

**CO-PO REPORT OF PHYSICS (AIDED)**

<b>Sl. No.</b>	<b>Course Code</b>	<b>Name of Course</b>	<b>Teacher- in- charge</b>
1	CC19PPHY2C05	Quantum Mechanics I	Ajith R
2	CC19PPHY2C06	Mathematical Physics II	Dr. Safeera T A 'Nithya K S
3	CC19PPHY2C07	Statistical Mechanics	Dr. Sudheer Sebastian K
4	CC19PPHY2C08	Computational Physics	Edwin Jose
5	CC19PPHY1L01 & CC19PPHY2L03	General Physics Practical	Xavier Joseph, Dr. Sudheer Sebastian K Irene Joy V
6	CC19PPHY1L02 & CC19PPHY2L04	Electronics Practical	Xavier Joseph, Dr. Sudheer Sebastian K



**CHRIST COLLEGE (AUTONOMOUS)**  
**IRINJALAKUDA.Kerala-680125**

<b>Program(s) :</b> PG - MSC - M.Sc. Physics (Aided)	<b>Department(s) :</b> PHYSICS	<b>Batch(s) :</b> MSC PHY 2022 - S2
<b>Course Community :</b> CC19PPHY2C05 MSC PHY 2022 S2	<b>Faculty(s) :</b> Ajith R	<b>Course :</b> Quantum Mechanics I

**CO PO ATTAINMENT Report**

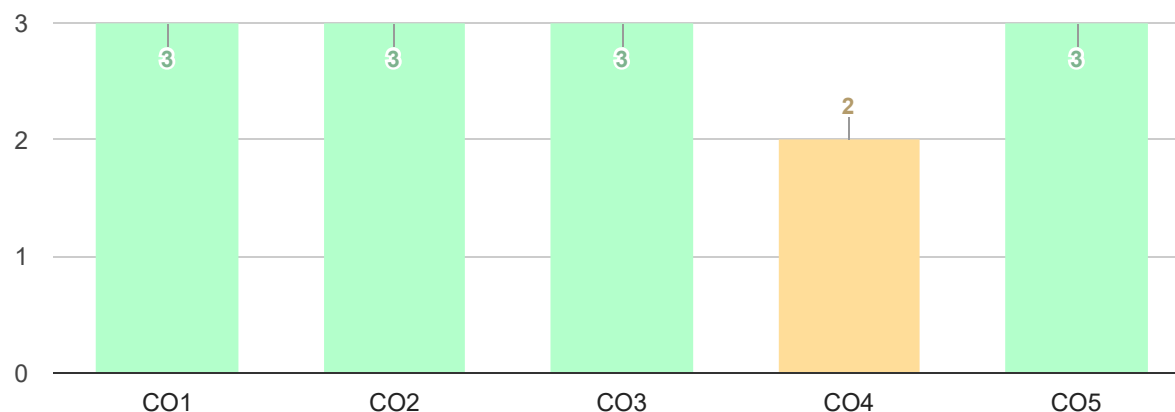
Above Target Percentage :  Below Target Percentage:

#	Reg No	Student Name	CO1	CO2	CO3	CO4	CO5
1	CCAWMPH001	AKHILA RAPHAEL	79.58	89.67	84.69	98.4	98.4
2	CCAWMPH002	ALEENA A S	96.69	58.19	85.89	78.27	67.6
3	CCAWMPH003	ALEENA K J	94.35	96.24	88	100	100
4	CCAWMPH004	ASHLY JOSEPH	70.56	81.35	69.09	90.8	98.8
5	CCAWMPH005	CLEMENT DAVIS	20.18	42.4	18.4	77.07	54.4
6	CCAWMPH006	E A ATHIRA	86.99	78.89	55.6	83.6	19.6
7	CCAWMPH007	GOKUL DAS	60.24	67.2	87.2	77.87	83.2
8	CCAWMPH008	HELMA SEBASTIAN	80.24	74.73	85.49	19.2	19.2
9	CCAWMPH009	HELNA SEBASTIAN	64.95	52.28	66.4	18.4	18.4
10	CCAWMPH010	KRISHNAPRIYA T. L	95.83	88.36	92	92	100
11	CCAWMPH011	MEERA.P	66.86	68	92	52	80
12	CCAWMPH012	MONICA M S	95.83	100	96	97.33	100
13	CCAWMPH013	SANIGHA T T	45.66	62.04	34.4	50.4	98.4
14	CCAWMPH014	SONA.K.SANTHOSH	47.62	39.11	74.4	18.4	82.4
15	CCAWMPH015	SREELAKSHMI . S	87.51	98.8	94.23	82.8	88.8

