

VASAVI COLLEGE OF ENGINEERING (Autonomous)

IBRAHIMBHAG, HYDERABAD-500031

DEPARTMENT OF CIVIL ENGINEERING

1. PO Attainment & Target (2019-23 Batch)

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Attainment	2.6	2.5	2.5	2.4	2.8	2.5	2.5	2.8	2.8	2.7	2.6	2.7
Target	2.4	2.6	2.5	2.5	2.3	2.6	2.7	2.3	2.3	2.3	2.7	2.6

2. PSO Attainment & Target (2019-23 Batch)

	PSO 1	PSO 2	PSO 3
Attainment	2.6	2.5	2.7
Target	2.6	2.6	2.6


HOD, Civil

POs & PSOs Attainment Indirect Assessment (2019-2023 Batch)

POs/PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Alumni survey	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Program Exit survey	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Course end survey	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Faculty Survey	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Guest Lectures	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Workshops	1.0	1.0			1.0	1.0	1.0	1.0						1.0	
Student Competitions	3.0				3.0				3.0	3.0				3.0	
Internships	1.0	1.0			1.0			1.0	1.0	1.0				1.0	
Industrial Visits	1.0	1.0			1.0				1.0	1.0		1.0		1.0	
Students Presentations	3.0	3.0		3.0		3.0	3.0	3.0		3.0				3.0	
Campus Recruitment Training	3.0	3.0								3.0		3.0			3.0
Extra -Curricular Clubs	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
NSS (includes Sahay, Street cause and all extension activities)	3.0					3.0	3.0	3.0	3.0	3.0		3.0			
Sports	3.0							3.0	3.0			3.0			
Entrepreneurship (Swayam / ED Cell)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0			3.0
Inter institute literary and cultural activities									2.0	2.0					
Indirect Attainment of POs & PSOs	2.6	2.5	2.9	2.9	2.5	2.8	2.8	2.6	2.6	2.7	3.0	2.8	3.0	2.5	3.0

Final Attainments POs & PSOs

POs/PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Direct Attainment (80%) + Indirect Attainment (20%)	2.6	2.5	2.5	2.4	2.8	2.5	2.5	2.8	2.8	2.7	2.6	2.7	2.6	2.5	2.7

PO ATTAINMENT DIRECT ASSESSMENT 2019-23 BATCH

S.No	Course code	Subject	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	U19HS110EH	English Language And Communication –I									2.8	2.8		2.8			2.8
2	U19BS110MA	Engineering Mathematics-I	2.6	2.6										2.6	2.6		
3	U19BS020PH	Applied physics	2.1	2.1	2.6		2.2					2.1		2.1	2.1		
4	U19ES110CS	Introduction to Programming	0.7	0.6	0.6									0.7	0.7		
5	U19ES010CE	Basic Engineering Mechanics	1.9	1.9							1.9			1.9	1.9	1.9	
6	U19ES120CE	Engineering Graphics-I	1.7	1.8								1.7			1.5		
7	U19HS111EH	English Language And Communication Skills Lab-I									3.0	3.0					3.0
8	U19BS021PH	Applied Physics Lab	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		
9	U19ES111ME	ENGINEERING WORKSHOP-I	3.0	3.0	3.0			3.0	3.0		3.0			3.0	3.0		
10	U19HS210EH	English Language And Communication –II									2.9	2.9		2.9			2.9
11	U19BS210MA	Engineering Mathematics-II	2.0	2.0										2.0	2.0		
12	U19BS020CH	Applied Chemistry	2.3	2.4					2.3					2.3	2.3		
13	U19ES210CS	Programming for Engineers	2.4	2.4	2.2		1.8								1.8		
14	U19ES210CE	Engineering Mechanics	2.0	2.0							2.0			2.0	2.0	2.0	
15	U19ES220CE	Engineering Graphics-II	2.2	2.1	2.4			2.1							2.3	2.2	
16	U19HS211EH	English Language and Communication Lab-II									3.0	3.0					3.0
17	U19ES211CS	Programming for Engineers Lab	2.2	2.2	2.2		2.2								2.2		
18	U19BS011CH	Chemistry Lab	3.0				3.0				3.0				3.0		
19	U19ES271ME	Engineering Workshop-II	3.0	3.0				3.0	3.0		3.0			3.0	3.0		
20	U19HS330EH	SKILL DEVELOPMENT COURSE-I: (COMMUNICATION SKILLS-I)										2.3		2.3			2.3
21	U19HS010EH	Human Values and Professional Ethics-I										1.9		3.0			2.2
22	U19BS310MA	Partial Differential Equations & Transform Techniques	2.0	2.0										2.0	2.0		
23	U19BS310CE	Geology	1.6		1.7	1.8			1.2						1.6	1.6	1.7
24	U19ES310EE	BASIC ELECTRICAL ENGINEERING FOR CIVIL ENGINEERS	2.6	2.6	2.6									2.6	2.6		
25	U19PC310CE	Strength of Materials – I	2.8	2.8		2.8										2.8	
26	U19PC320CE	Surveying-I	2.5	2.5	2.5		2.5									2.5	
27	U19MC310ME	Introduction to Entrepreneurship		1.5		1.1				1.1	1.9	1.8	1.7	1.5		1.5	1.1

PO ATTAINMENT DIRECT ASSESSMENT 2019-23 BATCH

S.No	Course code	Subject	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
28	U19BS311CE	Geology Lab	3.0				3.0			3.0	3.0	3.0		3.0	3.0	3.0	3.0
29	U19ES311EE	BASIC ELECTRICAL ENGINEERING FOR CIVIL ENGINEERS LAB	3.0	3.0	3.0									3.0	3.0		
30	U19PC321C	Surveying - I Lab	3.0	3.0			3.0				3.0			3.0			3.0
31	U19PC331CE	Computer Aided Drafting Lab	3.0				3.0			3.0	3.0	3.0			3.0	3.0	3.0
32	U19HS430EH	Skill Development-II : Communication Skills in English										1.7		1.7	1.7		
33	U19BS410MA	Numerical Methods, Probability and Statistics	2.4	2.4										2.4	2.4		
34	U19PC410CE	Strength of Materials – II	2.8	2.8		2.8										2.8	
35	U19PC420CE	Surveying-II	2.3	2.4	2.4		2.3									2.3	
36	U19PC430CE	Fluid Mechanics	1.6	2.1	1.6										1.6	1.9	
37	U19PC440CE	Building Technology	2.0					2.0	2.0					2.0		2.0	2.0
38	U19MC010CE	Environmental Science	3.0					3.0	3.0	3.0				3.0	3.0	3.0	3.0
39	U19PC411CE	Strength of Materials Lab	3.0				3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
40	U19PC421CE	Surveying-II Lab	3.0	3.0	3.0		3.0			3.0	3.0	3.0		3.0			3.0
41	U19PC431CE	Fluid Mechanics Lab	3.0			3.0		3.0		3.0	3.0	3.0	3.0			3.0	
42	U19HS010EH	Economics & Finance for Engineers		2.1		2.1					2.1	2.1	2.1	2.1			2.1
43	U19HS020EH	Human Values and Professional Ethics-II										1.3		2.4			1.6
44	U19HS510EH	Skill Development-III: Soft Skills												2.7			2.7
45	U19PC510CE	Structural Analysis	1.8	1.8		1.8					1.8	1.8		1.8	1.8	1.8	1.8
46	U19PC520CE	Hydraulics and Hydraulic Machinery	1.8	1.8	1.8	1.8									1.8	1.8	1.8
47	U19PC530CE	Environmental Engineering	1.5		1.4	1.3									1.6	1.5	1.5
48	U19PC540CE	REINFORCED CONCRETE DESIGN	2.5	2.2	2.0	2.7		2.1	1.5						2.5	2.2	2.2
49	U19PE510CS	Skill Development-III: Technical Skills	3.0	3.0			3.0				3.0			3.0	3.0	3.0	3.0
50	U19PC521CE	Hydraulics & Hydraulic Machinery Lab	3.0				3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
51	U19PC531CE	Environmental Engineering Lab	3.0				3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
52	U19PC541CE	Concrete Lab	3.0				3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
53	U19PC551CE	Mini Project : Surveying Camp	3.0	3.0			3.0			3.0	3.0			3.0		3.0	3.0
54	U19HS610EH	Skill Development-IV: Soft Skill										2.4		2.7	2.5		
55	U19PC610CE	Design of Steel Structures	2.4	2.4	2.4			2.4		2.4				2.4	2.4	2.4	2.4
56	U19PC620CE	Soil Mechanics	2.1	2.1	1.8	1.8	2.4		2.4		2.1	2.1	2.4	2.1	2.0	2.0	2.0
57	U19PC630CE	Advanced Structural Analysis	1.5	1.5		1.5					1.5			1.5	1.5	1.5	1.5
58	U19PC640CE	Highway Engineering	1.6	1.4	1.2			1.5	1.8							1.6	

PO ATTAINMENT DIRECT ASSESSMENT 2019-23 BATCH

S.No	Course code	Subject	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS01	PS02	PS03
59	U19PE711CE	DESIGN OF CONCRETE STRUCTURES	2.8	2.5	2.7		2.4							2.7	2.6	2.6	
60	U19PE610CE	Skill Development-IV: Technical Skills	3.0	3.0	3.0		3.0				3.0			3.0	3.0	3.0	3.0
61	U19PC621CE	Soil Mechanics Lab	3.0				3.0			3.0	3.0	3.0		3.0	3.0	3.0	3.0
62	U19PC631CE	Computer Applications Lab	3.0				3.0			3.0	3.0	3.0				3.0	3.0
63	U19PC641CE	Transportation Engineering Lab	3.0				3.0			3.0	3.0	3.0				3.0	3.0
64	U19PW619CE	Theme based Project	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
65	U19PC710CE	Finite Element Method		3.0		3.0	3.0									3.0	3.0
66	U19PC720CE	Estimation & Specifications	1.9	1.9				1.5		1.8		1.7	1.4	1.2	1.8		1.8
67	U19PC730CE	Water Resources Engineering	1.9	1.7	1.3	1.2		1.8	1.8					1.8		1.7	
68	U19PC740CE	Concrete Technology	1.7		1.6			1.6	1.8	1.7				1.7	1.7	1.7	1.7
69	U19PE722CE	Foundation Engineering	2.0	2.0	2.0	1.8	2.4		2.4	2.4	1.8	2.0	2.4	2.4	2.1	2.0	2.0
70	U19PE731CE	Advanced Design of Steel Structures	2.8	2.8	2.8			2.8	2.8					2.8		2.8	2.8
71	U19PE734CE	Geoinformatics	2.8	2.6			2.8								1.8	2.8	
72	U19PE741CE	Pre-Stressed concrete	2.2	2.7	3.0	1.4	2.2									2.0	2.2
73	U19PE742CE	Railway & Airport Engineering	2.5	2.5	2.4			2.5	2.4							2.5	
74	U19PC711CE	Geographical Information System Lab	3.0	3.0			3.0					3.0		3.0		3.0	3.0
75	U19PW719CE	Project Seminar	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
76	U19PE851CE	Advanced Reinforced Concrete Design	2.4	2.4	2.4	2.4								2.4	2.4	2.4	
77	U19PE864CE	Construction Management and Administration	2.3	1.2	1.2	1.2	1.2	2.0		2.7	1.7		1.6	1.6	1.7	1.7	1.7
78	U19PW819CE	Project / Internship	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Number of courses mapped Direct PO Attainment	65	52	32	23	32	19	17	22	34	31	11	50	50	47	41
	2.5	2.4	2.3	2.2	2.8	2.4	2.4	2.8	2.8	2.7	2.5	2.6	2.4	2.5	2.6
Indirect PO Attainment Final PO Attainment	2.6	2.5	2.9	2.9	2.5	2.8	2.8	2.6	2.6	2.7	3	2.8	3	2.5	3
	2.6	2.5	2.5	2.4	2.8	2.5	2.5	2.8	2.8	2.7	2.6	2.7	2.6	2.5	2.7




CO-PO MAPPING FOR THE ACADEMIC YEAR 2019-20 TO 2022-23 BATCH

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
B.E. I Year - I Semester																		
U19HS110EH	English Language And Communication -I	Greet and converse with friends, teachers, and strangers appropriately.									3	3		3			1	2.85
		Listen and respond to lectures, talks and take notes.									3	3		3			1	2.82
		Use language functionally and participate in classroom interactions and in simulated situations replicating the real world									3	3		3			1	2.82
		Read, comprehend, and answer different types of texts and make notes.									3	3		3			1	2.81
		Construct grammatically correct sentences for speaking and writing									3	3		3			1	2.8
		Simple Average									3.0	3.0		3.0			1.0	2.8
		Weighted Average									2.8	2.8		2.8			2.8	
U19BS110MA E	Engineering Mathematics-I	Compute radius of curvature, evolute and envelope of a given curve and also to expand given function using Taylor's series	3	3										2	3.0			2.6
		Expand a given function in terms of Taylor's series and find Maxima and minima of functions of several variables also using Lagrange's method of multipliers.	2	2										2	3.0			2.6
		Calculate the gradient and directional derivatives and Curl.	2	2										1	3.0			2.6
		Apply given double and triple integrals to evaluate area and volume and to use Green's theorem to evaluate line integrals, Stokes' theorem to give physical interpretation of the curl of a vector field and the divergence theorem.	2	2										2	3.0			2.6

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
		Identify the given series and apply an appropriate test to check its nature	3	2										3	3.0			2.6
		Simple Average	2.4	2.2										2.0	3.0			2.6
		Weighted Average	2.6	2.6										2.6	2.6			
U19BS020PH	Applied physics	Solve differential equations that describe the behaviour of mechanical oscillators under various conditions	3	3								1		1	1			2
		Apply the fundamental principles of wave optics in relevant fields of engineering	3	2								1		1	1			1.1
		List various types of lasers and their applications	3	2								1		1	1			2.9
		apply the principles of acoustics to minimize the reverberation and echo effects	3	3	1		1					1		1	1			2.6
		appreciate liquefaction of air & He and applications of low temperatures and their importance	3	2			1					1		1	1			1.7
		Simple Average	3.0	2.4	1.0		1.0					1.0		1.0	1.0			2.1
		Weighted Average	2.1	2.1	2.6		2.2					2.1		2.1	2.1			
U19ES110CS	Introduction to Programming	Demonstrate the basic knowledge of computer hard ware and soft ware	2												2			0.95
		Formulate solutions to problems and represent them using Flowcharts	2	1	1										2			0.95
		Develop and evaluate the expressions using operators.	2	1	1										2			0.5
		Develop programs using control statements.	2	1	1										2			0.35
		Simple Average	2.0	1.0	1.0										2.0			0.7
		Weighted Average	0.7	0.6	0.6										0.7			
	Mechanics	Determine resultant of forces acting on a body.	3	1							1			1	3	2		2.4
		Analyse equilibrium of a body subjected to a system of forces.	3	1							1			1	3	2		2.1

