



POORNIMA

COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

Department of Mechanical Engineering Session 2021-22

CO, PO and PSO Target and Attainment and Observations and Action Taken Report (ME)

1.1 CO-Target and Attainment

S. No.	Course Code	Course Name	Batch	Year	Average Target	Cumulative Attainment
1	1FY2-01	Engineering Mathematics-I	2021-25	I Year	2.10	1.53
2	1FY2-02	Engineering Physics			2.00	1.37
3	1FY1-05	Human Values			2.20	2.20
4	1FY3-07	Basic Mechanical Engineering			1.40	0.98
5	1FY3-09	Basic Civil Engineering			2.00	1.93
6	1FY2-20	Engineering Physics Lab			1.58	1.47
7	1FY1-23	Human Values Activities and Sports			1.80	1.80
8	1FY3-25	Manufacturing Practices Workshop			1.88	1.88
9	1FY3-27	Basic Civil Engineering Lab			1.86	1.74
10	1FY3-28	Computer Aided Engineering Graphics			1.38	1.33
11	2FY2-01	Engineering Mathematics-II			2.00	1.11
12	2FY2-03	Engineering Chemistry			1.60	0.94
13	2FY1-04	Communication Skills			1.80	1.65
14	2FY3-06	Programming for Problem Solving			2.00	1.43
15	2FY3-08	Basic Electrical Engineering			2.00	1.63
16	2FY2-21	Engineering Chemistry Lab			1.88	1.73
17	2FY1-22	Language Lab			2.00	1.62
18	2FY3-24	Computer Programming Lab			2.00	2.00
19	2FY3-26	Basic Electrical Engineering Lab			2.08	1.89
20	2FY3-29	Computer Aided Machine Drawing			1.62	1.52
21	3ME1-02	Technical Communications	2020-24	II Year	2.08	1.04
22	3ME2-01	Advanced Engineering Mathematics			2.00	1.93
23	3ME3-04	Engineering Mechanics			2.00	1.80
24	3ME4-05	Engineering Thermodynamics			2.00	1.80
25	3ME4-06	Material Science And Engineering			2.25	1.80
26	3ME4-07	Mechanics of Solids			2.50	2.00
27	3ME4-21	Machine Drawing Practice			2.50	2.50
28	3ME4-22	Material Testing Lab-I			2.40	2.18
29	3ME4-23	Basic Mechanical Engineering Lab			2.00	2.00
30	3ME4-24	Programming Using MATLAB			2.60	2.47
31	3ME7-30	Industrial Training			2.60	2.60

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)

• Phone: +91-9829255102 • E-mail: registrar.pce@poornima.org • Website: www.pce.poornima.org

Page 1 of 9

Head of Department
Mechanical Engineering
Poornima College of Engineering
ISI-6, RIICO Institutional Area
Sitapura, Jaipur-302022 (Rajasthan)



POORNIMA

COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

31	4ME1-03	Managerial Economics and Financial Accounting			2.34	2.34
32	4ME2-01	Data Analytics			2.17	1.30
33	4ME3-04	Digital Electronics			2.25	1.80
34	4ME4-05	Fluid Mechanics and Fluid Machines			2.63	2.28
35	4ME4-06	Manufacturing Processes			1.50	0.90
36	4ME4-07	Theory of Machines			2.25	1.13
37	4ME3-21	Digital Electronics Lab			2.00	2.00
38	4ME4-22	Fluid Mechanics Lab			2.25	2.18
39	4ME4-23	Production Practice Lab			2.00	1.94
40	4ME4-24	Theory of Machines Lab			2.50	2.35
41	5ME3-01	Mechatronic Systems	2019-23	III Year	2.00	2.00
42	5ME4-02	Heat Transfer			2.00	1.93
43	5ME4-03	Manufacturing Technology			2.25	2.25
44	5ME4-04	Design of Machine Elements I			2.25	1.28
45	5ME4-05	Principles of Management			2.75	1.93
46	5ME5-12	Automobile Engineering			2.00	1.73
47	5ME5-11	NDET			2.00	2.00
48	5ME3-21	Mechatronics Lab			2.40	2.23
49	5ME4-22	Heat Transfer Lab			2.60	2.24
50	5ME4-23	Production Engineering Lab			2.07	2.07
51	5ME4-24	Machine Design Practice - I Lab			2.25	2.07
52	5ME7-30	Industrial Training			2.59	2.20
53	6ME3-01	Measurement and Metrology			2.25	2.25
54	6ME4-02	CIMS			3.00	2.40
55	6ME4-03	Mechanical Vibrations			2.25	2.03
56	6ME4-04	Design of Machine Elements II			2.25	2.18
57	6ME4-05	Quality Management			2.00	1.60
58	6ME4-21	CIMS Lab			2.13	1.81
59	6ME4-22	Vibration Lab			2.00	1.70
60	6ME4-23	Machine Design Practice - II Lab			2.25	1.91
61	6ME4-24	Thermal Engineering Lab I			2.31	1.89
62	6ME5-11	Refrigeration and Air Conditioning (Elective-1)			2.50	1.50
63	6ME5-12	Non-Conventional Machining Methods (Elective-2)			2.00	1.80
64	7ME5-11	I. C. Engines	2018-22	IV Year	2.50	1.75
65	7ME5-13	Turbo Machine			2.00	1.20
66	7EE6-60.1	Electrical Machines and Drives			2.75	2.48
67	7EE6-60.2	Power Generation Sources			1.98	1.98
68	7CE6-60.1	Environmental Impact Analysis (EIA)			1.38	1.10