<b>Class Strength</b>	15
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<b>Course Outcomes addressed</b>	CO1	CO2	CO3	CO4	CO5
<b>Target of Course Outcome</b>	60	60	60	60	60
<b>No of students with CO value greater than or equal to 60</b>	12	11	12	10	11
<b>Percentage of students with CO value greater than 60</b>	80	73.33	80	66.67	73.33
<b>Average</b>	72.87	73.15	74.92	69.1	73.95
<b>Attainment Level</b>	3.00	3.00	3.00	2.00	3.00
Attainment :High <span style="color: green;">■</span> Medium <span style="color: orange;">■</span> Low <span style="color: pink;">■</span>					

### CO Attainment Levels



Attainment :High ■ Medium ■ Low ■

<b>CO List</b>	
<b>CO Code</b>	<b>Description</b>
CO1	Anlyse the Hilbert Space formalism in Quantum Mechanics.
CO2	Assess the quantum dynamics and the evolution of a quantum mechanical system using different pictures.
CO3	Deduce the theory of angylar momentum angular momentum.
CO4	Analyse Schroedinger equation for central potentials
CO5	Examine invariance principles and conservation laws in quantum mechanics



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<b>Course Community :</b> CC19PPHY2C06 MSC PHY 2022 S2	<b>Faculty(s) :</b> Dr. Safeera T A,'NITHYA K S	<b>Course :</b> Mathematical Physics II

**CO PO ATTAINMENT Report**

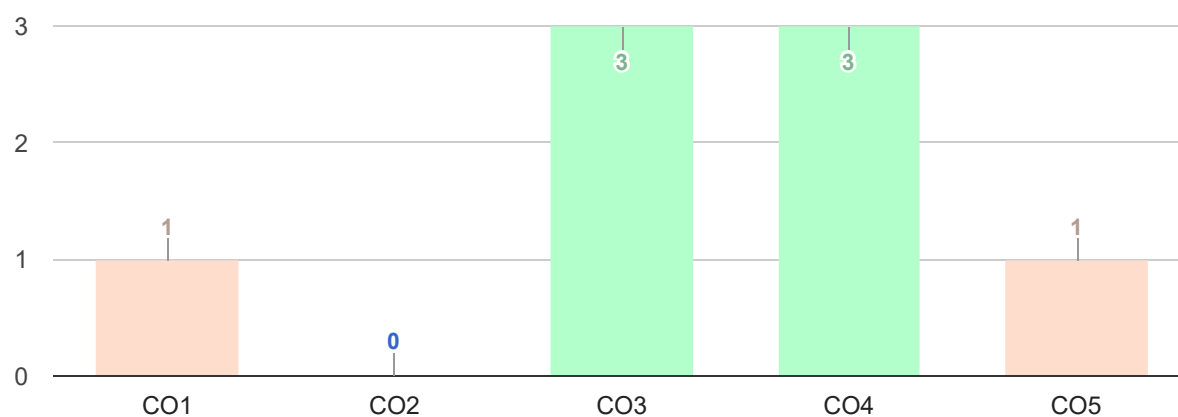
Above Target Percentage :  Below Target Percentage:

#	Reg No	Student Name	CO1	CO2	CO3	CO4	CO5
1	CCAWMPH001	AKHILA RAPHAEL	63.2	74.4	89.51	98.4	42.4
2	CCAWMPH002	ALEENA A S	58.4	56.8	98.4	98.4	62.4
3	CCAWMPH003	ALEENA K J	77.14	65.33	76	91.11	64
4	CCAWMPH004	ASHLY JOSEPH	63.2	78.18	84	36	65.71
5	CCAWMPH005	CLEMENT DAVIS	40.68	37.6	40.27	61.6	41.6
6	CCAWMPH006	E A ATHIRA	57.42	30.13	24.8	64.8	16.8
7	CCAWMPH007	GOKUL DAS	84.69	53.07	98.4	82.4	70.97
8	CCAWMPH008	HELMA SEBASTIAN	66.4	44	100	20	84
9	CCAWMPH009	HELNA SEBASTIAN	59.88	40.8	87.91	16.8	16.8
10	CCAWMPH010	KRISHNAPRIYA T. L	92	68	89.33	84	96
11	CCAWMPH011	MEERA.P	97.71	68	88	97.33	72.57
12	CCAWMPH012	MONICA M S	68	94.67	98.22	84	70.29
13	CCAWMPH013	SANIGHA T T	29.6	13.6	53.6	13.6	13.6
14	CCAWMPH014	SONA.K.SANTHOSH	47.2	36.53	43.64	79.2	15.2
15	CCAWMPH015	SREELAKSHMI . S	50.4	45.07	93.07	77.07	52.69

<b>Class Strength</b>	15
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Course Outcomes addressed	CO1	CO2	CO3	CO4	CO5
Target of Course Outcome	60	60	60	60	60
No of students with CO value greater than or equal to 60	8	6	11	11	8
Percentage of students with CO value greater than 60	53.33	40	73.33	73.33	53.33
Average	63.73	53.75	77.68	66.98	52.34
Attainment Level	1.00	0	3.00	3.00	1.00
Attainment :High <span style="color: green;">■</span> Medium <span style="color: orange;">■</span> Low <span style="color: lightcoral;">■</span>					

### CO Attainment Levels



Attainment :High ■ Medium ■ Low ■

CO List	
CO Code	Description
CO1	Apply the functions of complex variables
CO2	Apply the concepts of group theory
CO3	Apply calculus of variation
CO4	Analyse integral equations
CO5	Apply Greens functions to solve differential equations



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<b>Course Community :</b> CC19PPHY2C07 MSC PHY 2022 S2	<b>Faculty(s) :</b> Dr. Sudheer Sebastian K	<b>Course :</b> Statistical Mechanics

**CO PO ATTAINMENT Report**

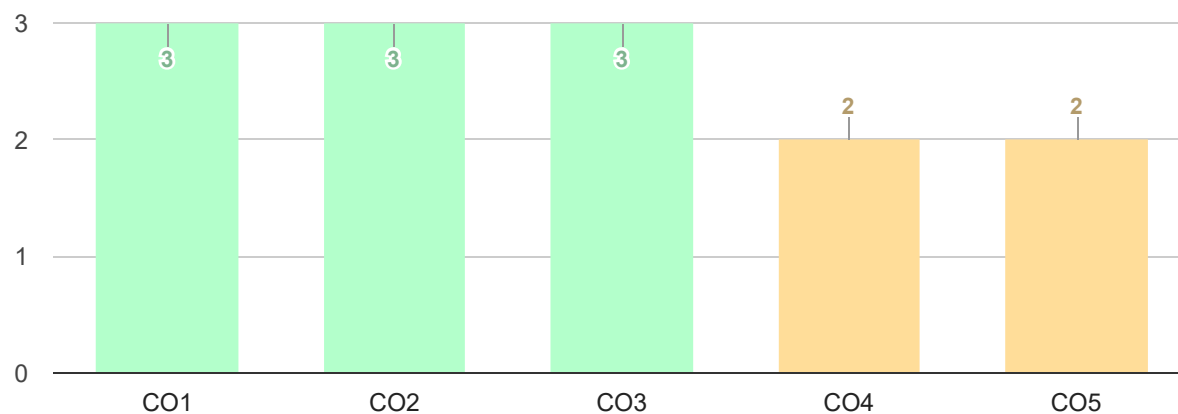
Above Target Percentage :  Below Target Percentage:

#	Reg No	Student Name	CO1	CO2	CO3	CO4	CO5
1	CCAWMPH001	AKHILA RAPHAEL	84.98	67.2	96	67.2	51.2
2	CCAWMPH002	ALEENA A S	97.6	87.42	91.6	49.6	65.6
3	CCAWMPH003	ALEENA K J	76.89	82.55	90.4	92	100
4	CCAWMPH004	ASHLY JOSEPH	78.93	64.46	91.2	65.6	65.6
5	CCAWMPH005	CLEMENT DAVIS	50.76	48.65	69.6	35.2	47.2
6	CCAWMPH006	E A ATHIRA	79.82	67.89	81.6	17.6	33.6
7	CCAWMPH007	GOKUL DAS	67.2	75.93	91.2	79.2	99.2
8	CCAWMPH008	HELMA SEBASTIAN	93.87	85.49	19.2	19.2	19.2
9	CCAWMPH009	HELNA SEBASTIAN	84.18	72.11	18.4	18.4	34.4
10	CCAWMPH010	KRISHNAPRIYA T. L	97.33	91.27	98	80	84
11	CCAWMPH011	MEERA.P	94.67	86.67	100	76.89	68
12	CCAWMPH012	MONICA M S	94.67	84	92	92	100
13	CCAWMPH013	SANIGHA T T	36.53	23.2	31.2	15.2	41.87
14	CCAWMPH014	SONA.K.SANTHOSH	56.27	17.16	21.6	66.93	93.6
15	CCAWMPH015	SREELAKSHMI . S	68	86	90	84	84

<b>Class Strength</b>	15
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<b>Course Outcomes addressed</b>	CO1	CO2	CO3	CO4	CO5
<b>Target of Course Outcome</b>	60	60	60	60	60
<b>No of students with CO value greater than or equal to 60</b>	12	12	11	9	9
<b>Percentage of students with CO value greater than 60</b>	80	80	73.33	60	60
<b>Average</b>	77.45	69.33	72.13	57.27	65.83
<b>Attainment Level</b>	3.00	3.00	3.00	2.00	2.00
Attainment :High <span style="color: green;">■</span> Medium <span style="color: orange;">■</span> Low <span style="color: pink;">■</span>					

### CO Attainment Levels



Attainment :High ■ Medium ■ Low ■

<b>CO List</b>	
<b>CO Code</b>	<b>Description</b>
CO1	Examine the statistical basis of thermodynamics
CO2	Compare microcanonical, canonical and grand canonical ensembles
CO3	Analyse statistical systems using quantum statistical mechanics.
CO4	Analyse ideal Bose Systems
CO5	Analyse ideal Fermi Systems



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<b>Course Community :</b> CC19PPHY2C08 MSC PHY 2022 S2	<b>Faculty(s) :</b> Edwin Jose	<b>Course :</b> Computational Physics

**CO PO ATTAINMENT Report**

Above Target Percentage :  Below Target Percentage:

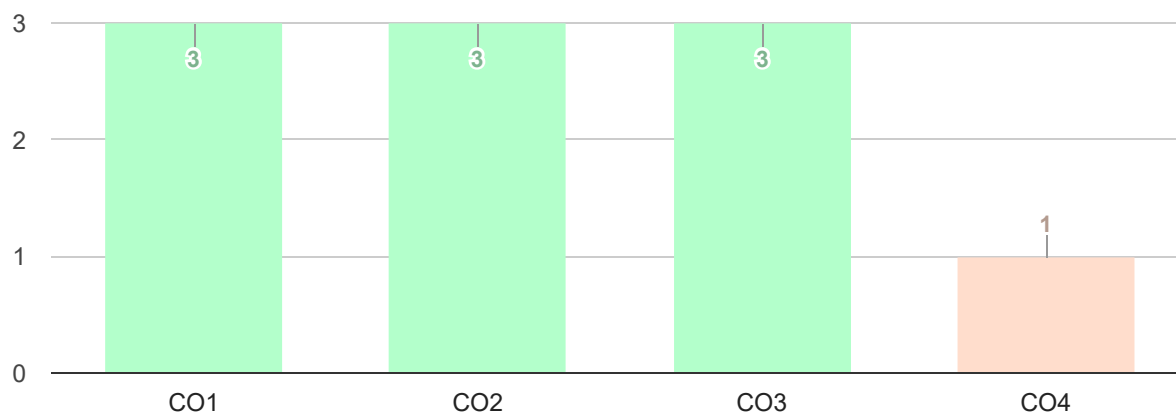
#	Reg No	Student Name	CO1	CO2	CO3	CO4
1	CCAWMPH001	AKHILA RAPHAEL	79.05	82.08	68	57.33
2	CCAWMPH002	ALEENA A S	83.09	64.53	76.69	72.78
3	CCAWMPH003	ALEENA K J	82.55	68	83.73	76.27
4	CCAWMPH004	ASHLY JOSEPH	82.55	68	92.12	80.8
5	CCAWMPH005	CLEMENT DAVIS	39.05	29.97	39.23	20.75
6	CCAWMPH006	E A ATHIRA	77.89	66.72	85.6	100
7	CCAWMPH007	GOKUL DAS	86.56	78.88	78.88	93.67
8	CCAWMPH008	HELMA SEBASTIAN	88.48	71.84	93.23	34.72
9	CCAWMPH009	HELNA SEBASTIAN	80.74	59.68	79.89	28.69
10	CCAWMPH010	KRISHNAPRIYA T. L	90.4	89.76	100	87.2
11	CCAWMPH011	MEERA.P	97.67	100	88	100
12	CCAWMPH012	MONICA M S	93.02	92.69	92.17	74.4
13	CCAWMPH013	SANIGHA T T	65.81	27.41	65.81	27.41
14	CCAWMPH014	SONA.K.SANTHOSH	57.67	37.65	56.21	53.01
15	CCAWMPH015	SREELAKSHMI . S	94.18	100	91.2	36

<b>Class Strength</b>	15
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Course Outcomes addressed	CO1	CO2	CO3	CO4
Target of Course Outcome	60	60	60	60
No of students with CO value greater than or equal to 60	13	11	13	8
Percentage of students with CO value greater than 60	86.67	73.33	86.67	53.33
Average	79.91	69.15	79.38	62.87
Attainment Level	3.00	3.00	3.00	1.00
Attainment :High <span style="color: green;">■</span> Medium <span style="color: orange;">■</span> Low <span style="color: lightcoral;">■</span>				

### CO Attainment Levels



Attainment :High ■ Medium ■ Low ■

CO List	
CO Code	Description
CO1	Review the basics of Python language, data types and modules
CO2	Understand modules for maths and visualisation like numpy and matplotlib
CO3	Use arrays and matrices for mathematical analysis and problem solving
CO4	Create python programs for solving various physics problems



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<b>Course Community :</b> CC19PPHY1L01 & CC19PPHY2L03 MSC PHY 2022 S2	<b>Faculty(s) :</b> Xavier Joseph', 'Dr. Sudheer Sebastian K', 'Irene Joy V	<b>Course :</b> General Physics Practical