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	H	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19ES010CE	Basic Engineering Me	Perform analysis of trusses using method of joints and method of sections.	3	2							1			1	3	2		2.1
		Solve problem of bodies subjected to friction.	3	1							1			1	3	2		1.2
		Find the location of centroid and calculate moment of inertia and polar moment of inertia of a given section.	3	1							1			1	3	2		1.5
		Simple Average	3.0	1.2							1.0			1.0	3.0	2.0		1.9
		Weighted Average	1.9	1.9							1.9			1.9	1.9	1.9		
U19ES120CE	Engineering Graphics-I	Identify the qualities of precision and accuracy.	2	2								1			1			3
		Convey technical information effectively through sketches / drawings.	3	1								1			1			1.8
		Construct engineering curves with different methods.	2	1								1			2			1.2
		Develop the conics using different methods, cycloidal and involutes.	1	2								1			2			1.2
		Draw the orthographic projection of points, lines, planes and solids.	2	1								1			1			1.2
		Simple Average	2.0	1.4								1.0			1.0			1.7
		Weighted Average	1.7	1.8								1.7			1.5			
U19HS111EH E	English Language And Communication Skills Lab-I	Use language with appropriate pronunciation.									3	3					1	3
		Modify language, based on the context and situations. (formal and informal).									3	3					1	3
		Participate effectively in group discussions and debates.									3	3					1	3
		Enact role plays.									3	3					1	3
		Use language coherently									3	3					1	3
		Comprehend various text types									3	3					1	3
		Simple Average									3.0	3.0					1.0	3.0
		Weighted Average									3.0	3.0					3.0	
Lab		Conduct experiments, take measurement independently	2			2	2				2			1	1			3
		Write appropriate laboratory reports								2	1		2	1	1			3

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attain ment
U19BS021P	Applied Physics	Compute and compare the experimental results and draw relevant conclusions and interpret the results		2		2					1	1		1	1			3
		Use the graphical representation of data and estimate results from graphs	1	2		2	2				1			1	1			3
		Simple Average	1.5	2.0		2.0	2.0			2.0	1.3	1.0	2.0	1.0	1.0			3.0
		Weighted Average	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0			
U19ES111ME	ENGINEERING WORKSHOP-I	Create models in Carpentry, Fitting, Electrical & Electronics and Sheet metal trades by using the relevant tools.	3	3	1			2	2		2			2	2	1		3
		Measure and Inspect the finished components using suitable measuring instruments.	2	2	1			1	1		1			2	1			3
		apply basic electrical and electronics engineering knowledge to make simple electrical circuits and check their functionality along with practice in soldering of electronic components.	3	1	1			1	2		2			2	1			3
		Simple Average	2.7	2.0	1.0			1.3	1.7		1.7			2.0	1.0			3.0
		Weighted Average	3.0	3.0	3.0			3.0	3.0		3.0			3.0	3.0			
B.E. I Year - II Semester																		
U19HS210EH	English Language And Communication -II	Participate confidently in discussions both in the classroom and outside.									3	3		3			1	2.91
		Work in teams, share ideas, agree and disagree politely									3	3		3			1	2.91
		Compose coherent letters, essays and resumes for varied situations.									3	3		3			1	2.92
		Interpret and write a piece of text with coherence and cohesion.									3	3		3			1	2.88
		Write paragraphs on any given topic following the rules of grammar and use appropriate vocabulary									3	3		3			1	2.85
		Simple Average									3.0	3.0		3.0			1.0	2.9
		Weighted Average									2.9	2.9		2.9			2.9	

Code	Cours	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19BS210M	Engineering Mathematics-II	Find rank of a given matrix, diagonalize a given matrix and reduce a quadratic form to canonical form and find its nature.	3	2									1	2			2.04
		Identify the differential equations and solve them, model the real time electrical engineering problems viz., RC Circuits into differential equations and solve.	3	2									1	2			2.04
		Solve various higher order Linear Differential Equations, model the real time electrical engineering problems viz., LC and LCR circuits into differential equations and solve them by using the various applicable techniques learnt.	3	2									1	2			2.04
		Apply the condition(s) for a complex variable function to be analytic and/or harmonic and to construct an Analytic function.	3	2									1	2			2.04
		Apply Cauchy's theorem and Cauchy's Integral formula to evaluate complex integrals and define singularities of a function, know the different types of singularities and to expand a given function as a Taylor's / Laurent's series.	3	2									1	2			2.04
		Simple Average	3.0	2.0									1.0	2.0			2.0
		Weighted Average	2.0	2.0									2.0	2.0			
		Construct a galvanic cell and calculate its EMF and pH wherever applicable.	3	2										3			2.7
		Describe the construction, functioning and applications of the selected primary, secondary batteries and fuel cells	3	1					2				2	3			2.4
CH	istry	Categorise the polymers and discuss the synthesis of a few polymers and their applications.	3	1					2				2	3			2.4

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19BS0209	Applied Chemistry	Rate the fuels and suggest methods for enhancement of the quality of fuels for the required output and explain the methods of preparation and applications of high energy materials namely Lead azide, TNT, Nitro glycerine and RDX	3	1					2					2	3			1.8
		Suggest appropriate treatment methods of water to make it fit for domestic and industrial applications and apply the principle of phase rule to heterogeneous equilibria	3	1					2					2	3			2.4
		Simple Average	3.0	1.2					2.0					2.0	3.0			2.3
		Weighted Average	2.3	2.4					2.3					2.3	2.3			
U19ES210CE	Engineering Mechanics	Compute mass moment of inertia and product of inertia of standard and composite section	3	1							1			1	2	1		2.4
		Distinguish between statics and dynamics and differentiate between kinematics and kinetics.	3	1							1			1	2	1		2.1
		Understand the kinetics and kinematics of a body undergoing rectilinear, curvilinear, rotary motion and rigid body motion	3	1							1			1	2	1		2.1
		Solve problems using work energy equations for translation, fixed axis rotation and plane motion	3	1							1			1	2	1		1.5
		Solve problems using impulse momentum equation	3	1							1			1	2	1		1.8
		Simple Average	3.0	1.0							1.0			1.0	2.0	1.0		2.0
		Weighted Average	2.0	2.0							2.0			2.0	2.0	2.0		
S220CE	Engineering Graphics-II	Draw sectional views of simple solids	2	1	2			1							2	1		3
		Develop the lateral surfaces of simple solids	2	2	1			2							2	2		2.2
		Prepare orthographic views of intersection of solids.	1	2	1			1							2	1		2.1

Course Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19E	Engineering	Visualize isometric view of simple planes, solids and combined solids	2	2	1			2							1	1		2
		Construct orthographic views of simple objects from their pictorial views	2	2	1			2							1	1		1.8
		Simple Average	1.8	1.8	1.2			1.6							1.6	1.2		2.2
		Weighted Average	2.2	2.1	2.4			2.1							2.3	2.2		
U19ES210CS	Programming for Engineers	Apply decision making, looping constructs and functions to develop programs for a given problem	2	1														3
		Store data using arrays and perform searching and sorting operations on the data	2	1	1													3
		Design programs on string handling and operations on arrays using dynamic memory management techniques.	2	1	1													1.8
		Develop programs to store data and perform operations using structures and files.	2	1	1		1								1			1.8
		Simple Average	2.0	1.0	1.0		1.0								1.0			2.4
		Weighted Average	2.4	2.4	2.2		1.8								1.8			
U19HS211EH	English Language and Communication Lab-II	Pronounce words in isolation as well as in spoken discourse.										3	3				1	3
		Research and sift information to make presentations.										3	3				1	3
		Comprehend the tone and tenor of various types of speeches from media and classroom lectures										3	3				1	3
		Listen for gist and make inferences from various speeches.										3	3				1	3
		Identify connectives and transitions in various speeches.										3	3				1	3
		Use connectives and make transitions effectively while speaking.										3	3				1	3
		Simple Average										3.0	3.0				1.0	3.0
		Weighted Average										3.0	3.0				3.0	

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19ES211CS	Programming for Engineers Lab	Choose data type for implementing programs Design and modular programs involving input output operations, decision making and looping constructs Implement and sort operations on arrays Implement programs on string handling. Design and implement programs to store data in structures and files.	1	2	1				3									2.2
		Simple Average	1.0	2.0	1.3		3.0											2.2
		Weighted Average	2.2	2.2	2.2		2.2											
U19BS011CH	Chemistry Lab	Determine the amount of metals in the given solutions Analyse the hardness, alkalinity and chloride content of a given water sample Estimate the amount of a substance in a given solution by conductometry, potentiometry and pH metry Use the principle of colorimetry in the estimation of Permanganate / Copper (II) in a given solution Synthesize a polymer.	3				1				2				2			3
		Simple Average	3.0				1.0				2.0				2.0			3.0
		Weighted Average	3.0				3.0				3.0				3.0			
U19ES271ME	Engineering Workshop-II	create models in Smithy, Welding, and Plumbing and Machining trades by using the relevant tools. measure and inspect the finished components using suitable measuring instruments.	3	3			2	2	1		2			2	3			3
		Simple Average	2.5	2.0			1.5	1.5			1.5			2.0				3.0
		Weighted Average	3.0	3.0			3.0	3.0			3.0			3.0	3.0			
B.E. II Year - I Semester																		
3330EF	ILL OPME URSE- UNICA SKILLS- (	Respond to questions Engage in informal conversations.							3					1			3	2.7
														2			3	1.8

Course Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
UI9HS010EH	SK DEVELOPMENT COURSE (COMMUNICATIONS)	Speak appropriately in formal situations Write formal and informal emails/letters										2		1			3 3	1.8 2.7
		Simple Average										2.5		1.3			3.0	2.2
		Weighted Average										2.3		2.3			2.3	
		Gain a world view of the self, the society and the profession.												2			3	3
		Start exploring themselves in relation to others and their work –constantly evolving into better human beings and professionals.										3					3	1.8
		Inculcate Human values into their profession.										2					3	2.4
		Obtain a holistic vision about value-based education and professional ethics.										2					3	1.4
		Simple Average										1.3		2.0			3.0	2.3
		Weighted Average										1.9		3.0			2.2	
UI9BS310MA	PARTIAL DIFFERENTIAL EQUATIONS & TRANSFORM TECHNIQUES	Expand any function which is continuous, Discontinuous, even or odd in terms of its Fourier series.	3	2										1	1			1.8
		Formulate the Partial differential equations by eliminating arbitrary constants and functions and solve linear, non linear Partial differential equations.	3	2										1	1			1.8
		Solve the one dimensional wave(Vibrations of a string), heat equations and two dimensional heat equations.	3	2										1	1			2.1
		Evaluate Laplace transforms and inverse Laplace transforms of functions. Apply Laplace transforms to solve ordinary differential equations arising in engineering problems.	3	2										1	1			2.4
		Determine Fourier transform, Fourier sine and cosine transform of a function.	3	2										1	1			1.8
		Simple Average	3.0	2.0										1.0	1.0			2.0
		Weighted Average	2.0	2.0										2.0	2.0			
		Identify the different minerals and distinguishing features exhibited by the rocks	2												2	1		1.8

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Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attain ment
		Compute stresses in thin cylinders, spherical shells and thick cylinders subjected to internal and external pressure.	3	2		1										3		3
		Simple Average	3.0	2.0		1.0										3.0		2.8
		Weighted Average	2.8	2.8		2.8										2.8		
		Employ basic surveying operations and computations for measurement of distances and angles using chain/tape and compass for the given site conditions in field	3	1	1		2									3		3
		Identify the instruments used, and adopt the principles and methods involved in plane table surveying for plotting topographical features in field.	3	1	1		2									3		3
		Apply the principles of leveling to measure elevations of objects with respect to known points and prepare contour maps .	3	1	1		2									3		3
		Interpret the principles of measurement of angles with theodolite and total station, make traverse computations and identify omitted measurements in traverse and give solutions to such problems	3	1	1		2									3		1.8
		Determine the elevations and horizontal distances of any point on the surface of the earth using concepts of tachometric surveying	3	1	1		2									3		1.8
		Simple Average	3.0	1.0	1.0		2.0									3.0		2.5
		Weighted Average	2.5	2.5	2.5		2.5									2.5		
		Demonstrate awareness about entrepreneurship and potentially be an entrepreneur.									3	2	3	3				2.1
		Generate and analyse the business ideas.		2							2	2	1			1		1.5
		Know about the supporting organizations available to establish the business in the country.												3				1.1
		Prepare a business plan.				2				1			2	1			2	1.1
		Simple Average		2.0		2.0				1.0	2.5	2.0	2.0	1.6		1.0	2.0	1.5
		Weighted Average		1.5		1.1				1.1	1.9	1.8	1.7	1.5		1.5	1.1	

