

VCE(A) :: Department of Mechanical Engineering

Course - PO & Course-PSO attainment matrices

2018-22 batch

1(a)Course-PO Direct attainment matrix.

S.No	Course code	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
1	U18HS110EH	English language and communication-I									2.8	2.8		2.8
2	U18BS120MA	Engineering Mathematics-I	2.2	2.2										2.2
3	U18BS133PH	Oscillations, Waves and Optics	1.9 5	1.9 5	1.9 5									1.97
4	U18BS140CH	Chemistry-I	2.7	2.5					2.1					2.5
5	U18ES150CS	Programming for Problem Solving	2.4	2.4	2.4	2.4	2.4							2.4
6	U18ES160CE	Basic Engineering Mechanics	1.8	1.7 4	1.7 4									1.8
7	U18ES180CE	Engineering Graphics-I	2.4	2.2		2.3				2.4		2.3		2.3
8	U18HS111EH	English language and communication skills lab-I					3.0				3.0	3.0		3.0
9	U18BS131PH	Physics Lab-I	3.0	3.0		3.0								3.0
10	U18BS141CH	Chemistry Lab-I	3	3							3			3
11	U18ES151CS	Programming for Problem Solving lab	3	3	3	3	3							
12	U18ES171ME	Workshop-I	3		3					3	3			3
13	U18HS210EH	English language and communication-II									2.9	2.9		2.9
14	U18BS220MA	Engineering Mathematics-II	2.6	2.6										2.6
15	U18BS233PH	Applied Physics	2.2	2.2	2.2									2.2
16	U18BS240CH	Chemistry-II	2.5	2.5					2.3					2.5
17	U18ES160EE	Basic Electrical Engineering	2.6 8	2.6 8	2.6 8	2.6 8	2.6 8		2.6 8	2.6 8	2.6 8	2.68	2.6 8	2.68
18	U18ES250CE	Engineering Graphics-II	2.4 9	2.5 0	2.5 2	2.3 7						2.44		
19	U18ES260CE	Engineering Mechanics	1.9 8	1.9 8					2.7		1.9 8	1.9 8	1.98	
20	U18HS211EH	English language and communication skills Lab-II					3.0				3.0	3.0		3.0

21	U18BS231PH	Physics Lab-II	3.0	3.0		3.0								3.0
22	U18BS241CH	Chemistry Lab-II	3	3							3			3
23	U18ES161EE	Basic Electrical Engg lab	3	3	3	3					3	3	3	3
24	U18ES271ME	Workshop-II	3	3	3			3			3			3
25	U18HS330EH	Skill Development-I: Communication Skills in English										2		2
26	U18HS010EH	Human Values and Professional Ethics-I								2.7	2.7	2.7		2.7
27	U18BS310MA	Partial differential Equations & transform techniques.	1.1 6	1.1 6										1.16
28	U18ES310CE	Mechanics of materials	1.3 8	1.3 8	1.4 2									
29	U18PC310ME	Materials Engg	2.5 5	2.5 7	2.4 6	2.5	2.4 7							
30	U18PC320ME	Thermodynamics	1.3	1.3	1.4	1.2								
31	U18PC330ME	Machine Drawing	1.7	1.7		1.7						1.7		
32	U18OE310CE	Green Buildings	2.4		2.3			2.3	2.3					2.4
33	U18OE310CS	Introduction to Python Programming	2.4	2.4	2.4	2.4	2.4							2.4
34	U18OE320CS	Cyber Security	2.4	2.4	2.4	2.4								
35	U18OE320IT	Fundamentals of Data Structures	3	3	3									
36	U19OE310PH	Smart Materials and Applications	2.4 8	2.4 8										2.48
37	U18MC310ME	Introduction to Entrepreneurship		2.8	2.4					2.4	2.6	2.6	2.4	2.4
38	U18ES311CE	Mechanics of Materials Lab	3				3			3	3	3		3
39	U18PC311ME	Materials Engg Lab	3		3		3	3	3		3			
40	U18HS430EH	Skill Development-II: Communication Skills in English										2		2
41	U18BS410MA	Numerical Methods, Probability & Statistics	2.1											
42	U18ES420EC	Basic Electronics Engg	2.7	2.7	3.0									
43	U18PC410ME	Applied Thermodynamics	2.3	2.3	2.3	2.3		2.3						2.3
44	U18PC420ME	Mechanics of fluids & Hydraulic machines	2	2.4		1.6					1.6		1.3	1.0
45	U18PC430ME	Kinematics of machines	2.3	2.2 6	2.3			2.3						2.3
46	U18OE410CE	Disaster Management	3	3	3	3	3	3	3	3	3	3	3	3
47	U18OE410CS	Introduction to	3	3	3	3	3							3