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)

• Phone: +91-9829255102 • E-mail: registrar.pce@poornima.org • Website: www.pce.poornima.org



POORNIMA

COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

69	7CE6-60.2	Disaster Management (DM)			1.53	0.92
70	7CS6-60.1	Quality Management / ISO 9000 (Open Elective-1)			3.00	2.70
71	7CS6-60.2	Cyber Security (Open Elective-1)			2.25	1.65
72	7EC6-60.1	Principle of Electronic communication			2.43	0.24
73	7EC6.60.2	Micro System Smart Technology			2.43	1.70
74	7ME4-21	FEA Lab			2.50	2.15
75	7ME4-22	Thermal Engineering Lab-II			2.25	1.78
76	7ME4-23	Quality Control Lab			2.50	2.05
77	7ME7-30	Industrial Training			2.80	1.96
78	7ME7-40	Seminar			2.50	2.13
79	8ME5-11	Hybrid and Electric Vehicles			2.00	1.53
80	8ME5-12	Supply and Operations Management			-	-
81	8ME5-13	Additive Manufacturing			2.80	1.96
82	8EE6-60.1	Energy Audit and Demand side Management			2.52	2.27
83	8EE6-60.2	Soft Computing			2.67	2.40
84	8CE6-60.1	Composite Materials (CM)			1.46	-
85	8CE6-60.2	Fire and Safety Engineering (F&SE)			1.22	1.10
86	8CS6-60.1	Big Data Analytics (Open Elective-II)			3.00	2.40
87	8CS6-60.2	IPR, Copyright and Cyber Law of India (Open Elective-II)			2.75	2.20
88	8EC6.60.1	Industrial and Medical applications of RF Energy			2.22	1.70
89	8EC6-60.2	Robotics and Control			2.52	2.27
90	8ME4-21	Industrial Engineering Lab			2.25	2.05
91	8ME4-22	Metrology Lab			2.00	1.82
92	8ME7-50	Project			2.63	1.84

1.2 PO and PSO-Target and Attainment

S. No.	PO and PSO	Batch	Year	Average Target	Average Attainment
1	PO1: Engineering knowledge	2021-25	I Year	1.81	1.06
2	PO2: Problem analysis			1.65	0.88
3	PO3: Design/development of solutions			-	-
4	PO4: Conduct investigations of complex problems.			-	-
5	PO5: Modern tool usage			2.50	2.02
6	PO6: The engineer and society			2.00	1.38
7	PO7: Environment and sustainability			2.00	1.28
8	PO8: Ethics			1.94	1.25
9	PO9: Individual and team work.			2.72	2.30
10	PO10: Communication			2.00	1.23
11	PO11: Project management and finance			-	-

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)

• Phone: +91-9829255102 • E-mail: registrar.pce@poornima.org • Website: www.pce.poornima.org