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19BS311CE	GEOLOGY LAB	Identify the physical properties of minerals, rocks and various structural features like folds, faults and unconformities.	2				3								2	3	1	3
		Calculate the specific gravity, porosity and water absorption in rocks, operate electrical resistivity meter and seismic timer, study of various types of maps.	2				3								2	3	1	3
		Draw the sections for the geological maps pertaining to the study of folds, faults and unconformities.	2				3								2	3	1	3
		Practise working as a team member and lead a team								2	3				2	3	1	3
		Demonstrate professional behaviour in conducting the experiments and present the results effectively								2	2	3		2	2	3	1	3
		Simple Average	2.0				3.0			2.0	2.5	3.0		2.0	2.0	3.0	1.0	3.0
		Weighted Average	3.0				3.0			3.0	3.0	3.0		3.0	3.0	3.0	3.0	
U19ES311EE	BASIC ELECTRICAL ENGINEERING FOR CIVIL ENGINEERS LAB	Handle the basic electrical equipments.	3	1	1									1	3			3
		Find the various electrical parameters in DC and AC circuits	3	1	1									1	3			3
		Find the Efficiency of the DC and AC machines.	3	1	1									1	3			3
		Simple Average	3.0	1.0	1.0									1.0	3.0			3.0
		Weighted Average	3.0	3.0	3.0									3.0				
U19PC321CE	SURVEYING-I LAB	Locate the objects, measure the distances and area and transfer the same on to the drawings	3	1		1	1							1			1	3
		Use conventional surveying tools such as chain, compass, level, plane table and theodolite in the field of civil engineering applications such as structural plotting and highway profiling	3	1		1	1							1			1	3
		Practice working as a team member and lead a team	3	1		1	1							1			1	3
		Plan a survey appropriately with the skill to understand the surroundings	3	1		1	1				1			1			1	3
		Demonstrate professional behaviour in conducting the experiments and present the results effectively	3	1		1	1							1			1	3
		Simple Average	3.0	1.0		1.0	1.0				1.0			1.0			1.0	3.0
		Weighted Average	3.0	3.0		3.0	3.0				3.0			3.0			3.0	

Code	Cours	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attain ment
U19PC33ICE	COMPUTER AIDED DRAFTING LAB	Understand functional planning & orientation of the buildings. Navigate the drafting software user interface. Learn basic tools of the software. Apply the fundamental features of drafting software in a practical situation. Prepare civil engineering drawings in a detailed and visually impressive way.	2 2				3 3 3							1 1 1	2 2 2	3 3 3	3 3 3
		Simple Average	2.0				3.0			1	2			1.0	2.0	3.0	3.0
		Weighted Average	3.0				3.0			3.0	3.0			3.0	3.0	3.0	
B.E. II Year - II Semester (R19)																	
U19HS430EH	SKILL DEVELOPMENT-II: COMMUNICATION SKILLS IN ENGLISH-II	Participate in group and forum discussions by providing factual information, possible solutions, and examples. Debate on a topic by picking up the key points from the arguments placed Provide logical conclusions to the topics under discussion Prepare, present, and analyze reports Analyzing the points discussed									3		2	3			1.8
											3		2	3			1.8
											2		2	3			1.8
											3		2	3			1.5
											2		2	3			1.8
		Simple Average									2.0		2.0	3.0			1.7
		Weighted Average									1.7		1.7	1.7			
U19BS410MA	Numerical Methods, Probability and Statistics (Civil, EEE & Mechanical only)	Solve algebraic and transcendental equations using Bisection method Regula-Falsi, Newton-Rap son and apply numerical methods to interpolate. Solve problems using numerical differentiation using interpolation approach and differential equations using numerical methods. Apply various probability distributions to solve practical problems. Estimate unknown parameters of populations and apply the tests of hypotheses for large and small samples. Solve problems to fit various curves to the given data using curve fitting, and also to find co-efficient of correlation and to determine regression lines and their applications.	3 3 3 3	2 2 2 2									1 1 1 1	3 3 3 3			3 2.4 1.8 1.8
		Simple Average	3.0	2.0									1.0	3.0			2.4
		Weighted Average	2.4	2.4									2.4	2.4			

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attain ment
U19PC410CE	STRENGTH OF MATERIALS - II	Express understanding of methods of double integration, conjugate beam and Mohr's theorems to solve problems of deflection of beams and construct shear force and bending moment diagrams. Determine shear centre for simple sections. Compute the torsional shear stress across the cross section of circular shafts. Compute stresses in helical springs and compute strain energy in bars subjected to axial and flexural deformation Compute the axial and bending stresses in columns using various formulae	3	2		1										2		3
			3	2		1										2		3
			3	2		1										2		2.2
			3	2		1										2		2.8
			3	2		1										2		3
			3.0	2.0		1.0										2.0		2.8
			2.8	2.8		2.8										2.8		
U19PC420CE	SURVEYING-II	Determine the elevations and horizontal distances of any point on the surface of the earth using concepts of trigonometric leveling and geodetic observations. Compute the parameters required for setting out simple circular curve, reverse curve, compound curves and introduce the concepts of transition curves and vertical curves required for layout of roads and railways. Compute area of regular / irregular land from field measurements and volume of the earthwork from cross sections, spot levels and contours. Apply the concepts of modern tools such as GPS and aerial photogrammetry for measurement of details on surface of earth and relate to civil engineering problems Understand the concepts of Remote sensing, GIS and outline the techniques for measurement of sounding in water by various hydrographic surveying techniques	3	2	2		3									2		2.7
			3	2	2		3									2		1.8
			3	2	2		3									2		3
			3	1	1		3									2		2.1
			3	1	2		3									2		2.1
			3.0	1.6	1.8		3.0									2.0		2.3

Code	Cours	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
		Weighted Average	2.3	2.4	2.4		2.3								2.3		
		Compute properties of fluid and discuss about fluid statics	3											2	3		1.6
		Understand various aspects of Fluid kinematics	3	2										2	3		1.6
		Formulate equations based on conservation of mass, energy and momentum. Analyse forces on nozzles and describe devices use for discharge.		3											3		3
		Compute Reynolds number, formulate equations for laminar and turbulent flow through pipes and water hammer in pipes.		2	3										3		1.6
		Discuss and solve problems on compressible flow and dimensional analysis and model studies.	2	2											3		1.6
		Simple Average	2.7	2.3	3.0									2.0	3.0		1.9
		Weighted Average	1.6	2.1	1.6									1.6	1.9		
		Apply the principles of planning and bylaws for planning of building	3					3	2				1		2	3	2.4
		Explain the characteristics of stones, bricks, timber and steel	3					3	2				1		2	3	2.4
		Describe the properties of cement, aggregate, concrete, mortar.	3					3	2				1		2	3	1.8
		Illustrate the application of emerging building materials and paints, varnishes and water proofing materials in buildings.	3					3	2				1		2	3	1.8
		Review construction practices like scaffolding, form work brick bands and types & terminology of stair cases.	3					3	2				1		2	3	1.8
		Simple Average	3.0					3.0	2.0				1.0		2.0	3.0	2.0
		Weighted Average	2.0					2.0	2.0				2.0		2.0	2.0	
		Describe the various types of natural resources.	3					2	3					2			3
		Differentiate between various biotic and abiotic components of ecosystem.	2						3					2			3
		Examine the values, threats of biodiversity, the methods of conservation, endangered and endemic species of India.	2						3	2				2	1		3
		Illustrate causes, effects, control measures of various types of environmental pollutions.	2					2	3	2				2	1		3

[illegible]

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attain ment
U19HS0	HUMAN VALUES AND PRO	Assess their own ethical values and the social context of problems and articulate what makes a particular course of action ethically defensible Demonstrate knowledge of ethical values in non-classroom activities, such as service learning, internships, and field work integrate, synthesize, and apply knowledge of ethical dilemmas and resolutions in academic settings, including focused and interdisciplinary research										2					3	1.2
		Simple Average										2.3					3.0	1.6
		Weighted Average										1.3					1.6	
U19HS510EH	Skill Development-III : Soft Skills	Solve questions on the above mentioned areas using short cuts and smart methods. Understand the fundamentals concept of Aptitude skills. Perform calculations with speed and accuracy.												3			3.0	2.7
		Simple Average												2			3.0	2.4
		Weighted Average												2			3.0	3
		Simple Average												2			3.0	2.7
		Weighted Average												2.7			2.7	
U19PC510CE	STRUCTURAL ANALYSIS	Find degree of indeterminacy of various structures subjected to external forces. Perform analysis of beams and rigid jointed frames subjected to external loads using moment distribution method&slope deflection method and draw bending moment diagrams. Analyse indeterminate structures subjected to external loads using Kani's method and draw bending moment diagrams. Analyse three hinged, two hinged parabolic arches carrying vertical loads and frames subjected to lateral loads and draw bending moment diagrams. Apply strain energy methods in the analysis of beams and pin jointed frames subjected to external forces.	2	3		1					1	1		1	1	3	1	2.1
		Simple Average	2	3		1					1	1		1	1	3	1	1.5
		Weighted Average	2	3		1					1	1		1	1	3	1	1.5
		Simple Average	2	3		1					1	1		1	1	3	1	1.8
		Weighted Average	2.0	3.0		1.0					1.0	1.0		1.0	1.0	3.0	1.0	1.8
		Simple Average	1.8	1.8		1.8					1.8	1.8		1.8	1.8	1.8	1.8	1.8
		Weighted Average	1.8	1.8		1.8					1.8	1.8		1.8	1.8	1.8	1.8	1.8

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
	REINFORCEMENT	Perform yield line analysis of slabs and design slabs with limit state method according to IS: 456-2000.		2		2										3	1	2.68
		Design columns and footings with limit state method according to IS: 456-2000.			3			1								3	1	1.49
		Simple Average	2.0	2.0	3.0	2.0			1.0						2.0	3.0	1.0	2.2
		Weighted Average	2.5	2.2	2.0	2.7		2.1							2.5	2.2	2.2	
U19PC510CS	technical skills lab DS Lab	1. Perform operations on various abstractions like stacks, queues, linked lists.	3	2			3				2			2	2			3
		2. Implement problems involving trees and graphs.	3	2			3				2			2	2			3
		3. Choose the right data structure based on the requirements of the problem.	3	2			3				2			2	2			3
		Simple Average	3.0	2.0			3.0				2.0			2.0	2.0			3.0
		Weighted Average	3.0	3.0			3.0				3.0			3.0	3.0			
U19PC521CE	HYDRAULICS & HYDRAULICS MACHINERY LAB	Determine Manning's rugosity coefficient and measure super elevation in an open channel and estimate loss of energy in hydraulic jump.	2				3								2	3	1	3
		Evaluate impact coefficient for different types of vanes.	2				3								2	3	1	3
		Evaluate the overall efficiency of various pumps and turbines and draw performance characteristic curves.	2				3								2	3	1	3
		Practice working as a team member and lead a team								2	3				2	3	1	3
		Demonstrate professional behaviour in conducting the experiments and presenting the results effectively								2	2	3		2	2	3	1	3
		Simple Average	2.0				3.0			2.0	2.5	3.0		2.0	2.0	3.0	1.0	3.0
		Weighted Average	3.0				3.0			3.0	3.0	3.0		3.0	3.0	3.0	3.0	
C531CE	ENGINEERING LAB	Analyse the water samples for the determination of alkalinity, hardness, chlorides, calcium, pH, contents of sodium and potassium in water using flame photometer, total dissolved solids and turbidity.	2				3								2	3	1	3
		Estimate the Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) in sewage samples.	2				3								2	3	1	3

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19P	ENVIRONMENTAL	Calculate the coagulant dosage for reducing the turbidity and disinfection dosage.	2				3							2	3	1	3
		Practice working as a team member and lead a team								3				2	3	1	3
		Demonstrate professional behaviour in conducting the experiments and presenting the results effectively								2	3		2	2	3	1	3
		Simple Average	2.0				3.0			2.0	2.5		2.0	2.0	3.0	1.0	3.0
		Weighted Average	3.0				3.0			3.0	3.0		3.0	3.0	3.0	3.0	
U19PC54ICE	CONCRETE LAB	Determine the physical properties of cement, fine aggregate and coarse aggregate	2				1							1	3	3	3
		Determine the workability of concrete	2				2							1	3	3	3
		Determine the compressive strength using destructive and non-destructive methods and flexural strength by destructive method.	2				3							1	3	3	3
		Practice working as a team member and lead a team								2	3					3	3
		Demonstrate professional behaviour in conducting the experiments and presenting the results effectively								2	2		2			3	3
		Simple Average	2.0				1.0			2.0	2.5		2.0	1.0	3.0	3.0	3.0
		Weighted Average	3.0				3.0			3.0	3.0		3.0	3.0	3.0	3.0	
U19PC55ICE	SURVEYING CAMP	Measure the topographical features using advanced surveying instruments such as total station and GPS	3	1			2			2	3				3	3	3
		Plot the data obtained in the field through mapping software like QGIS / ArcGIS	3	1			2			2	3				3	3	3
		3. Interpret the need for accurate and thorough note taking process in the field work to serve as a team	3	1			2			2	3				3	3	3
		Simple Average	3.0	1.0			2.0			2.0	3.0		3.0		3.0	3.0	3.0
		Weighted Average	3.0	3.0			3.0			3.0	3.0		3.0		3.0	3.0	
	B.E. III Year - II Semester (R19)																
U19HS610EH	Skill Development-IV: Soft Skills	Solve questions in Verbal Ability in the mentioned areas using shortcuts and smart methods									3			2			2.4
		Solve questions with speed and accuracy.											3	2			2.7
		Clear the Verbal Ability Section in Employment Eligibility Tests									3			2			2.4
		Simple Average									3.0		3.0	2.0			2.5

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
		Weighted Average										2.4		2.7	2.5			
U19PC610CE	DESIGN OF STEEL STRUCTURES	Compare the different design philosophies and employ limit state design in the design of structural elements using rolled steel sections according to IS: 800-2007 Design bolted connection using black bolts and welded connections using fillet welds, groove welds subjected to concentric loads by limit state method according to IS:800-2007	2	3	3			1		1				1	2	3	1	2.41
		Design tension members using limit state design according to IS:800-2007	2	3	3			1		1				1	2	3	1	2.4
		Design compression members and column bases using limit state design according to IS:800-2007	2	3	3			1		1				1	2	3	1	2.48
		Design laterally supported beams using limit state design according to IS:800-2007	2	3	3			1		1				1	2	3	1	2.44
		Estimate loads on roof trusses subjected to different load combinations and design purlins, members of truss using angle sections by limit state according to IS: 800-2007	2	3	3			1		1				1	2	3	1	2.33
		Simple Average	2.0	3.0	3.0			1.0		1.0				1.0	2.0	3.0	1.0	2.4
		Weighted Average	2.4	2.4	2.4			2.4		2.4				2.4	2.4	2.4	2.4	
U19PC620CE	SOIL MECHANICS	Interpret composition and structure of soils and classify them according to IS Soil classification.	2	2							1	1		2	1	3		2.4
		Evaluate effective stress under Hydrostatic Conditions, Steady State One-Dimensional Flow and Transient Hydrodynamic Conditions using analytical approach.	2	2	3	2			1		1	1		2	1	3		2.4
		Compute stress distribution and analyze mechanism of compaction and consolidation of soils under given field conditions.	2	2	3	2					1	1		2	1	3		1.2
		Analyze mechanism of consolidation of soils under given field conditions.													1	3		1.8
		Determine and judge shear strength in soils under given field conditions	2	2			2		1		1	1	3	1	1	3		2.4
		Simple Average	2.0	2.0	3.0	2.0	2.0		1.0		1.0	1.0	3.0	1.8	1.0	3.0		2.0
		Weighted Average	2.1	2.1	1.8	1.8	2.4		2.4		2.1	2.1	2.4	2.1	2.0	2.0		