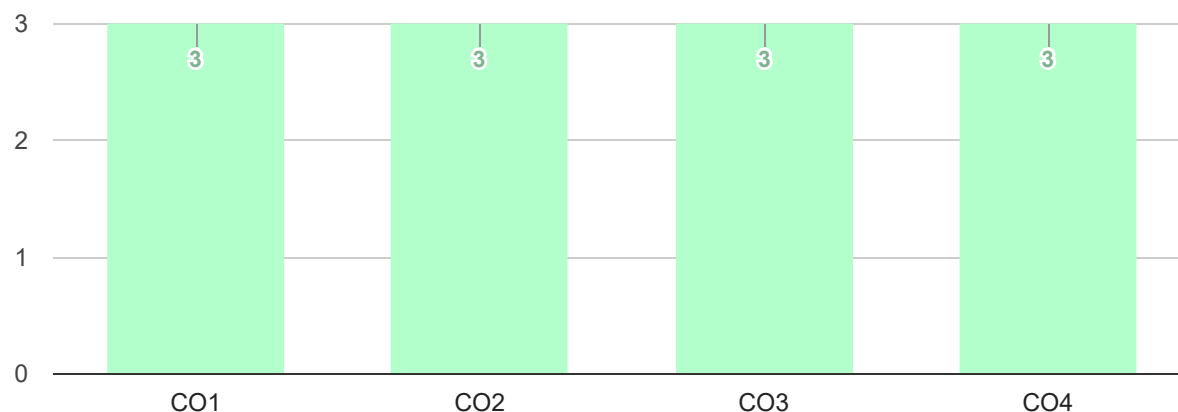
**CO PO ATTAINMENT Report**

Above Target Percentage :  Below Target Percentage:

#	Reg No	Student Name	CO1	CO2	CO3	CO4
1	CCAWMPH001	AKHILA RAPHAEL	76.67	76.67	76.67	76.67
2	CCAWMPH002	ALEENA A S	93.33	93.33	93.33	93.33
3	CCAWMPH003	ALEENA K J	90	90	90	90
4	CCAWMPH004	ASHLY JOSEPH	76.67	76.67	76.67	76.67
5	CCAWMPH005	CLEMENT DAVIS	66.67	66.67	66.67	66.67
6	CCAWMPH006	E A ATHIRA	93.33	93.33	93.33	93.33
7	CCAWMPH007	GOKUL DAS	88.67	88.67	88.67	88.67
8	CCAWMPH008	HELMA SEBASTIAN	96.67	96.67	96.67	96.67
9	CCAWMPH009	HELNA SEBASTIAN	90	90	90	90
10	CCAWMPH010	KRISHNAPRIYA T. L	96.67	96.67	96.67	96.67
11	CCAWMPH011	MEERA.P	96.67	96.67	96.67	96.67
12	CCAWMPH012	MONICA M S	96.67	96.67	96.67	96.67
13	CCAWMPH013	SANIGHA T T	76.67	76.67	76.67	76.67
14	CCAWMPH014	SONA.K.SANTHOSH	55.33	55.33	55.33	55.33
15	CCAWMPH015	SREELAKSHMI . S	86.67	86.67	86.67	86.67

<b>Class Strength</b>	15			
<b>Course Outcomes addressed</b>	CO1	CO2	CO3	CO4
<b>Target of Course Outcome</b>	60	60	60	60
<b>No of students with CO value greater than or equal to 60</b>	14	14	14	14
<b>Percentage of students with CO value greater than 60</b>	93.33	93.33	93.33	93.33
<b>Average</b>	85.38	85.38	85.38	85.38
<b>Attainment Level</b>	3.00	3.00	3.00	3.00
Attainment :High <span style="color: green;">■</span> Medium <span style="color: orange;">■</span> Low <span style="color: pink;">■</span>				

### CO Attainment Levels



Attainment :High ■ Medium ■ Low ■

<b>CO List</b>	
<b>CO Code</b>	<b>Description</b>
CO1	Apply and illustrate the concepts of properties of matter through experiments
CO2	Apply and illustrate the concepts of electricity and magnetism through experiments
CO3	Apply and illustrate the concepts of optics through experiments
CO4	Apply and illustrate the concepts of spectroscopy through experiments



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<b>Course Community :</b> CC19PPHY1L02 & CC19PPHY2L04 MSC PHY 2022 S2	<b>Faculty(s) :</b> Xavier Joseph', 'Dr. Sudheer Sebastian K	<b>Course :</b> Electronics Practical

