SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY DEPARTMENT OF MECHANICAL ENGINEERING

ODD SEM 2017-18



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT Engineering Management & Economics	SUBJECT CODE	15ME51
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COURSE OUTCOME

CO1	Explain the development of management and the role it plays at different levels in an organization
CO2	Comprehend the process and role of effective planning,organizing and staffing for the development of an organization
CO3	Understand the necessity of good leadership, communication and co-ordination for establishing effective control in an organization
CO4	Understand engineering economics demand supply and its importance in economic decision making and problem solving
CO5	Calculate present worth, annual worth and IRR for different alternatives in economic decision making

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- P011 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in to resolve contemporary issues and acquire lifelong learning. PRINCIPAL

🖌 H.O.D Dept, of Mechanical SIET., TUMAKURU.

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1SV14ME0E1		1	1 25		6 1	3 3	1	11	1 19	1	1	1	11	1	5.6	3.4	5.6	5.6	3.6	2.9	17.6	28.6	19.6	12.6	19.6	04 0	4	0.4	0.6
2SV34ME016	2	3	1 2		2 1		1 1	11	30	1	1	1	1	1	6.4	6.6	64	6.4	64	112	8.4	37.4	27.4		27.4	0.7 0	1	0.1	0.7
15V14ME018	5	1.3	6 25	1	5 1	4 31	1	34	1 18	1	1	1	11	1	4.8	4.8	4.8	4.8	4.8	34	10.0	34.0	10.0	10.8	10.0	03 0	1 24	0.3	0.6
ISV14ME026	11		2.0	1 1	1 1	1 10	1		19	1 1	1	1	11	1 1	7.8	7.8	7.4	114	7.6	1 2	10.0	12.0	10.0	30.8	10.0	0.4 0.	1	0.3	0.6
15V14ME004	1 17	1	34	1 1	12 4	14	1 1	4	14	11	1.1	1.7	17	1	6.4	100	1.0	1.1	1.0		10.0	80.4	10.0	18.8	10.0	0.0 0.	4 4.5	0.8	0.5
15V14ME085	10	1	28	1	5 1	1			10	1.2	1.	1 .	1.4		6.0	1 4 5	1 4 3		0.0		10.0	73.8	.11.8	17.8	11.8	0.6 0.	0.0	0.6	0.1
15V14ME064	17	1 4	14			1	1		1 10	1.2	+ *	+ + +	1.2		1.4	1 14		84	6.4		11.1	01	30.4	11.1	10.3	0.7 0.1	6 9.3	0.7	0.1
15V14ME083	11	1 7	14			-			1 10	+ + +	+ *	1.	+ +	-	5.0	3.6	3.6	5.6	5.6	28	18.8	24.8	32.8	18.8	12.4	0.1 0.4	6 0.4	0.5	0.4
ISV14ME084		1	1 12	+				14	1 10	+ +	-	-	1	1	7.4	7.4	7.4	7.4	1.4	37	20.4	27,4	25.4	30.4	15.4	0.6 0/	6 0.5	0.4	0.5
ISVISMENT.	1 1	+ 1				1 10			1 10	1.4	-	1	1		7.6	7.8	7.8	7.4	7.4		23,A	25.6	30.8	33.8	10.6	0.7 0/	6 0.3	0.7	0.3
INVISIONIL.		+ 3		+ 4					1 11	1		1	1	1	2.6	7.6	7.8	7.4	7.6	34	19.4	25.6	36.6	29.8	28.6	0.6 8/	0.4	0.4	0.4