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19PC630CE	ADVANCED STRUCTURAL ANALYSIS	Perform analysis of simply supported beam subjected to moving loads using influence line diagrams	2	3		1					1			1	1	3	1	1.2
		Compute forces in the members of the trusses subjected dead load & live load using influence line diagrams	2	3		1					1			1	1	3	1	1.2
		Apply flexibility method for analysis of beams and frames with degree of indeterminacy not exceeding three	2	3		1					1			1	1	3	1	1.8
		Explain the principles of analysis of structures subjected to external forces using stiffness method.	2	3		1					1			1	1	3	1	1.5
		Analyse the structures subjected to external loads by developing element stiffness matrices, assembly of global stiffness matrices and load matrices.	2	3		1					1			1	1	3	1	1.8
		Simple Average	2.0	3.0		1.0					1.0			1.0	1.0	3.0	1.0	1.5
		Weighted Average	1.5	1.5		1.5					1.5			1.5	1.5	1.5	1.5	
U19PC640CE	HIGHWAY ENGINEERING	Given the basic information on geometrical features, design horizontal and vertical alignment of highways/roads complying with IRC standards.	3	3	3			2	2							3		1.2
		Compute key elements of traffic, present and analyse traffic data for solving mobility issues and develop a survey plan for a transportation problem through traffic studies to solve urban traffic problems.	3	3	3			2								3		1.2
		Characterize the highway materials used for road construction based on quality control tests and develop a job mix formula for the given materials in field using Rothfuch method.	3	1				1	2							3		2.4
		Design flexible and rigid pavements for National highways as per IRC guidelines	3	3	3											3		1.2
		Employ various construction techniques adopted in field, identify the causes of various pavement failures and suggest remedies.	3	1				2	2							3		1.8
		Simple Average	3.0	2.2	3.0			1.8	2.0							3.0		1.6
		Weighted Average	1.6	1.4	1.2			1.5	1.8							1.6		
610CE	HING OL-IV: NICAL LLS	Plan, execute and monitor large scale projects execution using Project Management software.	3	2	1		3				2			2	2	2	2	3

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Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
	Final	4. Formulate stiffness matrix for four noded quadrilateral elements and eight noded parabolic elements and write shape functions for Lagrangian and serendipity elements		2		3	2									2	3	3
		Compute stiffness matrices for three noded ring element and four noded tetrahedral elements		2		3	2									2	3	3
		Simple Average		2.6		3.0	2.0									2.0	3.0	3.0
		Weighted Average		3.0		3.0	3.0									3.0	3.0	
		1. Estimate the quantities of materials used in various construction works.	2	2								1			1		2	2.4
		2. Compute and prepare bar bending schedules.	3	2								1			1		2	1.8
		3. Prepare rate analysis for various quantities	2	2								2			1		2	1.8
		4. List the various types of specifications, contracts used in construction and examine various documents related to construction.	2	2				2		2		2	2		1		2	1.8
		Interpret case studies on Public-Private Partnerships with an emphasis on the construction industry.	1	1				2				3	3	2	1		2	1.2
		Simple Average	2.0	1.8				2.0		2.0		1.8	2.5	2.0	1.0		2.0	1.8
		Weighted Average	1.9	1.9				1.5		1.8		1.7	1.4	1.2	1.8		1.8	
		1. Estimate floods, rainfall and runoff using different methods for peak flow estimation and plotting hydrograph	3	2												3		2.7
		2. Understand the concepts of irrigation engineering	3					1	2					1		3		1.8
		3. Explain Bligh's theory and Khosla's theory for diversion head work.	1	3	2	1										3		1.2

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19PC	Water Resource	4. Estimate the capacity of reservoir incorporating sedimentation for computing life of reservoir and describe the types and functions of spill way and energy dissipators.	3	2	1											3		1.8
		Understand the criteria for design and construction of gravity dams and earth dams.	1	2	3	2										3		1.2
		Simple Average	2.2	2.3	2.0	1.5		1.0	2.0					1.0		3.0		1.7
		Weighted Average	1.9	1.7	1.3	1.2		1.8	1.8					1.8		1.7		
U19PC740CE	Concrete Technology	1. Understand the properties of concrete in its fresh state	2	2	2			1		1				1	1	2	1	2.4
		2. Understand the properties of concrete in its hardened state	2	2	2			1		1				1	1	2	1	1.2
		3. Design the concrete mixes by I.S. and ACI methods.	2	2										1	1	2	1	1.8
		4. Use chemical and mineral admixtures in making concrete of desired properties.	2	2					1	1				1	1	2	1	1.8
		Identify different types of special concretes for specific use.	2	2	2			1		1				1	1	2	1	1.2
		Simple Average	2.0	2.0	2.0			1.0	1.0	1.0				1.0	1.0	2.0	1.0	1.7
722CE	Engineering	Weighted Average	1.7		1.6			1.6	1.8	1.7				1.7	1.7	1.7	1.7	
		1. Evaluate lateral earth pressure using Rankine's theory and assess stability slopes in soils under given field conditions.	2	2	1										1	3	1	2.4
		2. Design sheet piles under cantilevered and anchored actions using analytical approach.	2	2							2	1				3	1	1.2
		3. Appraise site investigation methods adopted in determining index and engineering properties of soil under given field situation.	2	2			2		1	1	1	1	3	1		3	1	2.4

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Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U1	Railway And	4. Elucidate the requirements of airport layout and explain aircraft characteristics	3	1				1	1							3		1.8
		Draw wind rose diagrams and determine the corrected runway length	3	1	1			1								3		2.7
		Simple Average	3.0	1.2	1.5			1.0	1.0							3.0		2.5
		Weighted Average	2.5	2.5	2.4			2.5	2.4							2.5		
U19PC711CE	Geographical Information System Lab	1. Generate a GIS base map with data obtained from surveys, scanned map, satellite images, CAD	3	2			3							3		3	1	3
		2. Create thematic maps for various applications in civil engineering	3	2			3					3		3		3	1	3
		Perform spatial analysis with GIS tools List of experiments:	3	2			3							3		3	1	3
		Simple Average	3.0	2.0			3.0					3.0		3.0		3.0	1.0	3.0
		Weighted Average	3.0	3.0			3.0					3.0		3.0		3.0	3.0	
U19PW719CE	Project Seminar	1. Analyse civil engineering problems in a multi disciplinary domain.	3	3	3	2	3							1	2	2		3
		2. Acquire the ability to make effective presentation.					3				3	3	3	1	1		3	3
		3. Explore the use of research based knowledge.				3	3	2	2					1	1	3		3
		4. Apply engineering knowledge in the context of society						3	2	2				1	1	3		3
		Present the details obtained after mutual discussions with the team members									3	2	3	1	1		3	3
		Simple Average	3.0	3.0	3.0	2.0	2.5	3.0	2.5	2.0	3.0	2.5	3.0	1.0	1.2	2.6	3.0	3.0
		Weighted Average	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
B.E. IV Year - II Semester (R19)																		
51CE	Reinforced Concrete Design	Design the beams curved in plan.	1	2	3	2								1	3	2		2.4
		2. Design the deep beams.	1	2	3	2								1	3	2		1.8
		3. Design the portal frame and building frames by substitute frame method	1	2	3	2								1	3	2		2.8

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U19PE8	Advanced Reinforced Concrete Design	4. Design Flat slabs to get more head room	1	2	3	2								1	3	2		2.8
		5. Design the piles foundations for weak soils and raft or mat foundations to control the uneven settlements.	1	2	3	2								1	3	2		2.4
		Simple Average	1.0	2.0	3.0	2.0								1.0	3.0	2.0		2.4
		Weighted Average	2.4	2.4	2.4	2.4								2.4	2.4	2.4		
U19PE864CE	Construction Management And Administration	Identify and report the importance and necessity of construction management.	2												1	2	2	2.4
		2. Employ bar charts, networks to determine the critical path and alter the construction schedules accordingly.	1	2	2	2	1	1			2		3	1	1	2	2	1.2
		3. Interpret the terms related to costs and time, and there by solve problems on crashing of networks.		2	2	1					2		2	1	1	2	2	1.2
		4. Categorize various construction contracts, acts and examine various documents related to construction.	2					1		2	2		2	1	1	2	2	2.7
		5. Interpret the concept of Linear Programming in Construction, and solve problems on Graphical and Simplex methods.			3	2	1							1	1	2	2	1.2
		Simple Average	1.7	2.0	2.3	1.7	1.0	1.0		2.0	2.0		2.3	1.0	1.0	2.0	2.0	1.7
		Weighted Average	2.3	1.2	1.2	1.2	1.2	2.0		2.7	1.7		1.6	1.6	1.7	1.7	1.7	
9PW819CE	Internship	1. Formulate an analytical model for a civil engineering problem and obtain its solution with necessary tools.	3	3		2	3							1	1	3		3
		2. Design a civil engineering structure with due consideration for public health and safety.	3		3		3	2	2	2			3	1	1	3		3
		3. Perform and manage as an individual or as a member of a team with ethical values.							2	3	3		3	1	1	3	1	3

Code	Course	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO attainment
U1	Project	4. Examine the concepts of environment and sustainability						3	3					1	1	3	2	3
		5. Write effective reports and communicate effectively on civil engineering problems.						1		2	3	3	3	1	1	3	3	3
		Present the conclusions in a way to benefit the society.						2				3						3
Simple Average			3.0	3.0	3.0	2.0	3.0	2.0	2.3	2.3	3.0	3.0	3.0	1.0	1.0	3.0	2.0	3.0
Weighted Average			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	




VASAVI COLLEGE OF ENGINEERING (Autonomous)

Ibrahimbagh, Hyderabad - 31

Department of Computer Science & Engineering

2019-23 Graduating Batch - B.E. (CSE) PO and PSO Attainment

2019-20 I sem																	
S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
1	U19HS110EH	English Language and Communication – I									2.93	2.93		2.93			
2	U19BS110MA	Engineering Mathematics – I	2.84	2.84										2.84			
3	U19BS110PH	Semiconductor Physics and Optoelectronic devices	2.22	2.22	2.4		2.25	2.25				2.22		2.22	2.22		
4	U19ES120CS	Programming for Problem Solving	2.21	2.18	2.19	2.19	2.17							2.18	2.18	2.25	2.17
5	U19ES110EC	Introduction to Electronics Engineering	2.64	2.65	1.26	2.7		2.62			2.61	2.7			2.7	0.89	
6	U19ES030CE	Engineering Drawing	2.94	2.93	2.94	2.88		3			3	2.93					
7	U19HS111EH	English Language and Communication Skills Lab – I									3	3		3			
8	U19BS111PH	Semiconductor and Optoelectronics Lab	3	3		3	3	3		3	3	3	3	3	3		
9	U19ES121CS	Programming for Problem Solving Lab	3	3	3	3	3								3	3	3
10	U19ES111EC	Introduction to Electronics Engineering Lab	3	3	3	3		3			3	3			3	3	3
2019-20 II sem																	
S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
11	U19HS210EH	English Language and Communication – II									2.95	2.95		2.95			
12	U19BS210MA	Engineering Mathematics – II	2.96	2.96										2.96			
13	U19BS010CH	Engineering Chemistry	2.88	2.125	2.88			2.88	2.88			2.88		2.88			
14	U19ES010EE	Basic Electrical Engineering	2.85	2.85	2.85	2.85								2.85			
15	U19ES010CE	Basic Engineering Mechanics	2.9	2.9										2.9			

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
16	U19ES230CS	Discrete Structures	2.86	2.86										2.86			
17	U19HS211EH	English Language and Communication Skills Lab – II									3	3		3			
18	U19BS011CH	Chemistry Lab	3	3							3			3			
19	U19ES011EE	Basic Electrical Engineering Lab	3	3	3									3			
20	U19ES021ME	Engineering Workshop	3		3					3	3			3			

2020-21 III sem

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
21	U19HS330EH	Skill Development - I : Communication Skills in English										2.04		2.04			
22	U19HS010EH	Human Values and Professional Ethics-I										3		3			
23	U19BS320MA	Transform Calculus, Probability and Statistics	2.84	2.84										2.84			
24	U19PC310CS	Logic and Switching Theory	2.52	2.47	2.47	2.45									2.51	2.45	
25	U19PC320CS	Data Structures	2.63	2.63	2.6	2.6					2.6			2.86	2.63	2.66	
26	U19PC330CS	Object Oriented Programming	2.5	2.46	2.5	2.37								2.5	2.5	2.37	2.25
27	U19PC340CS	Computer Architecture	2.12	2.4	2.14									1.9		2.14	
28	U19OE3XXXX	Python Programming (Open Elective-I)	1.8	1.8	1.8	1.8								1.8	1.8		1.8
29	U19MC310ME	Introduction to Entrepreneurship		3	3					3	3	3	3	3	3		3
30	U19PC321CS	Data Structures Lab	3	3	3	3					3			3	3	3	
31	U19PC331CS	Object Oriented Programming Lab	3	3	3	3	3							3	3	3	3

2020-21 IV sem

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
32	U19HS430EH	Skill Development - II : Communication Skills in English									2.95	2.95		2.95			
33	U19PC410CS	Microprocessors, Microcontroller & Interfacing	2.21	2	1.98	2.14	2.1								2.21	2.24	

