security Laboratory	0.60	2.4	3.00	2.69	2.1	2.94	Attained

			Semester VIII							
62	C409	GE8076	Professional Ethics in Engineering	0.58	2.4	2.98	2.62	1.92	2.91	Attained
63	C410	CS8080	Information Retrieval Techniques	0.58	2.4	2.98	2.66	1.98	2.92	Attained
64	C411	CS8811	Project Work	0.60	2.4	3.00	2.53	2.1	2.91	Attained