POORNIMA

COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

12	PO12: Life-long learning			2.00	1.47
13	PSO1: (Design, Analyze and Innovate Solutions)			1.44	0.76
14	PSO2: (Mechanical, Allied Engineering Concept)			1.67	0.90
15	PSO3: (Skills, HVAC&R and Automobile Engineering)			1.00	0.42
16	PO1: Engineering knowledge	2020-24	II Year	2.40	1.87
17	PO2: Problem analysis			2.30	1.52
18	PO3: Design/development of solutions			2.22	1.42
19	PO4: Conduct investigations of complex problems.			2.58	1.59
20	PO5: Modern tool usage			2.00	1.26
21	PO6: The engineer and society			1.67	1.42
22	PO7: Environment and sustainability			2.00	-
23	PO8: Ethics			2.00	1.11
24	PO9: Individual and team work.			2.05	1.25
25	PO10: Communication			2.25	1.33
26	PO11: Project management and finance			2.50	1.60
27	PO12: Life-long learning			2.08	1.27
28	PSO1: (Design, Analyze and Innovate Solutions)	2019-23	III Year	2.45	1.93
29	PSO2: (Mechanical, Allied Engineering Concept)			2.06	1.40
30	PSO3: (Skills, HVAC&R and Automobile Engineering)			2.01	1.34
31	PO1: Engineering knowledge			2.30	1.56
32	PO2: Problem analysis			2.18	1.34
33	PO3: Design/development of solutions			2.55	1.45
34	PO4: Conduct investigations of complex problems.			-	-
35	PO5: Modern tool usage			2.60	1.68
36	PO6: The engineer and society			2.00	1.00
37	PO7: Environment and sustainability			-	-
38	PO8: Ethics			2.13	1.10
39	PO9: Individual and team work.			2.06	1.03
40	PO10: Communication	2018-22	IV Year	2.17	1.09
41	PO11: Project management and finance			2.33	1.41
42	PO12: Life-long learning			2.22	1.10
43	PSO1: (Design, Analyze and Innovate Solutions)			2.57	1.90
44	PSO2: (Mechanical, Allied Engineering Concept)			2.09	1.35
45	PSO3: (Skills, HVAC&R and Automobile Engineering)			2.04	1.29
46	PO1: Engineering knowledge			2.39	1.79
47	PO2: Problem analysis			2.37	1.57
48	PO3: Design/development of solutions			2.25	1.45
49	PO4: Conduct investigations of complex problems.			2.25	1.31
50	PO5: Modern tool usage			1.98	1.27
51	PO6: The engineer and society			1.84	1.22
52	PO7: Environment and sustainability	2018-22	IV Year	1.96	1.17
53	PO8: Ethics			2.22	1.53
54	PO9: Individual and team work.			2.45	1.52
55	PO10: Communication			2.38	1.34
56	PO11: Project management and finance			2.00	1.46
57	PO12: Life-long learning			2.45	1.78
58	PSO1: (Design, Analyze and Innovate Solutions)			2.04	1.45

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)

• Phone: +91-9829255102 • E-mail: registrar.pce@poornima.org • Website: www.pce.poornima.org

Head of Department
Mechanical Engineering
Poornima College of Engineering
ISI-6, RIICO Institutional Area
Sitapura, Jaipur-302022 (Rajasthan)