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
34	U19PC420CS	Operating Systems	2.6	2.5	2.6	2.8	2		2.7		2.8	2.8	2.8	2.5	2.7	2.6	2.7
35	U19PC430CS	Design & Analysis of Algorithms	2.86	2.85	2.83	2.85					2.8			2.8	2.8	2.8	2.8
36	U19PC440CS	Automata, Languages and Computation	2.56	2.51	2.51	2.49	2.49								2.53	2.51	
37	U19OE4XXXX	Open Elective-II															
		Disaster Management	2.2	1.5	2		1.5	1.8						1.6			
		Mathematical Programming for Engineers	2.02	1.8	1.6	1.6	1.83								1.83	1.83	1.83
		Optimization Methods	3	3	3								3		3	3	1
		Advanced Linear Algebra	2.88	2.88										2.88			
		Critical Thinking										2.25		2.25			
		Basics of Entrepreneurship		3	3				3	3	3	3	3	3	3		3
38	U19MC010CE	Environmental Science	3					3	3	3							
39	U19PC411CS	Microprocessors, Microcontroller & Interfacing Lab	3	3	3	3	3	3							3	3	
40	U19PC421CS	Operating Systems Lab	3	3	3		3		3					3	3	3	3
41	U19PC431CS	Design & Analysis of Algorithms Lab	3	3	3	3								3	3	3	3
42	U19PW419CS	Mini Project-I	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2021-22 V sem																	

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
43	U19PC510CS	Database Management Systems	2.3	2.2	2.5		2.3								2.2	2.3	
44	U19PC520CS	Computer Networks	2.6	2.51	2.61	2.4		2.4						2.7	2.46	2.9	2.54
45	U19PC530CS	Web Programming and Services	2.82	2.82	2.82	2.8	2.82				2.82				2.81	2.7	2.55
46	U19PC540CS	Machine Learning	2.76	2.7	2.75	2.74	2.65							2.78	2.76		2.74
47	U19HS040EH	Economics and Finance for Engineers			1.62	1.62					1.62		1.62	1.62			

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
48	U19OE5XXX	Open Elective-III															
		Solar Power and Applications	3	2			2.3										
		Introduction to Robotics	2.88	3	2.85								3		2.88	2.88	2.88
		Numerical Methods	3	3										3			
		Technical Writing and Professional Presentations										2.67		2.67			
49	U19HS510EH	Skill Development – III : Soft Skills										3		3			
50	U19PE510CS	Skill Development - III : Technical Skills	3	3	3	3	3				3				3	3	3
51	U19HS020EH	Human Values and Professional Ethics-II										3		3			
52	U19PC511CS	Database Management Systems Lab	3	3	3	3	3								3	3	
53	U19PC521CS	Computer Networks Lab	2.4	1.6	1		2		1		2			1	1.6	2.4	1
54	U19PC531CS	Web Programming and Services Lab	3	3	3	3	3	3			3				3	3	3

2021-22 VI sem

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
55	U19PC610CS	Internet of Things	2.82	2.8	2.69	2.69	2.69	3							2.77	2.76	2.7
56	U19PC620CS	Software Engineering	2.4	2.55	2.32	1.82	2.38								2.4		2.4
57	U19PC630CS	Artificial Intelligence	2.65	2.69		2.8								2.8			2.55
58	U19PE6XXCS	Professional Elective-I(Image Processing)	2.91	2.9		3								3			3
59	U19OE6XXX	Open Elective-IV															
		Introduction to Mobile Communication	2.5	2.5	2.6											2.5	
		Additive Manufacturing and Its Applications	2.5	2.3	2.3		2.4	2.4							2.5	2.3	2.3
		Project Management	2.9	2.7	2.9	2.8	2.9	2.9		3			2.9	3			
		Introduction to Automobile Engineering	3	2.5	2.5	2.5	2.5	2.6				2.4		2.4	3	2.5	2.6

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
		Design Thinking										1.8		1.8			
		English for Competitive Examinations												1.6			
		Critical Reasoning												2.28			
60	U19HS610EH	Skill Development-IV : Soft Skills										2.94		2.94			
61	U19PE610CS	Skill Development-IV : Technical Skills	2	2	2	2	2				2				2	2	2
62	U19PC611CS	Internet of Things Lab	3	3	3	3	3	3			3				3	3	3
63	U19PC621CS	Software Engineering Lab	3	3	3	3	3								3		3
64	U19PC631CS	Artificial Intelligence and Machine Learning Lab	3	3	3	3								3	3	3	
65	U19PW619CS	Theme based project	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

2022-23 VII sem

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
66	U19PC710CS	Distributed Systems and Cloud Computing	1.8	1.9	1.8	1.8	1.9								1.9	1.9	1.8
67	U18PC720CS	Compiler Construction	2.86	2.84	2.79	2.93	2.93									2.87	
68	U19PE710CS	PE-II - Data Mining	2.44	2.42	2.35				2.43					2.35	2.38		2.44
69	U19PE780CS	PE-III - Information Security	2.79	2.8				2.8		2.81						2.79	2.79
70	U19PE724CS	PE-III - Advanced Database	2	2	1										2		2
71	U19PC711CS	Distributed Systems and Cloud Computing Lab	3	3	3	3	3					3		3	3	3	3
72	U19PC721CS	Compiler Construction Lab	3	3	3	3		3							3	3	
73	U19PW719CS	Mini Project	3	3	3	3	3		3					3	3		3
74	U19PW729CS	Project Seminar	3	3					3	3	3	3		3			3

2022-23 VIII sem

S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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S.No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
75	U19PE820CS	(PE-V) Adhoc and Sensor Networks	2.58	2.25	2.31										2.65	2.3	2.25
76	U19PE850CS	(PE-VI) Natural Language processing	2.26	2.37											2.1	2	
77	U19PW819CS	Project/Internship	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Direct Attainment			2.73	2.66	2.59	2.68	2.60	2.79	2.73	2.98	2.82	2.80	2.85	2.69	2.67	2.63	2.59
Indirect Attainment			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Target			2.55	2.65	2.55	2.55	2.65	2.75	2.65	2.86	2.86	2.86	2.75	2.65	2.55	2.55	2.55
Total attainment 2019-23 batch			2.78	2.73	2.67	2.74	2.68	2.83	2.78	2.99	2.86	2.84	2.88	2.75	2.73	2.71	2.67

T. Adilaksh.

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VASAVI COLLEGE OF ENGINEERING (Autonomous)
ACCREDITED BY NAAC WITH 'A++' GRADE
Ibrahimbagh, Hyderabad - 500031.
DEPARTMENT OF ECE

Scheme for Student Admitted Year 2019-20 to 2022-23 Batch.							Attainment															
Acad. Year	Year	Sem.	Course code	Course Name	Credits	Target	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2019 - 2020	1	1	U19HS110EH	English Language and Communication - I	2	2.6	2.82									2.82	2.82		2.82			
2019 - 2020	1	1	U19BS110MA	Engineering Mathematics - I	3	2.5	2.7	2.28	2.28	2.28	2.28	2.28						2.8				
2019 - 2020	1	1	U19BS010CH	Engineering Chemistry	4	2.2	2.78	2.78	2.78					2.64					2.7			
2019 - 2020	1	1	U19ES120CS	Programming for Problem Solving	3	1.5	2.1	2.1	2.1	2.1						2.1			2.1	2.1	2.1	2.1
2019 - 2020	1	1	U19ES010CE	Basic Engineering Mechanics	3	2.5	2.76	2.76	2.76							2.76			2.76			
2019 - 2020	1	1	U19HS111EH	English Language and Communication Skills Lab - I	1	2.6	2.82									2.82	2.82		2.82			
2019 - 2020	1	1	U19BS011CH	Chemistry Lab	1	2	3	3	3							3			3			
2019 - 2020	1	1	U19ES121CS	Programming for Problem Solving Lab	1	2.5	3	3	3	3		3				3			3	3	3	3
2019 - 2020	1	1	U19ES021ME	Engineering Workshop	1	2	3	3	3	3			3						3			
2019 - 2020	1	2	U19HS210EH	English Language and Communication - II	2	2.6	2.82									2.82	2.82		2.82			
2019 - 2020	1	2	U19BS210MA	Engineering Mathematics - II	3	2.5	2.79	2.79	2.79	2.71	2.79								2.71			
2019 - 2020	1	2	U19BS210PH	Quantum Mechanics and Materials Science	4	2	2.52	2.52	2.36										2.52	2.52		
2019 - 2020	1	2	U19ES220CS	Problem Solving Through Object Oriented Programming	3	1.5	2.22	2.22	2.22	2.19						2.22			2.22	2.19	2.22	2.22
2019 - 2020	1	2	U19ES030CE	Engineering Drawing	2	2.3	2.32	2.08	1.84		2.16				1.6		2.4		1.6			
2019 - 2020	1	2	U19ES010EE	Basic Electrical Engineering	2	1.3	3	3	3	3		3	3	3	3	3	3	3	3			
2019 - 2020	1	2	U19HS211EH	English Language and Communication Skills Lab-II	1	2.6	2.8									2.8	2.8		2.8			
2019 - 2020	1	2	U19BS211PH	Engineering Physics Lab	1	2.5	3	3	3	3									3	3		
2019 - 2020	1	2	U19ES221CS	Problem Solving Through Object Oriented Programming Lab	1	2.5	3	3	3	3		3				3			3	3	3	3
2019 - 2020	1	2	U19ES011EE	Basic Electrical Engineering Lab	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3			
2020 - 2021	2	3	U19HS330EH	Skill Development -I: Communication Skills in English	2	2.6	2.8									2.8	2.8		2.8			
2020 - 2021	2	3	U19BS330MA	Partial Differential Equations and Numerical Methods	3	2.5	2.8	3	2										1			
2020 - 2021	2	3	U19PC310EC	Electronic Devices	3	2	2.4	2.4	2.38	2.33		2.1		2.18		2.1				2.4		

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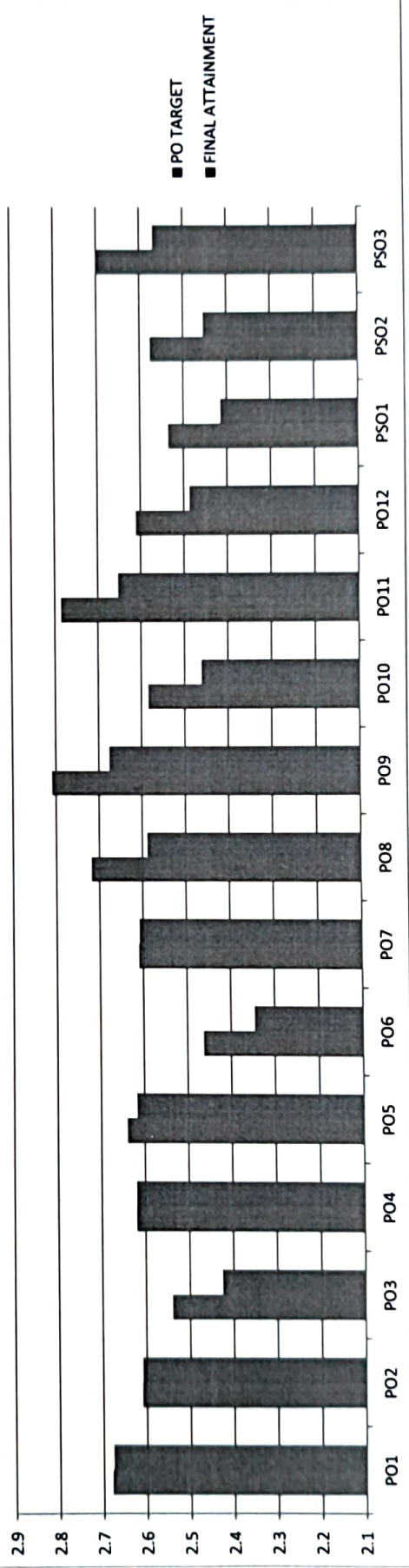
2022 - 2023	4	8	U19PW819EC	Project / Internship	6	2.5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2022 - 2023	4	8	U19PC8XXEC	MOOCs Certification Course : 8 or 12 weeks duration	2			3	3	3	3		3						3	3	3	3
Open Electives																						
2020 - 2021	2	4	U19PE410EC	Mathematical Programming for Engineers	3																	
2021 - 2022	3	6	U19OE610EC	Internet of Things and Application	3																	
2021 - 2022	3	6	U19OE620EC	Introduction to Mobile Communication	3																	
2020 - 2021	2	3	U19OE310IT	Fundamentals of Data Structures	2	2.2	2.4	3	2.66	2									1			
2020 - 2021	2	3	U19OE310EE	Non Conventional Energy Sources	2	2	2.7	2.7					2.7	2.7							2.7	
2020 - 2021	2	3	U19OE310CE	Green Buildings	2	2	2.65	2		2			2	2.75					2	2	1	
2020 - 2021	2	3	U19OE310CS	Fundamentals of Scripting language	2	1.2	2.4	1	1	1	2								1.25	1.5		2
2020 - 2021	2	3	U19OE320CS	Cyber Security	2	1.6	2.4	2	1.3	2	1									1	2	
2020 - 2021	2	3	U19OE310MA	Linear Algebra and its Applications	2	2.75	2.88	2.88	2.88										2.88			
2020 - 2021	2	3	U19OE310CH	Battery science and Technology	2	1.75	1.91	3	1					1					2			
2020 - 2021	2	3	U19OE320IT	Introduction to Linux	2	1.6	2.4	2	1	2	1	3								2	1	
2020 - 2021	2	3	U19OE310PH	Smart Materials & Applications	2	2	2.06	2.06	2.06	2.1		1.95					2.06		2.06	2.06		
2020 - 2021	2	3	U19OE410CE	Disaster Management	2	2	3	2.5	1.33	2		1	2	2					1			
2020 - 2021	2	4	U19OE410CS	Introduction to Data Structures	3	1.6	3	2.8	1.8	2	1	1							1	2	1	
2020 - 2021	2	4	U19OE410IT	Introduction to Object Oriented Programming	3	2	1.803	2.6	2.2	2.2									1			
2020 - 2021	2	4	U19OE420IT	Introduction to Scripting Languages	3	1.2	2.4	1	1	1	1	2							1.25	1.5		2
2020 - 2021	2	4	U19OE410EH	Critical Thinking	3	2	2.5										2.3		2			
2020 - 2021	2	4	U19OE410ME	Optimization Methods	3	2	2.3	2.3	2.2	2.3			2.3	2.3				2.3	2.3	2.3	2.3	2.3
2020 - 2021	2	4	U19OE410EH	Basics of Entrepreneurship	3	2	1.77			2.54	2.25					3		3	1.44			
2020 - 2021	2	4	U20OE410MA	Advanced Linear Algebra	3	2.75	2.88	2.88	2.88										2.88			
2021 - 2022	3	5	U19OE520CS	Data Structures and Algorithms	3	2.2	2.4	3	2.66	2									1			
2021 - 2022	3	6	U19OE610CE	Project Management	3	2.5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2021 - 2022	3	6	U19OE610CS	Introduction to Databases	3	1	1.3	3	3	3	3	-	-	3	-	-	-	-	3	3	3	3
2021 - 2022	3	6	U19OE620CS	Introduction to Operating Systems	3	3	3	3	3	3	3	-	-	3	-	-	-	-	3	3	3	3