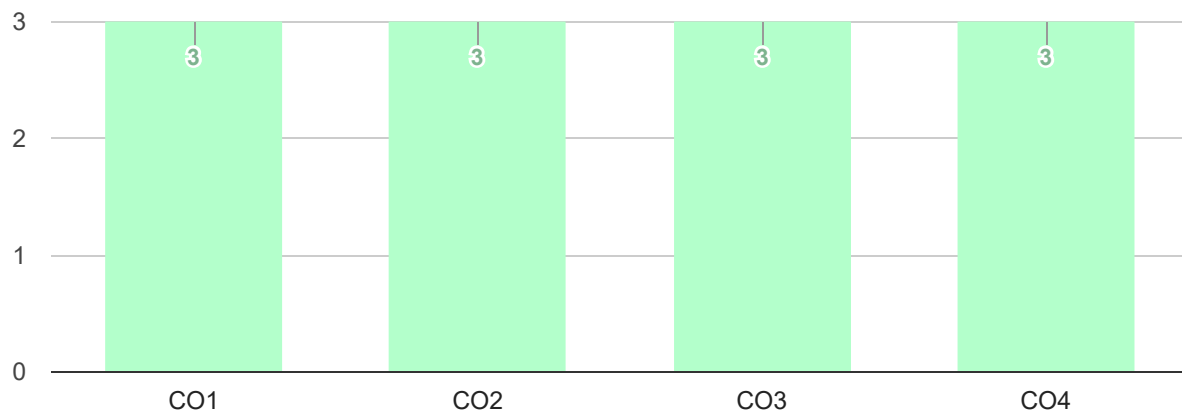
**CO PO ATTAINMENT Report**

Above Target Percentage :  Below Target Percentage:

#	Reg No	Student Name	CO1	CO2	CO3	CO4
1	CCAWMPH001	AKHILA RAPHAEL	76	76	76	76
2	CCAWMPH002	ALEENA A S	93.33	93.33	93.33	93.33
3	CCAWMPH003	ALEENA K J	85.33	85.33	85.33	85.33
4	CCAWMPH004	ASHLY JOSEPH	78	78	78	78
5	CCAWMPH005	CLEMENT DAVIS	58	58	58	58
6	CCAWMPH006	E A ATHIRA	92.67	92.67	92.67	92.67
7	CCAWMPH007	GOKUL DAS	82.67	82.67	82.67	82.67
8	CCAWMPH008	HELMA SEBASTIAN	78	78	78	78
9	CCAWMPH009	HELNA SEBASTIAN	85.33	85.33	85.33	85.33
10	CCAWMPH010	KRISHNAPRIYA T. L	87.33	87.33	87.33	87.33
11	CCAWMPH011	MEERA.P	83.33	83.33	83.33	83.33
12	CCAWMPH012	MONICA M S	90	90	90	90
13	CCAWMPH013	SANIGHA T T	90.67	90.67	90.67	90.67
14	CCAWMPH014	SONA.K.SANTHOSH	56	56	56	56
15	CCAWMPH015	SREELAKSHMI . S	91.33	91.33	91.33	91.33

<b>Class Strength</b>	15			
<b>Course Outcomes addressed</b>	CO1	CO2	CO3	CO4
<b>Target of Course Outcome</b>	60	60	60	60
<b>No of students with CO value greater than or equal to 60</b>	13	13	13	13
<b>Percentage of students with CO value greater than 60</b>	86.67	86.67	86.67	86.67
<b>Average</b>	81.87	81.87	81.87	81.87
<b>Attainment Level</b>	3.00	3.00	3.00	3.00
Attainment :High <span style="color: green;">■</span> Medium <span style="color: orange;">■</span> Low <span style="color: brown;">■</span>				

### CO Attainment Levels



Attainment :High ■ Medium ■ Low ■

<b>CO List</b>	
<b>CO Code</b>	<b>Description</b>
CO1	Design and construct electronic circuits using diodes and transistors
CO2	Design and construct electronic circuits using OPAMP
CO3	Design and construct electronic circuits using IC -555
CO4	Design and construct digital electronics circuits