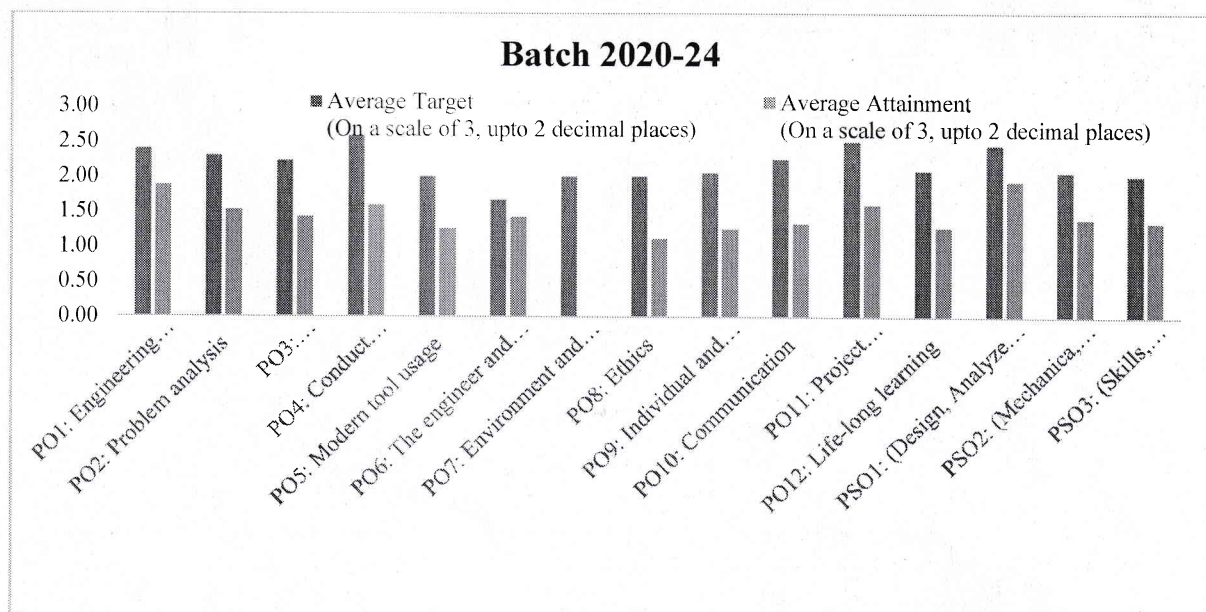
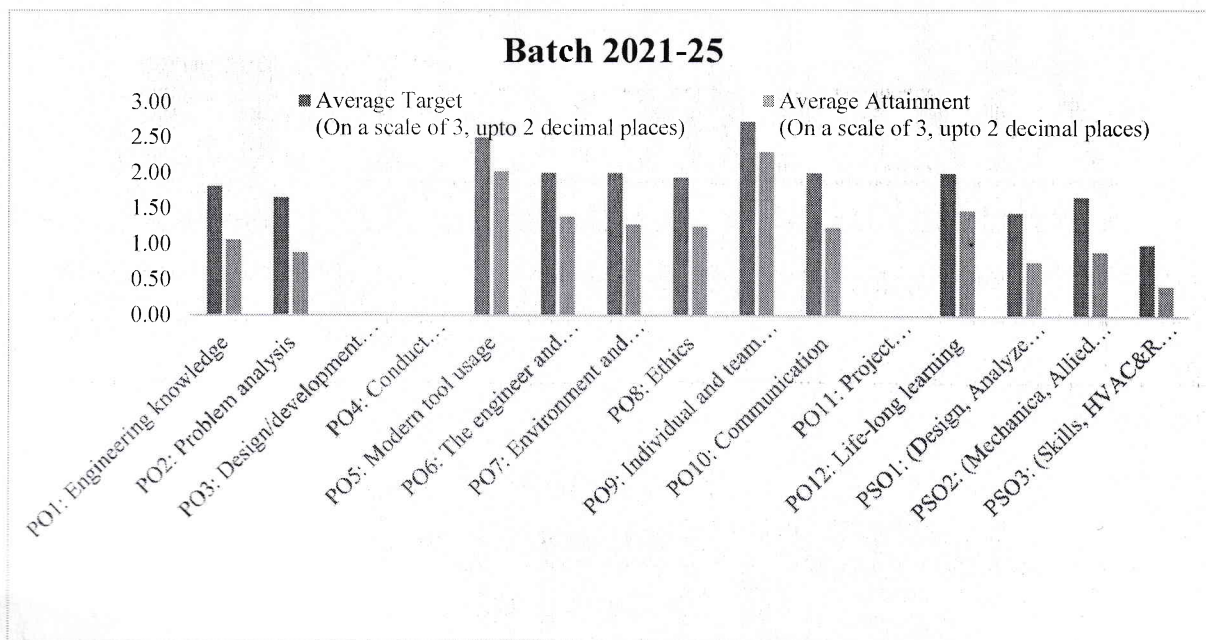


POORNIMA

COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

59	PSO2: (Mechanical, Allied Engineering Concept)			1.83	1.17
60	PSO3: (Skills, HVAC&R and Automobile Engineering)			1.81	1.05



(Signature)