2021 - 2022	3	6	U19OE610ME	Additive Manufacturing and Its Applications	3	3	2	1.94	1.94	-	-	-	-	-	-	-	-	-	-	-	-	-
2021 - 2022	3	6	U19OE630ME	Introduction to Automobile Engineering	3	2	2.22	2.22	2.22				2.22	2.7	2.7				2.22	2.22	2.22	2.22
2021 - 2022	3	6	U19OE610IT	Introduction to Web Application Development	3	1.6	2.4	2	1	2	1	3							2	1		
2021 - 2022	3	6	U19OE620IT	Introduction to Machine Learning	3	2	2.86	2.86	2.86	2.86	2.86	2.86	-	-	-	-	-	2.86	-	-	-	-
2021 - 2022	3	6	U19OE630EH	Design Thinking	3	2		3	-	-	-	-	-	-	-	-	-	-	3	-	-	-
2021 - 2022	3	6	U19OE610EH	English for Competitive Examinations	3	2.6	2.8								2.8	2.8		2.8				
2021 - 2022	3	6	U19OE620MA	Critical Reasoning	3	2	3	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
Professional Electives (VII & VIII Semesters)																						
2022-2023	4	7	U19PE710EC	IoT Architectures and Protocols	3	2.5	2.8	2.9	2.8		2.8		2.9	2.9		2.8			2.9	2.8	2.9	2.9
2022-2023	4	7	U19PE720EC	Mobile Cellular Communication	3	2.3	2.7		2											2.3		
2022-2023	4	7	U19PE750EC	Advanced Embedded Systems	3	2.3	2.3	2.7	2.79	2.79	2.79	2.78							2.79	2.79	2.79	
2022-2023	4	7	U19PE780EC	Network Security	3	2.9	2.95	2.95	2.95	2										2		
2022-2023	4	7	U19PE790EC	Field Programmable Gate Arrays (FPGA) Architectures	3	2.3	2.4	2.56	2.5	2.6	2.4								2.5			
2022-2023	4	7	U19PE721EC	Digital Image and Video Processing	3	1.8	1.92	2.36	2.01	1.2	1.2										1.91	
2022-2023	4	7	U19PE751EC	Satellite Communication	3	2	2.2	3	2.1	3	2.2		2.1	2					2.1		2	
2022-2023	4	7	U19PE771EC	Voice and Data Networks	3	2.8	2.85	2.9	2.85											2		
2022-2023	4	8	U19PE810EC	Low Power VLSI Design	3	2.5	2.6	2.8	2	2	2	2.6							2.1		2	
2022-2023	4	8	U19PE830EC	Image and Video processing using Machine Learning	3	2.2	2.76	2.83	2.73	2.7	3										2.74	
2022-2023	4	8	U19PE850EC	Real Time Systems	3	2.4	2.3	2.6	2.65	2.65	2.5								2.5			
2022-2023	4	8	U19PE870EC	Adaptive Signal Processing	3	2		2.5	2.5	2.5			2				2	2.75	2.5			3
						2.16	2.57	2.58	2.42	2.47	2.39	2.59	2.65	2.57	2.64	2.75	2.59	2.77	2.37	2.42	2.34	2.48
Direct attainment								2.58	2.42	2.47	2.39	2.59	2.65	2.57	2.64	2.75	2.59	2.77	2.37	2.42	2.34	2.48
0.8*Direct attainment								2.06	1.93	1.98	1.91	2.07	2.12	2.06	2.11	2.2	2.07	2.21	1.9	1.94	1.88	1.98
Indirect attainment								2.91	2.91	2.91	3	2.83	2.91	2.91	2.91	2.91	2.91	2.83	2.93	3	3	3
0.2*Indirect attainment								0.58	0.58	0.58	0.6	0.57	0.58	0.58	0.58	0.58	0.58	0.57	0.59	0.6	0.6	0.6
								2.64	2.52	2.56	2.51	2.64	2.7	2.64	2.69	2.78	2.66	2.78	2.48	2.54	2.48	2.58

VASAVI COLLEGE OF ENGINEERING (Autonomous)
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Final POs and PSOs Attainment 2019-20 Admitted Batch

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
DIRECT ASSESSMENT (80%)	2.6591	2.624	2.627	2.589	2.703	2.627	2.768	2.721	2.727	2.7812	2.7336	2.6023	2.7538	2.726	2.7949
IN-DIRECT ASSESSMENT (20%)	2.8	2.8	2.7	2.7	2.8	2.7	2.7	2.7	2.9	2.9	2.8	2.9	2.82	2.83	2.82
FINAL ATTAINMENT	2.69	2.66	2.64	2.61	2.72	2.64	2.75	2.72	2.76	2.80	2.75	2.66	2.77	2.75	2.80
PO TARGET	2.68	2.61	2.54	2.62	2.64	2.46	2.61	2.72	2.81	2.584	2.785	2.611	2.535	2.576	2.697



POs attained : 9
 POs Not attained : 3
 PSOs attained : 3
 PSOs Not attained : 0

M. Chakravarthy
 Dr.M.Chakravarthy
 HOD - EEE

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF INFORMATION TECHNOLOGY
2019-2023 GRADUATING BATCH - B.E. (IT) PO & PSO ATTAINMENT
R-19 CO-PO-PSO Attainment

S. NO.	COURSE CODE	COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	U19HS110EH	English Language and Communication – I									2.85	2.85		2.85			
2	U19BS110MA	Engineering Mathematics – I	2.8	2.8										2.8			
3	U19BS110PH	Semiconductor Physics and Optoelectronic Devices	1.94	1.94	2.4		2	1.95				1.94		1.94	1.94		
4	U19ES120CS	Programming for Problem Solving	2.4	2.7	2.3						2.6			2.7	2.7		
5	U19ES010EE	Basic Electrical Engineering	2.75	2.75	2.75									2.75			
6	U19ES030CE	Engineering Drawing	2.4	2.4								2.4					
7	U19HS111EH	English Language and Communication Skills Lab-I									3	3					
8	U19BS111PH	Semiconductor and Optoelectronics Lab	3	3		3	3	3		3	3	3	3	3	3		
9	U19ES121CS	Programming for Problem Solving Lab	3	3	3						3	3			3		
10	U19ES011EE	Basic Electrical Engineering Lab	3	3	3									3			
11	U19HS210EH	English Language and Communication – II									2.9	2.9		2.9			
12	U19BS210MA	Engineering Mathematics – II	2.52	2.52										2.52			
13	U19BS010CH	Engineering Chemistry	2.58	2.58					2.48					2.6			
14	U19ES010CE	Basic Engineering Mechanics	2.58	2.58										2.58			
15	U19ES210IT	Basic Electronics	1.74	1.74	1.74									1.74			1.74
16	U19PC210IT	Introduction to Python Programming	2.35	2.52	2.17						2.47			2.53	2.62		
17	U19HS211EH	English Language and Communication Skills Lab – II									3	3					

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF INFORMATION TECHNOLOGY
2019-2023 GRADUATING BATCH - B.E. (IT) PO & PSO ATTAINMENT
R-19 CO-PO-PSO Attainment

S. NO.	COURSE CODE	COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
18	U19BS011CH	Chemistry Lab	3	3							3			3			
19	U19ES021ME	Engineering Workshop	3	3	3			3	3		3			3			
20	U19ES211IT	Basic Electronics Lab	3		3	3					3			3			3
21	U19HS330EH	Skill Development: Communication Skills in English - I															
22	U19BS340MA	Discrete Mathematics	2.64	2.64										2.64			
23	U19ES310IT	Digital Electronics and Logic Design	2.52	2.52		2.52	2.52							2.52			2.52
24	U19PC310IT	Data Structures	2.78	2.7	2.67	2.4					2.76	2.76		2.76	2.64	2.7	
25	U19PC320IT	Object Oriented Programming	2.4	2.44	2.47	2.6	2.5							2.4	2.4	2.4	
Open Elective – I																	
26	U19OE310EE	Non Conventional Energy Sources	2.6	2.6	2.6	2.6								2.6			
	U19OE310MA	Linear Algebra and Its Applications	2.82	2.82										2.82			
	U19OE310CE	Green Building	2.73	2.48	2.6			2.73	2.73								
	U19OE310CH	Battery science and Technology	1.91	1.91					1.91					1.91			
27	U19MC010CE	Environmental Science	3					3	3	3							
28	U19MC310ME	Introduction to Entrepreneurship		3	2.6					2.6	3	2.9	3	2.9			
29	U19PC311IT	Data Structures Lab	3	3	3	3				3	3	3		3	3	3	
30	U19PC321IT	Object Oriented Programming Lab	3	3	3		3				3	3			3	3	

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF INFORMATION TECHNOLOGY
2019-2023 GRADUATING BATCH - B.E. (IT) PO & PSO ATTAINMENT
R-19 CO-PO-PSO Attainment

S. NO.	COURSE CODE	COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
31	U19PW319IT	Mini Project – I	3	3	3					3	3	3		3	3		3
32	U19HS010EH	Human Values and Professional Ethics – I										2.3		2			
33	U19HS430EH	Skill Development: Communication Skills in English-2															
34	U19BS420MA	Probability and Statistics	3	3										3			
35	U19PC410IT	Computer Organization	2.85	2.87	2.89	2.85								2.85	2.99		2.83
36	U19PC420IT	Database Management Systems	2.7	2.7	2.7						2.7	2.7			2.7	2.7	
37	U19PC430IT	Design and Analysis of Algorithms	2.57	2.54	2.51	2.35								2.54	2.56	2.57	
38	U19PC440IT	Software Engineering	2.72	2.8	2.86	2.8	2.6			2.86	2.5		2.5	2.6	2.72	2.72	
39	Open Elective – II																
	U20OE410MA	Advanced Linear Algebra	2.88	2.88										2.88			
	U19OE410EH	Basics of Entrepreneurship		3	3					3	3	3	3	3	3		3
	OE410EH	Critical Thinking										1.65		2.35			
	U19OE410CE	Disaster Management	2.26	2.05	2.1		2.3	2.17						2.22			
	U19PE410EC	Mathematical Programming for Engineers	2.02	1.8	1.6	1.6	1.83								1.83	1.83	1.83
	U19OE410ME	Optimization Methods	2.43	3	2.7								3		2.76	2.76	2.76
40	U19PC411IT	Database Management Systems Lab	3	3	3		3	3			3	3	3	3	3	3	
41	U19PC421IT	Design and Analysis of Algorithms Lab	3	3	3	3					3	3			3	3	

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF INFORMATION TECHNOLOGY
2019-2023 GRADUATING BATCH - B.E. (IT) PO & PSO ATTAINMENT
R-19 CO-PO-PSO Attainment

S. NO.	COURSE CODE	COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
42	U19PC431IT	Software Engineering Lab	3	3	3		3			3	3	3		3	3	3	
43	U19PC510IT	Data Communications and Computer Networks	2.16	2.13	2.16	2.16		2.16		2.36				2.16	2.16	2.16	
44	U19PC520IT	Microprocessors & Interfacing	1.62	1.62	1.62	1.62								1.62			1.62
45	U19PC530IT	Operating Systems	2.6	2.6	2.7									2.6	2.7	2.7	
46	U19PC540IT	Automata, Languages and Computation	2.57	2.6	2.45	2.61	2.44							2.61	2.85	2.45	
47	Open Elective - III																
	U19OE510EE	Solar Power and Applications	2.3	2.3			2.4										
	U19OE510ME	Introduction to Robotics	2.88	3	2.85								3				
	U19OE510MA	Numerical Methods	3	3										3			
	U19OE510EH	Technical Writing and Professional Presentations								2.73	2.73	2.73	2.73	2.73			
48	U19HS510EH	Skill Development Course-V : Soft Skills												2.86			
49	U19PE510IT	Skill Development Course -VI : Technical Skills															
50	U19PC511IT	Computer Networks lab	3	3	3						3	3		3	3		
51	U19PC521IT	Microprocessors & Interfacing Lab	3	3	3		3				3	3		3	3		3
52	U19PC531IT	Operating Systems Lab	3	3	3						3	3		3	3	3	
53	U19PW519IT	Mini Project – II	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
54	U19PC610IT	Artificial Intelligence and Machine Learning	2.7	2.7	2.5	2.7	2.7						2.7	2.7	2.7	2.7	-

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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2019-2023 GRADUATING BATCH - B.E. (IT) PO & PSO ATTAINMENT
R-19 CO-PO-PSO Attainment

S. NO.	COURSE CODE	COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
55	U19PC620IT	Embedded Systems and IOT	1.46	1.46	1.46	1.46	1.45							1.46			1.46
56	U19PC630IT	Web Technologies	2.52	2.52	2.47	2.9	2.42							2.5	2.52	2.52	
57	Open Elective - IV																
	U19OE610EC	Internet of Things and Application	2.76	2.7		3	3	3	2.8		3			2.8	2.7	2.74	2.74
	U19OE620EC	Introduction to Mobile Communication	2.7	2.7	2.85			2.7						2.7			
	U19OE610ME	Additive Manufacturing and Its Applications	2.5	2.3	2.3		2.4	2.4							2.5	2.3	2.3
	U19OE610CE	Project Management	2.9	2.7	2.85	2.82	2.85	2.9		3			2.87	3			
	U19OE630ME	Introduction to Automobile Engineering	3	2.5	2.5	2.5	2.5	2.6				2.4		2.4	3	2.5	2.6
	U19OE630EH	Design Thinking	1.73	1.68	1.68			1.8									
	U19OE610EH	English for Competitive Examinations															
	U19OE620MA	Critical Reasoning		2.28										2.28			
58	U19HS040EH	Economics and Finance for Engineers		3		3					3	3	3	3			
59	U19HS610EH	Skill Development Course-VII : Soft Skills										2.85		2.9			
60	U19PE610IT	Skill Development Course-VIII : Technical Skills															
61	U19HS020EH	Human Values & Professional Ethics - II															
62	U19PC611IT	Artificial Intelligence and Machine Learning Lab	3	3	3	3	3				3	3		3	3	3	
63	U19PC621IT	Embedded Systems and IOT Lab	3	3	3		3				3	3		3			3