70	U18OE010EH	Technical Writing and Professional Presentations								2.7	2.7	2.7		2.7
71	U18OE510PH	Vacuum Technology & Applications	2.25	2.25										2.25
72	U18PC531ME	Dynamics & Metrology Lab	3	3	3		3		3					
73	U18PC541ME	Manufacturing Processes Lab	3	3	3	3	3	3						
74	U18PW519ME	Mini Project	3	3	3				3	3		3	3	3
75	U18HS610EH	Skill Development-IV : Soft Skills												3
76	U18PC620ME	CAD/CAM	2.58	2.46	2.58	2.51	2.58	2.58						2.58
77	U18PC630ME	Machine Design	2.53	2.25	2.25	2.25	2.22	2.37	2.38	2.24	2.39		2.25	2.48
78	U18PC640ME	Metal Cutting and Machine Tools	2.4	2.3	2.4	2.4	1.8							
79	U18PE630ME	Renewable Energy	2.8	2.4	2.5			2.8	2.8					
80	U18PE640ME	Operations Research	2.4	2.5			2.3		2.4		2.4		2.5	
81	U18PE650ME	Auto Chassis Components	2.61	2.55		2.58			2.61		2.61			2.58
82	U18PE610ME	Skill Development-IV: Technical Skills		3	3	3								3
83	U18OE610CE	Project Management	3	3		3	3	3	3	3			3	
84	U18OE610CS	Introduction To Databases	3	3	3		3							3
85	U18OE620CS	Introduction To Operating Systems	2.8	2.4	2.9	2.7			2.8					2.7
86	U18OE620IT	Introduction To Machine Learning	2.67	2.67	2.63	2.7	2.66				2.62			2.7
87	U18OE610EH	English For Competitive Examinations								2.8	2.8	2.8		2.8
88	U18MC010CE	Environmental Science	2.6					2.4	2.6	2.4				
89	U18PC621ME	CAD/CAM Lab	3	3		3								3
90	U18PC641ME	Machine Tools Lab	3	3	3	3	3	3			3		3	3
91	U18PW619ME	Theme Based Project	3	3	3				3	3		3	3	3
92	U18PC710ME	Thermal Turbo Machines	2.62	2.64	2.65	2.56		2.62		2.62	2.62			
93	U18PC720ME	Finite Element Analysis	2.52	2.56	2.56		2.49		2.56					
94	U18PE710ME	Robotics	2.43	2.33			2.33		2.5				2	
95	U18PE740ME	Supply Chain Mgmt		2.65	3.0						2.95			2.83

96	U18PE770ME	Nano Technologies	2.4		2.4			2.4	2.4	2.4		2.4		2.4
97	U18PE780ME	Adv IC engines	2.4	2.4	2.4				2.4					
98	U18PE740ME	POM	2.5 9	2.5 8	2.7 9	2.7 6	2.6 8		2.5 4	2.6 2	2.6 0	2.56	2.5 6	2.59
99	U18PE714ME	Additive Mfg Technologies	2.7 2	3	2.5 3		2.7 2					2.72		
100	U18PE717ME	Vehicle body Engineering	2.2 2	2.1	2.1 6	2.2 3			2.3		2.1 8			2.16
101	U18HS010EH	Economics and Finance for Engineers			2.0						1.7		1.6	1.1
102	U18PC711ME	Thermal Engineering Lab	3	3	3	3				3	3	3		3
103	U18PC721ME	Computer Aided Engineering Lab	3	3	3		3		3					
104	U18PW719M E	Project Seminar	3	3	3	3	3	3	3	3	3	3	3	3
105	U18PE810ME	PDPP	2.8 8			2.8 6			2.8 5	2.8 5			2.8 5	
106	U18PE830ME	PPE	2.4	2.4	2.4			2.4	2.4	2.4		2.4	2.4	2.4
107	U18PE860ME	Composite materials	2.5	2.6	2.5	2.5	2.4							
108	U18PE870ME	PLCM	2.5 6	2.6 5	2.4 3		3					2		
109	U18PW819M E	Project / Internship	3	3	3	3	3	3	3	3	3	3	3	3
Sum			237 .04	222 .87	172 .08	119 .14	102 .9	59. 87	77. 54	67. 99	92. 63	82.4 8	51. 99	181. 52
No. Of courses Mapped			92	87	66	46	37	22	29	24	33	30	20	69
Direct PO attainment values			2.5 8	2.5 6	2.6 1	2.5 9	2.7 8	2.7 2	2.6 7	2.8 3	2.8 1	2.75	2.6 0	2.63