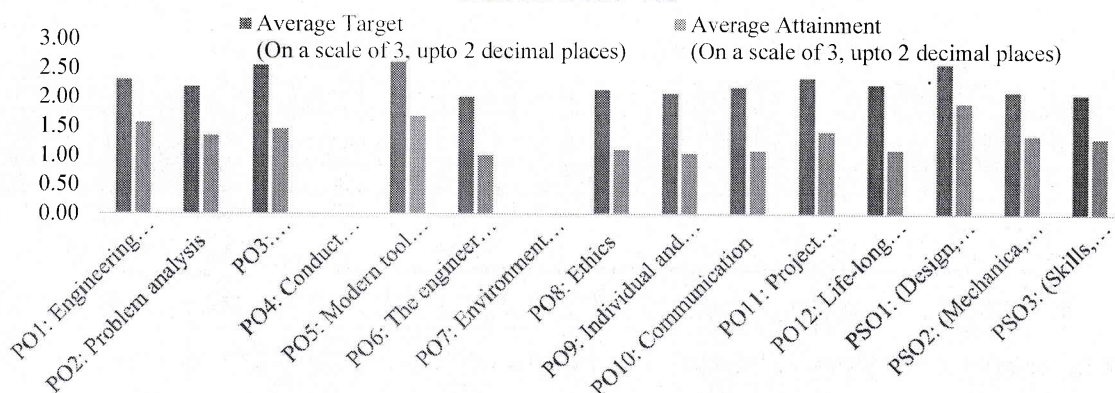


POORNIMA

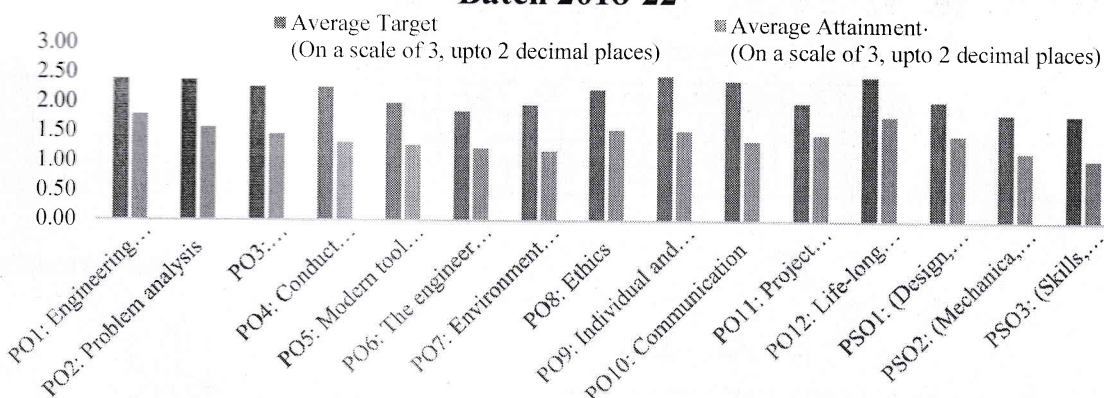
COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

Batch 2019-23



Batch 2018-22



Handwritten signature



POORNIMA

COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

1.3 Analysis of PO and PSO Attainment

Table 1.1: PO Attainment, Target and Gaps (Batch 2021-25, First Year)

POs / PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO 2	PSO3
Attainment	1.06	0.88	-	-	2.02	1.38	1.28	1.25	2.30	1.23	-	1.47	0.76	0.90	0.42
Target	1.81	1.65	-	-	2.50	2.00	2.00	1.94	2.72	2.00	-	2.00	1.44	1.67	1.00
Gap	0.75	0.77	-	-	0.48	0.62	0.72	0.69	0.42	0.77	-	0.53	0.68	0.77	0.58

Table 1.2: PO Attainment, Target and Gaps (Batch 2020-24)

POs / PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO 2	PSO3
Attainment	1.87	1.52	1.42	1.59	1.26	1.42	-	1.11	1.25	1.33	1.60	1.27	1.93	1.40	1.34
Target	2.40	2.30	2.22	2.58	2.00	1.67	2.00	2.00	2.05	2.25	2.50	2.08	2.45	2.06	2.01
Gap	0.53	0.78	0.80	1.00	0.74	0.25	-	0.89	0.80	0.92	0.90	0.81	0.52	0.66	0.66

Table 1.3: PO Attainment, Target and Gaps (Batch 2019-23)

POs / PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO 2	PSO3
Attainment	1.56	1.34	1.45	-	1.68	1.00	-	1.10	1.03	1.09	1.41	1.10	1.90	1.35	1.29
Target	2.30	2.18	2.55	-	2.60	2.00	-	2.13	2.06	2.17	2.33	2.22	2.57	2.09	2.04
Gap	0.74	0.84	1.10	-	0.92	1.00	-	1.02	1.03	1.08	0.93	1.12	0.67	0.74	0.75

Table 1.4: PO Attainment, Target and Gaps (Batch 2018-22)

POs / PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO 2	PSO3
Attainment	1.79	1.57	1.45	1.31	1.27	1.22	1.17	1.53	1.52	1.34	1.46	1.78	1.45	1.17	1.05
Target	2.39	2.37	2.25	2.25	1.98	1.84	1.96	2.22	2.45	2.38	2.00	2.45	2.04	1.83	1.81
Gap	0.60	0.80	0.80	0.94	0.71	0.62	0.79	0.69	0.94	1.03	0.54	0.68	0.59	0.66	0.76

1.4 Observations

Table 1.5: Achieved Level of PO / PSO (Batch 2021-25)

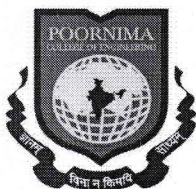
PO / PSO	Achieved Level
PSO3	Below Average (<50%)
PO 1-2, PO6-8, PO10/PSO 1-2	Average (>=50% but <70%)
PO5, PO9, PO12	Above Average (>=70%)

PO-

1. As per Table 1.1 and 1.5, it has been observed that attainment of some of POs achieved up to average level like, PO1, PO2, PO6, PO7, PO8 and PO10.