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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2019-2023 GRADUATING BATCH - B.E. (IT) PO & PSO ATTAINMENT
R-19 CO-PO-PSO Attainment

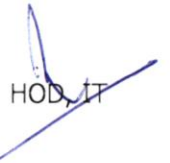
S. NO.	COURSE CODE	COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
64	U19PC631IT	Web Technologies Lab	3	3	3		3				3	3		3	3		
65	U19PW619IT	Theme Based Project	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
66	U19PC710IT	Compiler Construction	2.57	2.52	2.62	2.58	2.7							2.57	2.65	2.65	
67	U19PC720IT	Distributed Systems & Cloud Computing	2	2	1.98	1.94	1.94	1.93	1.93					2	2.1	1.88	
68	Professional Elective - I																
	U19PE710IT	Data Mining	2.64	2.61	2.64	2.64								2.64	2.64	2.64	
	U19PE740IT	Cryptography and Network Security	2.2	2.11		2.2	2.2			2.2				1	2.2	2.2	
69	Professional Elective - II																
	U19PE750IT	Data Analytics with Visualization	2.4	2.4	1.2	0.8	2.2	2.2	0.6	0.8	0.8	0.8	0.4	1.8	1.8	2.2	
	U19PE760IT	Software Testing	2.04	2.04	2		1.8							2.04	1.8	2.04	
70	Professional Elective - III																
	U19PE712IT	Software Reuse Techniques	2.89	2.90	2.88	2.91	2.91			2.85			2.95	2.90		2.89	
	U19PE790IT	Neural Networks and Deep Learning	2.94	2.93	2.93	2.93	2.93	2.94		2.94	2.94	2.94		2.94	2.94	2.93	
	U19PE732IT	Information Storage and Management	1.5	2	2.75	1.75			2		1		2.5	1		3	
71	Professional Elective - IV																
	U19PE742IT	Digital Image & Video Processing	2.46	2.46	2.46									2.46		2.46	
	U19PE772IT	Information Retrieval Systems	2.58	2.53	2.38									2.57	2.57	2.56	

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF INFORMATION TECHNOLOGY
2019-2023 GRADUATING BATCH - B.E. (IT) PO & PSO ATTAINMENT
R-19 CO-PO-PSO Attainment

S. NO.	COURSE CODE	COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
72	U19PC711IT	Compiler Construction Lab	3	3	3	3	3				3	3		3	3	3	
73	U19PC721IT	Distributed Systems & Cloud Computing Lab	3	3	3	3	3				3	3		3	3	3	
74	U19PW719IT	Project Seminar	3	3			3			3		3		3	3	3	3
75	Professional Elective - V																
	U19PE810IT	Natural Language Processing	3	3	3	3	3							3	3	3	
	U19PE820IT	Software Project Management	2.89	2.95				3		2.8	2.6	2.93	2.88	2.88	2.88	2.88	
76	Professional Elective -VI																
	U19PE850IT	Computer Vision	2.91	2.97	3	3	3								2.91	2.91	
	U19PE880IT	Block Chain	2.13	2.4	2.6	2.5	2.6	2.3						2.22	2.4	2.4	
77	U19PW819IT	Project / Internship	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Details	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Direct Attainment:	2.75	2.72	2.7	2.7	2.76	2.51	2.47	2.75	2.86	2.74	2.63	2.72	2.83	2.8	2.72
Indirect Attainment	2.9	2.6	2.7	2.55	2.3	2.5	2.7	2.7	2.9	2.9	2.6	2.9	2.45	2.55	1.8
Total Attainment	2.780	2.696	2.700	2.670	2.668	2.508	2.516	2.740	2.868	2.772	2.624	2.756	2.754	2.750	2.536


Faculty I/C.


HOD, IT

VCE(A) :: Department of Mechanical Engineering

Course - PO & Course-PSO attainment matrices

2019-23 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	U19HS110EH	English language and communication-I									3	3		3
2	U19BS110MA	Engineering Mathematics-I	1.41	1.41										1.41
3	U19BS020CH	Applied Chemistry	2.14	1.94					2.27					2.27
4	U19ES010CE	Basic Engineering Mechanics	1.56	1.6	1.6									1.56
5	U19ES120CE	Engineering Graphics-I	2.8	2.8								2.8		2.8
6	U19ES110CS	Introduction to Programming	2.4	2.4		2.4								2.2
7	U19HS111EH	English language and communication skills lab-I									3	3		
8	U19BS011CH	Chemistry Lab	3	3							3			3
9	U19ES111ME	Engineering Workshop-I	3	3	3			3			3			3
10	U19HS210EH	English language and communication-II									3	3		3
11	U19BS210MA	Engineering Mathematics-II	2.16	2.16										2.16
12	U19BS020PH	Applied Physics	2.7	2.7	3		3					2.7		2.7
13	U19ES220CE	Engineering Graphics-II	2.5	2.5								2.5		2.5
14	U19ES210CS	Programming for Engineers	2.4	2.4		2.4								2.4
15	U19ES210CE	Engineering Mechanics	1.68	1.68				1.5		1.68	1.68	1.68		
16	U19HS211EH	English language and communication skills Lab-II									3	3		
17	U19BS011PH	Applied Physics Lab	3	3		3	3	3		3	3	3	3	3
18	U19ES211CS	Programming Lab	3	3		3								3
19	U19ES221ME	Engineering Workshop-II	3	3	3			3	3		3			3

20	U19HS330EH	Skill Development-I: Communication Skills in English										2.4		2.0
21	U19HS010EH	Human Values and Professional Ethics-I								2.5 2		2.4		2.7
22	U19BS310MA	Partial differential Equations & transform techniques.	1.5 6	1.5 6										1.56
23	U19ES310CE	Mechanics of materials	1.8	1.8	1.8									1.8
24	U19PC310ME	Materials Engg	2.5 8	2.6 0	2.5 3	2.5 6	2.5 3							
25	U19PC320ME	Thermodynamics	1.8	1.8	1.8	1.8	1.8							1.8
26	U19PC330ME	Machine Drawing	2	2		2						2		
27	U19MC310ME	Introduction to Entrepreneurship		3	2.4					2.7	3	2.8	2.9	2.8
28	U19ES311CE	Mechanics of Materials Lab	3				3			3	3	3		3
29	U19PC311ME	Materials Engg Lab	3		3					3				
30		Non Conv Energy Sources	2.6	2.6	2.6	2.6								2.6
31		Green Buildings	2.7					2.7	2.7					
32	U19OE320CS	Cyber Security	3	3	3	3								
33		Linear Algebra and Its Applications	2.8	2.8										2.8
34		SMA	2.9	2.9										2.9
35	U19HS430EH	Skill Development-II: Communication Skills in English												2.34
36	U19BS410MA	Numerical Methods, Probability & Statistics	2	2										2
37	U19ES420EC	Basic Electrical and Electronics Engineering	2.7	2.7										2.7
38	U19PC410ME	Applied Thermodynamics	2.1 2	1.8 1	2.6 5	1.8 7	2.1 5							2.15
39	U19PC420ME	Mechanics of fluids & Hydraulic machines	2.2 2	2.2 1	2.2 2	2.2 5	2.2 2							2.22
40	U19PC430ME	Kinematics of machines	1.9 5	1.9 3	1.9 5			1.8 3						1.83
41	U19ES411EE	Basic Electrical and Electronics Engg Lab	3	3										3
42	U19PC411ME	Applied Thermodynamics Lab	3	3	3	3						3		3
43	U19PC421ME	Fluid Mechanics & Hydraulic machines Lab	3	3	3			3			3			3

44	U19OE410EC	Mathematical Programming for Engineers	2.0	1.8	1.6	1.6	1.8							
45	U19OE410CS	Intr to Data Structures	2.9 5	2.9 6	3	3	3							3
46	U19OE410IT	IOOP	3	3	3									3
47	U19OE420IT	Intr. to scripting Lang.	2.5	2.5			2.5				2.5	2.5		2.5
48		CriticalThinking										1.45		2.35
49		BE												
50		Disaster Management	2.3	2.1	2.1		2.3	2.2	2.0					2.2
51	U19HS510EH	Skill Development-III : Aptitude												2.6
52	U19HS020EH	Human Values and Professional Ethics-II							1.8 5		1.7			2.4
53	U19PC510ME	Heat Transfer	1.5 8	1.5 8	1.5 6	1.5 7								
54	U19PC520ME	Metrology and Instrumentation	3	2.6	2	2.4	2.8	2						
55	U19PC530ME	Dynamics of Machines	2.1	2.1	2.1		2.1		2.1					
56	U19PC540ME	Manufacturing Processes	2.3 4	2.3 2	2.3 1	2.3	2.3	2.3						
57	U19PC550ME	Design of Machine Elements	2.4	2.4	2.4	2.4	2.3	1.8	2.3	2.5	2.3	2.5		2.4
58	U19MC510ME	Skill Development-III : Technical Skills	3	3	3		3		3					
59	U19PC531ME	Dynamics & Metrology Lab	3	3	3	-	3	-	3					
60	U19PC541ME	Manufacturing Processes Lab	3	3	3	3	3	3						
61	U19PW519ME	PME Lab	3	3	3		3	3			3		3	3
62	U19OE610CS	Principles of Data structures	1.7	1.6	1.7									1.8
63	U19HS610EH	Skill Development-IV : Aptitude-3										2.55		2.7
64	U19PC620ME	CAD/CAM	2.4	2.3	2.4		2.5							2.4
65	U19PC630ME	Machine Design	2.3	2.2	2.2	2.2	2.1	1.9	2.2	2.2	2.3		2.2	2.3
66	U19PC640ME	Metal Cutting and Machine Tools	2.5 2	2.4 5	2.5	2.5	2.1							
67	U19PE640ME	Operations Research	2.8			2.8	2.8	2.5		2.6				
68	U19PE650ME	Auto Chassis Components	3	2.5	2.4	2.6						2.6		2.6
69	U19PE610ME	Skill Development-IV: Technical Skills	3	3	3		3		3					
70	U19MC010CE	Environmental Science	2.6					2.8	2.6	2.8				
71	U19PC621ME	CAD/CAM Lab	3	2	2		3					2		2
72	U19PC641ME	Machine Tools Lab	3	3	3	3	3	3		3	3	3	3	3
73	U19PW619ME	Theme Based Project	3	3	3				3	3		3	3	3

[illegible]

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. Entrepreneur Ship (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%)												
Indirect PO Attainment(20%)												
PO Attainment												

2(a) Course-PSO Direct attainment matrix.

S No.	Course Code	Course title	PSO1	PSO2	PSO3
1	U19HS110EH	English language and communication-I	-	-	-
2	U19BS110MA	Engineering Mathematics-I	1.41	-	-
3	U19BS020CH	Applied Chemistry	-	-	-
4	U19ES010CE	Basic Engineering Mechanics	1.56	-	-
5	U19ES120CE	Engineering Graphics-I	2.8	2.8	2.8

6	U19ES110CS	Introduction to Programming	2.4	2.4	2.4
7	U19HS111EH	English language and communication skills lab-I			
8	U19BS011CH	Chemistry Lab			
9	U19ES111ME	Engineering Workshop-I			
10	U19HS210EH	English language and communication-II			
11	U19BS210MA	Engineering Mathematics-II	-	-	-
12	U19BS020PH	Applied Physics	2.7		
13	U19ES220CE	Engineering Graphics-II	2.5	2.5	2.5
14	U19ES210CS	Programming for Engineers	2.4	2.4	2.4
15	U19ES210CE	Engineering Mechanics	1.68		
16	U19HS211EH	English language and communication skills Lab-II	-	-	-
17	U19BS011PH	Applied Physics Lab	3		
18	U19ES211CS	Programming Lab	3	3	3
19	U19ES221ME	Engineering Workshop-II	-	-	-
20	U19HS330EH	Skill Development-I: Communication Skills in English	-	-	-
21	U19HS010EH	Human Values and Professional Ethics-I	-	-	-
22	U19BS310MA	Partial differential Equations & transform techniques.	-	-	-
23	U19ES310CE	Mechanics of materials	1.8		
24	U19PC310ME	Materials Engg	2.59	2.6	2.6
25	U19PC320ME	Thermodynamics	1.83	1.83	1.83
26	U19PC330ME	Machine Drawing	2	2	2
27	U19MC310ME	Introduction to Entrepreneurship	3		
28	U19ES311CE	Mechanics of Materials Lab	3	3	-
29	U19PC311ME	Materials Engg Lab	3	3	3
30		Non Conv Energy Sources	-	-	-
31		Green Buildings	-	-	-
32		Cyber Security	3	-	-
33		Linear Algebra and Its Applications	-	-	-
34		SMA	-	-	-
35	U19HS430EH	Skill Development-II: Communication Skills in English	-	-	-
36	U19BS410MA	Numerical Methods, Probability & Statistics	2	-	-
37	U19ES420EC	Basic Electrical and Electronics Engineering	2.7	-	-
38	U19PC410ME	Applied Thermodynamics	2.15	2.15	2.15
39	U19PC420ME	Mechanics of fluids & Hydraulic machines	2.22	2.22	2.22
40	U19PC430ME	Kinematics of machines	1.9	1.86	1.86
41	U19ES411EE	Basic Electrical and Electronics Engg Lab	-	-	-
42	U19PC411ME	Applied Thermodynamics Lab	3	3	3
43	U19PC421ME	Fluid Mechanics & Hydraulic machines Lab	3	3	3
44	U19OE410EC	Mathematical Programming for Engineers	1.8	1.8	1.8
45	U19OE410CS	Intr to Data Structures	3	3	-
46	U19OE410IT	Intr to Obj Oriented Prog	-	-	-