1(b) Indirect PO attainment

S. No	PO1	PO2	PO 3	PO4	PO5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Exit Survey	2.84	2.91	2.87	2.85	2.91	2.85	2.92	2.93	2.94	2.94	2.99	3.0
Alumni Survey	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Employer Survey	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
CCA												
Guest lectures	3	3	-	-	-	-	-	-	3	3	3	3
Workshops	3	3	3	3	3	3	3	-	3	3	3	3
Professional Practice School	2	2	2	2	-	2	2	-	2	2	-	2
Student presentations	3	3	3	3	-	3	3	3	3	3	3	3

Theme Based Projects	3	3	3	3	3	3	3	3	3	3	3	3
MOOC courses	3	3	3	3	3	-	-	-	-	-	-	3
ECA												
NSS(includes Sahay, Street cause and all extension activities)	-	-	-	-	-	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extra-curricular clubs												
1. Film making	-	-	-	-	2	-	-	2	2	2	-	2
2. Mun club	-	-	-	-	-	-	-	3	-	3	-	3
3. Toastmasters	-	-	-	-	-	-	-	2	-	2	-	2
4. Maths club	2	2	-	-	-	-	-	-	-	-	-	2
5. Writers club	-	-	-	-	-	-	-	3	3	3	-	3
6. Science club	3	-	-	-	3	-	-	-	3	-	-	3
7. Photography	-	-	-	-	2	-	-	2	2	2	-	2
8. Dramatics	-	-	-	-	-	-	2	2	2	2	-	2
9. Quiz	3	-	-	-	3	-	-	3	3	2	-	3
10. Arts	-	-	-	-	-	-	-	-	2	2	-	2
11. Sports	-	-	-	-	-	-	-	3	3	3	-	3

12. Entrepreneurship (SWAYA M/ED CELL)	-	-	-	-	-	-	-	-	3	3	3	3	3
13. Inter instituteliterary and cultural activities	-	-	-	-	-	-	-	-	2	2	2	-	2
14. CRT	3	3									3		3
Sum	34.84	28.91	20.87	20.85	25.91	19.85	21.92	39.93	47.94	51.94	23.99		61.0
No. mapped	13	11	8	8	10	8	9	16	19	21	9		24
Indirect PO attainment	2.68	2.63	2.61	2.61	2.59	2.42	2.44	2.49	2.52	2.47	2.67		2.54

1(c) PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Direct PO Attainment(80%)	2.06	2.05	2.09	2.07	2.22	2.18	2.14	2.27	2.25	2.20	2.08	2.10
Indirect PO Attainment(20%)	0.54	0.53	0.52	0.52	0.52	0.49	0.49	0.50	0.50	0.49	0.53	0.51
PO Attainment	2.60	2.58	2.61	2.59	2.74	2.67	2.63	2.77	2.75	2.69	2.61	2.61

2(a) Course-PSO Direct attainment matrix.

S No	Course Code	Course title	PSO1	PSO2	PSO3
1	U18BS120MA	Engineering Mathematics-I	2.2	-	-
2	U18BS133PH	Oscillations, Waves and Optics	2.0	-	-
3	U18BS140CH	Chemistry-I	2.7	-	-
4	U18ES150CS	Programming for Problem Solving	2.4	2.4	2.4
5	U18ES160CE	Basic Engineering Mechanics	-	1.8	-
6	U18ES180CE	Engineering Graphics-I	2.4	2.4	2.4
7	U18BS131PH	Physics Lab-I	3	-	-
8	U18BS141CH	Chemistry Lab-I	3	-	-
9	U18ES151CS	Programming for Problem Solving lab	3	3	3
10	U18ES171ME	Workshop-I	3	-	-
11	U18BS220MA	Engineering Mathematics-II	2.6	-	-
12	U18BS233PH	Applied Physics	2.2	-	-
13	U18BS240CH	Chemistry-II	2.5	-	-
14	U18ES160EE	Basic Electrical Engineering	2.68	-	-
15	U18ES250CE	Engineering Graphics-II	2.48	2.44	2.49
16	U18ES260CE	Engineering Mechanics	-	1.98	-
17	U18BS231PH	Physics Lab-II	3	-	-
18	U18BS241CH	Chemistry Lab-II	3	-	-
19	U18ES161EE	Basic Electrical Engg lab	3	-	-
20	U18ES271ME	Workshop-II	3	3	3
21	U18BS310MA	Partial differential Equations & transform techniques.	1.16	-	-
22	U18ES310CE	Mechanics of materials	-	1.38	-
23	U18PC310ME	Materials Engg	2.57	2.56	2.58
24	U18PC320ME	Thermodynamics	1.3	1.3	1.3
25	U18PC330ME	Machine Drawing	1.7	1.8	1.7
26	U18OE310CE	Green Buildings	2.3	2.3	-
27	U18OE310CS	Introduction to Python Programming	2.4	-	2.4
28	U18OE320CS	Cyber Security	2.4	2.4	-
29	U18MC310ME	Introduction to Entrepreneurship	-	2.8	2.4
30	U18ES311CE	Mechanics of Materials Lab	-	3	-
31	U18PC311ME	Materials Engg Lab	3	3	3
32	U18BS410MA	Numerical Methods, Probability & Statistics	2.1	-	-
33	U18PC410ME	Applied Thermodynamics	2.3	2.3	2.3
34	U18PC420ME	Mechanics of fluids & Hydraulic machines	2.0	1.6	1.3
35	U18PC430ME	Kinematics of machines	2.26	2.25	2.25
36	U18OE410CS	Introduction to Data Structures	3	3	-
37	U18OE410EC	Mathematical Programming for Engineers	-	3	3
38	U18PC411ME	Applied Thermodynamics Lab	3	3	3
39	U18PC421ME	Fluid Mechanics & Hydraulic machines Lab	3	3	3