15VISHEW?		+ 4		-		33	- 10	1	17	1	1	1	1	1	7.6	7.4	7.6	7,8	7,4	36	24.6	25.6	8.6	36.8	8.6	0.7 8/	1.0.3	0.7	0.1
10015MEDOR	1 10	-	1.0	11	1 3	1 10	1	111	38	1	1	1	1	1	11	11	18	10	18	65	25	317	U	39	17	0.9 8.	7 0.5	0.9	0.5
TEVICIEUS.		+ *	18	11	1 1	10	1		10	1	1	1	1	1	11.6	11.6	31.6	11.4	11.4	58	13.6	31.6	20.8	23.6	20.6	0.7 8.	1 0.8	0.7	0.6
13VISALED10	14	1	15	1	4 1	15	34	1	15	1	1	1.	1	1	4.8	6.8	8.8	8.8	8.8	44	11.0	34.8	30.8	23.8	12.8	0.7 8/	1.0.1	0.7	0.3
18912900011	- 11	1	14	1	1 5	- 24	11		. 38	1	1	1	1	1		0	0	0	0	0	11	17		12	8	0.4 0.	4 0.2	0.4	0.2
15V15ME017	.11	1 3	17	1	3 3	1.7	11		17	1	1	1	1	1	7.8	7,8	7.8	7.8	7,8	39	30.8	25.4	13.8	20.8	13.8	0.6 0.	0.4	0.6	0.4
1SV15ME018	14	4	24	1.1	2 4	38	11		18	1	1	1	1	1	7.2	7.2	7.2	3.1	7.3	34	30.2	34.2	12.2	20.2	12.2	0.6 0	0.4	0.6	0.4
15V15ME019	13	- 4	17	1	3 8	17	11		17	1	1	1	1	1	7.8	7.8	2.8	2.8	2.8	3.9	18.6	25.8	14.8	13.8	14.0	0.5 0/	0.4	0.6	0.4
15V15MD023	15	1	17	1	5 2	17	15	1	17	1	11	1	1	1	7.8	7.8	2.8	7.8	2.6	39	23.8	25.6	10.8	21.0	11.4	01 0	0.1	0.2	0.4
15V13M8025	15	1 1	18	1	5 3	10	. 35		18	1	1	1	1	1						45	35	110	40			07 0			0.0
15V15MI0027	11	5	18	1	1 3	14	11	1 3	18	T	1	1	1	1	7.6	7.4	7.4	24	74	1.1	100.4	34.4	10.0	10.1	-	0.0	0.4	100	0.4
15VISME020	11	6	10	1	1 4	1 14	1 12	11	1.0	1	1	1	1	1	1	1.0	14		1.4	11		24.4	10.4	19.4	18.4	4. 4.	0.4	0.0	0.4
INVISMENT2	11	1 5	1 11	10		1 11	1 11	1.	1 17	11	1	-	1.		-				-			45	- 10	19	13	96 91	1.0.4	0.6	0.4
ISV19ME054	1 11	15	1 10	1		1 10		1.	1 11	1	1	-	1	1	-	1	-			40	11	16	14	21	34	06 01	DA	2.6	0.4
USVI MENDE	17	1.	1	1 1	+ -	1 10	1 1	1	1		1	1	1	1	1.4	8.4	1.1	8.4	3.4	41	20.4	27.4	16.4	20.4	18.4	0.6 0.0	1 0.5	3.6	0.5
I CURATING		1 1	+ #	+ 1	1	11	1.5	12	n	1	1	1	1	1	8.8	8.8	8.8	8.8	4.4	48	15.8	24.8	18.8	15.8	18.8	0.5 0.0	5 0.6	4.5	0.6
LEVISNED AL	+ *	1 10	- 20	+ *	10	20	12	15	20	1	1	1	1	1	6.6	1.6	6.6	.8.6	6.6	31	32.8	27.6	22.6	17.0	22.6	0.4 0.6	8 0.7	0.4	0.7
LEVISACIONA	+ *	11	10		u	3.6	1	12	18	1	1	1	1	1		8.6	8.6	8.6	8.6	40	15.8	27.8	23.6	15.6	71.6	0.5 0.0	0.0	0.5	0.6
12 Y LONGING	14	1.	20	1.14	1	20	14	1	20	1	1	1	1	1	9.2	9.2	9.2	8.2	9.2	46	-24.2	90.2	16.7	24.T	16.2	0.7 0.7	0.5	8.7	0.5
15VISMEDIA	1	11	17	1	10	17	1	16	17	1	- 1	1	1	1	11	11	12	11	12	60	14	. 30	25	14	25	0.4 D.1	0.9	6.4	0.8
15×15MED49	10	1	11	IJ	1 1	11	3.2	1	18	1	1	1	1	1	3.6	5.8	3.6	5.6	5.6	2.0	38.8	15.6	7.5	38.6	7.6	0.5 0.4	1.0.7	85	0.2
13V13ME051	1	13	14	1	10	34	1	11	3.6	1	1	1	1	1	5.6	3.6	5.6	5.6	3.6	28	7.6	20.6	29.6	7.6	19.6	B.2 B.	0.8	8.2	0.6