47	U19OE420IT	Intr. to scripting Lang.	2.5	2.5	-
48		Critical Thinking	-	-	-
49		Basics of Entrepreneurship			
50		Disaster Management	-	-	-
51	U19HS510EH	Skill Development-III : Aptitude	-	-	-
52	U19HS020EH	Human Values and Professional Ethics-II	-	-	-
53	U19PC510ME	Heat Transfer	1.59	1.58	1.57
54	U19PC520ME	Metrology and Instrumentation	3	2	2
55	U19PC530ME	Dynamics of Machines	2.1	2.1	2.1
56	U19PC540ME	Manufacturing Processes	2.34	2.32	2.34
57	U19PC550ME	Design of Machine Elements	2.4	2.4	2.4
58	U19MC510ME	Skill Development-III : Technical Skills	3	3	3
59	U19PC531ME	Dynamics & Metrology Lab	3	3	3
60	U19PC541ME	Manufacturing Processes Lab	3	3	3
61	U19PW519ME	PME Lab	3	3	3
62	U20OE410CS	Principles of Data structures	-	-	-
63	U19HS610EH	Skill Development-IV : Aptitude-3	-	-	-
64	U19PC620ME	CAD/CAM	2.4	2.4	2.4
65	U19PC630ME	Machine Design	2.2	2.2	2.2
66	U19PC640ME	Metal Cutting and Machine Tools	2.52	2.52	2.52
67	U19PE640ME	Operations Research	2.8	2.5	2.4
68	U19PE650ME	Auto Chassis Components	3	2.5	2.6
69	U19PE610ME	Skill Development-IV: Technical Skills	3	3	3
70	U19MC010CE	Environmental Science	-	-	-
71	U19PC621ME	CAD/CAM Lab	3	2	2
72	U19PC641ME	Machine Tools Lab	3	3	3
73	U19PW619ME	Theme Based Project	3	3	3
74	U19OE610CS	IDBMS	2.9		2.9
75		PM	-	-	-
76		Intr to Web Appl Devpt.			
77	U19OE620IT	Introduction to Machine Learning	-	-	-
78	U19OE610EH	ECE	-	-	-
79		Critical Reasoning	-	-	-
80	U19PC710ME	Thermal Turbo Machines	2.4	2.45	2.4
81	U19PC720ME	Finite Element Analysis	2.2	2.35	2.14
82	U19HS040EH	Economics and Finance for Engineers	-	-	-
83	U19PC711ME	Thermal Engineering Lab	3	3	3
84	U19PC721ME	Computer Aided Engineering Lab	3	3	3
85	U19PW719ME	Project Seminar	3	3	3
86	U19PE730ME	Refrigeration & Air conditioning	2.4	2.2	2.2
87	U19PE770ME	Nano Technologies	2.4	2.4	2.4
88	U19PE790ME	Production and Operations ManagementM	2.65	2.73	2.65
89	U19PE714ME	Additive Mfg Technologies	2.6	2.4	2.3
90	U19PE715ME	Renewable Energy Systems			2.5
91	U19PE810ME	Product Design and Development	2.8	2.9	2.8
92	U19PE830ME	Power Plant Engineering			
93	U19PE860ME	Unmanned Aerial Vehicles	2.4	2.4	2.4
94	U19PE870ME	PLCM	2.6	2.6	2.6
95	U19PW819ME	Project / Internship			
	-	Moocs course certification			

		Sum			
		No. Of courses mapped			
		Direct PSO attainment			

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%)			
Indirect Attainment(20%)			
PSO Attainment			

3(a) CO attainment matrix

S. No	Course code	Course	CO 1	CO 2	CO 3	CO 4	CO 5	CO Att	CO target	Attainment Yes/No
1	U19HS110EH	English language and communication-I	2.8	2.8	3	2.8	3	2.9	2.6	Yes
2	U19BS110MA	Engineering Mathematics-I	1.5	1.2	2.1	1.15	1.1	1.4	1.5	No
3	U19BS020CH	Applied Chemistry	1.6	2.2	2.8	2.2	1.9	2.1	2.05	No
4	U19ES010CE	Basic Engineering Mechanics	1.2	1.8	2.1	1.5	1.2	1.56	1.5	Yes
5	U19ES120CE	Engineering Graphics-I	2.9	2.9	2.6	2.6	2.6	2.7	2.5	Yes
6	U19ES110CS	Introduction to Programming								
7	U19HS111EH	English language and communication skills lab-I	3	3	3	3	3	3	2.3	Yes
8	U19BS011CH	Chemistry Lab	3	3	3	3	3	3	3	Yes
9	U19ES111ME	Engineering Workshop-I	3	3	3	-	-	3	3	Yes
10	U19HS210EH	English language and communication-II	3	2.8	3	2.8	3	2.9	2.6	Yes
11	U19BS210MA	Engineering Mathematics-II	3	2.1	2.1	1.5	2.1	2.16	2.0	Yes
12	U19BS020PH	Applied Physics	2.4	2.1	3	3	3	2.7	2	Yes
13	U19ES220CE	Engineering Graphics-II	2.7	2.7	2.4	2.4	2.4	2.5	2.3	Yes
14	U19ES210CS	Programming for Engineers	2.1	2.1	2.1	2.1	-	2.1	2.0	Yes
15	U19ES210CE	Engineering Mechanics	1.2	1.8	1.8	1.8	1.8	1.68	1.5	Yes
16	U19HS211EH	English language and communication skills Lab-II	3	3	3	3	3	3	2.3	Yes
17	U19BS011PH	Applied Physics Lab	3	3	3	3	3	3	3	Yes
18	U19ES211CS	Programming Lab	3	3	3	3	3	3	3	Yes
19	U19ES221ME	Engineering Workshop-II	3	3				3	3	Yes
20	U19HS330EH	Skill Development-I: Communication Skills in English	3	1.8	1.8	1.8	1.8	2.04	2.0	Yes
21	U19HS010EH	Human Values and Professional Ethics-I	3	2.4	3	1.8	2.4	2.52	2.5	Yes
22	U19BS310MA	Partial differential Equations & transform techniques.	1.8	1.8	1.2	1.5	1.5	1.56	1.5	Yes
23	U19ES310CE	Mechanics of materials	1.8	1.8	1.8	1.8	1.8	1.8	1.5	Yes
24	U19PC310ME	Materials Engg	2.65	2.65	2.35	2.65	2.65	2.59	2.5	Yes
25	U19PC320ME	Thermodynamics	2.1	2.1	1.5	1.5	2.1	1.8	2.0	No
26	U19PC330ME	Machine Drawing	1.6	1.6	1.6	3	-	1.95	2.0	No
27	U19MC310ME	Introduction to Entrepreneurship	3	3	3	2.4	-	2.85	2.5	Yes

28	U19ES311CE	Mechanics of Materials Lab	3	3	3	3	3	3	3	Yes
29	U19PC311ME	Materials Engg Lab	3	3	-	-	-	3	3	Yes
30	OE-I	Non Conv Energy Sources	3	3	2.7	2.1	2.1	2.59	2.5	Yes
31		Green Buildings	3	3	2.4	2.4	-	2.7	2.5	Yes
32		Cyber Security	3	3	3	3	-	3	2.4	Yes
33		Linear Algebra and Its Applications	3	2.7	2.7	2.7	3	2.82	2.5	Yes
34		SMA	3	3	3	2.4	-	2.85	2.5	Yes
35	U19HS430EH	Skill Development-II: Communication Skills in English	3	2.4	1.8	2.7	1.8	2.34	2.0	Yes
36	U19BS410MA	Numerical Methods, Probability & Statistics	2	1.9 8	1.8 4	2.1 5	1.8 8	1.97	1.6	Yes
37	U19ES420EC	Basic Electrical and Electronics Engineering	2.4	2.7	3.0	2.7	3.0	2.76	2.5	Yes
38	U19PC410ME	Applied Thermodynamics	2.1	2.2 2	2.6 5	2.0 5	1.8	2.0	2.2	N0
39	U19PC420ME	Mechanics of fluids & Hydraulic machines	2.4	2.4	1.8	2.4	2.1	2.2	2.2	Yes
40	U19PC430ME	Kinematics of machines	1.9 5	1.6 5	2.4	2.1	1.6 5	1.95	2.25	No
41	U19ES411EE	Basic Electrical and Electronics Engg Lab	3	3	3	-	-	3	3	Yes
42	U19PC411ME	Applied Thermodynamics Lab	3	3	3	3	3	3	3	Yes
43	U19PC421ME	Fluid Mechanics & Hydraulic machines Lab	3	3	3	3	3	3	3	Yes
44	U19OE410EC	Mathematical Programming for Engineers	2.5	1.9	1.6	1.5	1.5	1.8	1.5	Yes
45	U19OE410CS	Intr to Data Structures	3	3	3	3	2.7	2.94	2.4	Yes
46	U19OE410IT	IOOP	3	3	3	3	3	3	2	Yes
47	U19OE420IT	Intr. to scripting Lang.	3	2.4	2.4	3	1.8	2.52	2.5	Yes
48		Critical Thinking	2.3 5	1.4 5	1.4 5	1.4 5	1.4 5	1.63	2.6	No
49		BE								
50		Disaster Management	3	2.4	1.5	1.5	2.7	2.2	2.5	No
51	U19HS510EH	Skill Development-III : Aptitude	2.6	2.4	3	2.4	2.9	2.64	2.6	Yes
52	U19HS020EH	Human Values and Professional Ethics-II	2.4	2.1	1.2	1.7	-	1.85	2.0	No
53	U19PC510ME	Heat Transfer	1.7 3	1.7 5	1.1	1.4 5	1.7 4	1.56	2	No
54	U19PC520ME	Metrology and Instrumentation	3	2.8	2.3	2.1	2.8	2.6	2	Yes
55	U19PC530ME	Dynamics of Machines	2.0	1.6	2.3	2.5	2.3	2.1	2.2	No
56	U19PC540ME	Manufacturing Processes								
57	U19PC550ME	Design of Machine Elements	2.4	2.4	2.1	2.7	2.4	2.4	2.3	Yes
58	U19MC510ME	Skill Development-III : Technical Skills	3	3	3	3	-	3	3	Yes

59	U19PC531ME	Dynamics & Metrology Lab	3	3	3	3	-	3	3	Yes
60	U19PC541ME	Manufacturing Processes Lab	3	3	3	3	3	3	3	Yes
61	U19PW519ME	PME lab	3	3	3	-	-	3	3	Yes
62	U20OE410CS	Principles of Data structures	1.8	2.4	1.2	1.2	1.8	1.8	2.0	No
63	U19HS610EH	Skill Development-IV : Aptitude-3Verbal	2.4	2.7	3.0	2.7	2.4	2.64	2.0	Yes
64	U19PC620ME	CAD/CAM	2.3	2.1	2.6	2.6	2.3	2.4	2.1	Yes
65	U19PC630ME	Machine Design	2.4	2.1	2.1	2.1	2.4	2.2	2.3	No
66	U19PC640ME	Metal Cutting and Machine Tools	3	2.4	2.4	2.1	2.7	2.52	2.0	Yes
67	U19PE640ME	Operations Research	3	2.7	2.7	2.7	2.4	2.7	2.7	Yes
68	U19PE650ME	Auto Chassis Components	2.7	2.9	1.8	2.9	2.9	2.6	2.5	Yes
69	U19PE610ME	Skill Development-IV: Technical Skills	3	3	3	3	-	3	3	Yes
70	U19MC010CE	Environmental Science	2.8	2.1	2.8	2.5	3	2.6	2.0	Yes
71	U19PC621ME	CAD/CAM Lab	3	3	3	3	3	3	3	Yes
72	U19PC641ME	Machine Tools Lab	3	3	3	3	-	3	3	Yes
73	U19PW619ME	Theme Based Project	3	3	3	-	-	3	3	Yes
74	U19OE610CS	IDBMS	3	2.4	3	3	3	2.9	2.0	Yes
75		PM	3	2.7	2.7	3	3	2.88	2.5	Yes
76		Intr to Web Appl Devpt.								
77	U19OE620IT	Introduction to Machine Learning	2.4	2.7	3.0	1.5	2.7	2.46	2.5	No
78	U19OE610EH	ECE	1.2	1.8	1.8	1.8	-	1.65	2.0	No
79		Critical Reasoning	3.0	1.8	2.4	1.2	3.0	2.28	2.0	Yes
80	U19PC710ME	Thermal Turbo Machines	2.4	2.1	3	2.4	2.1	2.4	2.2	Yes
81	U19PC720ME	Finite Element Analysis	2.7	1.8	2.4	1.8	2.7	2.28	2.3	No
82	U19HS040EH	Economics and Finance for Engineers	1	1	1	1	1	1	1	
83	U19PC711ME	Thermal Engineering Lab	3	3	3	3	3	3	3	Yes
84	U19PC721ME	Computer Aided Engineering Lab	3	3	3	3	-	3	3	Yes
85	U19PW719ME	Project Seminar	3	3	3	3	3	3	3	Yes
86	U19PE730ME	Refrigeration & Air conditioning	2.3	2.1	2.6	2.4	1.8	2.24	2.2	Yes
87	U19PE770ME	Nano Technologies	3	2.7	2.1	2.1	2.1	2.4	2.0	Yes
88	U19PE790ME	Production and Operations Management	2.9 5	2.9 5	2.0 5	2.9 5	2.3 5	2.65	2.4	Yes
89	U19PE714ME	Additive Mfg Technologies	3	3	3	2.1	1.2	2.46	2	Yes
90	U19PE715ME	Renewable Energy Systems	2.3	2.7 5	2.2 5	3.0	2.2 5	2.5	2.0	Yes
91	U19PE810ME	Product Design and Development	3	3	3	2.7	2.7	2.9	2.4	Yes
92	U19PE830ME	Power Plant Engineering								
93	U19PE860ME	Unmanned Aerial Vehicles	2.4	2.4	2.4	2.4	2.4	2.4	2.2	Yes
94	U19PE870ME	PLCM	3	2.9 5	2.7	2.0 5	2.4	2.6	2.0	Yes
95	U19PW819ME	Project / Internship	3	3	3	3	3	3	3	Yes
	-	Moocs course								

[illegible]