40	U18PC510ME	Heat Transfer	1.2	1.2	1.2
41	U18PC520ME	Metrology and Instrumentation	2.62	2.62	2.62
42	U18PC530ME	Dynamics of Machines	2.46	2.46	2.49
43	U18PC540ME	Manufacturing Processes	2.6	2.7	2.6
44	U18PC550ME	Design of Machine Elements	2.4	2.4	2.4
45	U18MC510ME	Skill Development-III : Technical Skills	3	3	3
46	U18OE510CS	Fundamentals Of Object Oriented Programming	2.9	2.9	-
47	U18OE520CS	Web Design	2.2	2.2	-
48	U18OE510EC	Sensors For Engineering Applications	-	2.55	-
49	U18OE510EE	Solar Power and applications	-	2.3	-
50	U18PC531ME	Dynamics & Metrology Lab	3	3	3
51	U18PC541ME	Manufacturing Processes Lab	3	3	3
52	U18PW519ME	Mini Project	3	3	3
53	U18PC620ME	CAD/CAM	2.58	2.58	2.58
54	U18PC630ME	Machine Design	2.21	2.25	2.22
55	U18PC640ME	Metal Cutting and Machine Tools	2.4	2.4	2.4
56	U18PE630ME	Renewable Energy	2.8	2.8	2.4
57	U18PE640ME	Operations Research	2.4	2.4	2.4
58	U18PE650ME	Auto Chassis Components	2.62	2.56	2.61
59	U18OE610CS	Introduction To Databases	3	-	3
60	U18OE620CS	Introduction To Operating Systems	3	2.8	2.7
61	U18PC621ME	CAD/CAM Lab	3	3	3
62	U18PC641ME	Machine Tools Lab	3	3	3
63	U18PW619ME	Theme Based Project	3	3	3
64	U18PC710ME	Thermal Turbo Machines	2.62	2.63	2.62
65	U18PC720ME	Finite Element Analysis	2.5	2.52	2.56
66	U18PE710ME	Robotics	2.38	2.5	2.33
67	U18PE740ME	Supply Chain Mgmt	2.65	2.88	2.85
68	U18PE770ME	Nano Technologies	2.34	2.4	2.4
69	U18PE730ME	Adv IC engines	2.4	2.4	2.4
70	U18PE740ME	POM	2.59	2.57	2.56
71	U18PE714ME	Additive Mfg Technologies	2.72	2.72	2.72
72	U18PE717ME	Vehicle body Engineering	2.18	2.17	2.19
73	U18PC711ME	Thermal Engineering Lab	3	3	3
74	U18PC721ME	Computer Aided Engineering Lab	3	3	3
75	U18PW719ME	Project Seminar	3	3	3
76	U18PE810ME	PDPP	2.87	2.85	2.86
77	U18PE830ME	PPE	2.4	2.4	2.4
78	U18PE860ME	Composite materials	2.6	2.6	2.7
79	U18PE870ME	PLCM	3	2	2
80	U18PW819ME	Project / Internship	3	3	3
		Sum	109.64	160.47	128.44
		No. Of courses mapped	72	63	54
		Direct PSO attainment	1.52	2.55	2.38

2(b) Indirect PSO attainment

S.No	PSO1	PSO2	PSO 3
Exit Survey	3	3	3
Alumni Survey	2	2	2
Employer Survey	2	2	2
CCA	3	3	3
Guest Lectures	3	3	-
Workshops	-	3	3
PPS	2	2	-
Paper Presentations	3	3	3
Theme Based Project	3	3	3
MOOC courses	3	3	-
CRT	-	-	3
Indirect PSO attainment	2.50	2.56	2.57

2(c) PSO Attainment (2018-22 batch)

Course	PSO1	PSO2	PSO3
Direct Attainment(80%)	1.22	2.04	1.90
Indirect Attainment(20%)	0.5	0.51	0.51
PSO Attainment	1.72	2.55	2.41