PSO-

1. As per Table 1.1 and 1.5, it has been observed that PSOs achieved below average due to less understanding of subjects like Engineering Thermodynamics and HVAC&R and Automobile Engineering will be offered in coming semesters of these batch students.



POORNIMA

COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

Table 1.6: Achieved Level of PO / PSO (Batch 2020-24)

PO / PSO	Achieved Level
-	Below Average (<50%)
PO 2-5, PO 8-12/ PSO 2-3	Average ($\geq 50\%$ but <70%)
PO1, PO6/ PSO1	Above Average ($\geq 70\%$)

PO-

1. After analysis of the Table 1.2 and Table 1.6 it has been observed that attainment of PO2-PO5 & PO8-PO12 achieved up to average level.

PSO-

1. PSO1 attainment achieved above average level but PSO 2 & 3 achieved up to average level due to not coverage of courses like HVAC&R and Automobile Engineering and open elective courses and COVID effect also impacted the attainment.

Table 1.7: Achieved Level of PO / PSO (Batch 2019-23)

PO / PSO	Achieved Level
PO12	Below Average (<50%)
PO1-3, PO5, PO6, PO8-11/ PSO 2-3	Average ($\geq 50\%$ but <70%)
PSO1	Above Average ($\geq 70\%$)

PO-

1. After analysis of the table 1.3 and Table 1.7 of POs Attainment, it has been observed that the attainment of PO12: Life-long learning is below average, and PO1-3, PO5: Modern tool usage, PO6: The engineer and society, PO8-11 are found average.

PSO-

1. As per 1.3 and Table 1.7 there is no any attainment of PSOs are below average, PSO 2-3 are found average and PSO1: Design, Analyze and Innovate Solutions is found above average.

Table 1.8: Achieved Level of PO / PSO (Batch 2018-22)

PO / PSO	Achieved Level
-	Below Average (<50%)
PO 2-10/ PSO 2-3	Average ($\geq 50\%$ but <70%)
PO1, PO11, PO12/ PSO1	Above Average ($\geq 70\%$)

PO-

1. After analysis of the Table 1.4 and Table 1.8 of POs Attainment, it has been observed there is no any attainment of POs are below average, and PO2-10 are average and PO1: Engineering knowledge, PO11: Project management and finance, PO12: Life-long learning are above average.

PSO-

1. As per Table 1.4 and Table 1.8 there is no any attainment of PSOs are below average, PSO 2-3 are found average and PSO1: is above average.
- 2.



POORNIMA

COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

1.4 Actions Taken For session 2021-22

- Various interdisciplinary courses as electives were introduced by RTU in the new revised curriculum from 2020-21 session. Additionally add on courses were run by the department for the same purpose, therefore; it will help to attain PO4, PO5, PSO2 and PSO3.
- A proposal has been approved for the development of advance automobile and e-vehicle lab for achieving PSO3, PO6 & PO7
- High speed 3D Printing M/C has been ordered to achieve PO5 & PO12.
- For improvement in attainment of PO1-PO4, 5 workshop, 07 technical seminar/ expert lecture and 04 industrial visit were conducted.
- More focus were given on ICT tools for the improvement of teaching learning process (For improvement in attainment of PO1-PO4)
- NSP Projects are given to all the year students to make them understand the importance of team work and upgrade themselves with latest technologies and in turn to have future industrial exposure. They were grouped into teams of choice of their area of interest and are motivated to come up with innovative projects to solve real world problems (For improvement in attainment of PO8-PO12)
- **Laboratory and library** timing has been extended to improve hands on practice (For improvement in attainment of PO12)

Dr. Narayan Lal Jain

Professor & Head

Department of Mechanical Engineering

Head of Department
Mechanical Engineering
Poornima College of Engineering
ISI-6, RIICO Institutional Area
Sitapura, Jaipur-302022 (Rajasthan)