15V12ME056	112	1.3	17	11	1 5	37	-12	1	11	1	1	1	1	1	30.8	10.8	10.8	10.8	10.4	54	23.8	28.8	26.6	78.8	26.8	8.7 B	1 25	87	0.5
15V15ME058	11		17	11	6	37	31		17	1	1	1	1	1	6.4	6.4	6.4	6.4	6.4	11	15.4	24.4	11.4	18.4	12.4	05 04	1 24	0.5	-
15V13ME059	11	. 4	17	11	6	1.1	11	8	17	1	1	1	1	1	4.8	4.8	4.8	4.8	4.8	34	36.8	22.0	11.8	36.8	71.0	0.0 0.0		0.5	41
15V15ME062	3.2	4	1.0	11		18	112		38	1	1	1	1	1	11.8	11.4	11.5	11.6	11.6	58	34.6	20.4	18.6	34.6	18.0	87 8	1 44	0.7	
ISVI1ME066	1	18	20	1.2	1.18	20	11	18	20	1 I	1	1	1	1	10.4	10.4	10.4	10.4	10.4	57	114	22.4	10.0		38.0	B.r B.	0.5	0.7	0.5
15V15ME067	33	6	19	13		1.0	1.8		15	1	1	1	1	1						41	222	24	14	22.4	10.0		1.0.0	0.4	0.5
15V15ME070	12	7	1.0	11	1	3.8	11	17	15	1	1	1	1		1.1					41	11.6	10	10	44	15		0.4	0.8	
15V15ME072	12	1	11	1 10		11	111	1.	10	1		-	1	-	10.0			10.0		40	21.9	48.6	10.6	21.8	25.5	0.6 8.7	0.5	0.5	0.5
ISVISME073	111	17	18	111	1.5	1.1	111	11	10	1.		-	-		- 10.8	30.0	30.8	30.0	30.0	54	23,8	24.8	12.8	23.8	12.8	87 84	0.4	0.7	0.4
15V13ME034	111	1	110	1 11	1.	1	1.0	+÷	10	1.				-	-					40	20	27	36	20	16	36 35	0.5	0.4	0.5
15915041025	111	÷	1.1	1	1.	1 10	1.0	÷	10	1	1	1	1	1	7.4	7.4	7.4	7.4	7,4	37	21.4	27.A	14.4	21.4	34.4	0.6 0.8	1 1.4	8.6	0.4
ISVIS MED 24	1 10	÷		1 10	-	1 10	1 10	1.	1.0	1	1	1		1	1	7.	7	7	7	35	21	26	13	21	13	0.6 0.8	1.4	0.6	0.4
INVIOUENT?	1.00	+÷		1.0	++	17	1.0	14	17	1	1	1	1	1	8.8	8.8	8.8	8.8	8.8	- 88	24.8	26.8	11.8	24.8	11.8	07 08	0.3	0.7	0.3
TEUTIMENT	1.11		14	1 11		1 14	1 11		34	1	1	1	1	- 1	6.6	6.6	6.6	6.6	6,6	11	18.6	71.6	10.6	28.6	30.6	05 05	0.3	0.5	0.1
ISVI MILLING	- 11		16	14	1 .	18	H	4	35	1	1	1	1	1	8.8	8.6	8.6	8.5	8.6	43	31.6	25.6	38,6	21.6	18.6	0.6 0.5	0.4	0.5	0.4
TRV15MED82	11		18	12		18	32	. 0	38	1	1	1	1	1					8.	40	21	27	15	71	15	0.6 0.6	0.4	0.6	0.4
LSV13ME083	11		15	.11	4	15	11	4	15	1	1	1	1	1	6.8	6.8	6.8	6.8	6.8	34	18.8	22.8	31.8	18.8	11.0	0.6 0.1	0.3	8.6	4.0
12A13WID083	18	1	19	18	1.1	39	16	3	29	1	1	1	1	1	6.4	6.4	6.4	6.4	8.4	317	23.4	26.4	32.4	23.4	10.4	0.7 0.0	0.3	8.7	0.3
15V13ME400	15	4	19	15	4	29	25	4	19	1	1	1	1	1	5.6	3.6	5.6	5.6	5.6	28	21.6	25.6	30.6	21.6	10.6	D.5 0.1	0.3	EA	0.3
15V14ME#02	15	1	38	15	1	36	15	1	38	1	1	1	1	1	3.6	3.6	3.6	3.4	5.6	28	23.6	22.4	7.6	21.6	2.0	0.5 0.1	0.7	0.0	0.7
15V16ME403	11	6	17	11	4	17	11	8	17	1	1	1	1	1	6.4	6.4	6.4	6.4	6.4	12	18.4	24.4	124	18.4	12.4	01 01	1.04	0.0	0.0
15V16ME404	11	3	34	11	3	1 14	11	1	34	1	1	1	1	1	8.2	8.2	4.3	4.2	11	41	30.7	22.7	13.7	20.2	12.2	0.4 0.4	1.0.0	-	0.4
15V16ME405	1	31	12	1	11	12	1	111	12	1	2	1	1	1	2.0	24	2.0	2.0	14	14	4.5	15.4	14.0	4.0	14.0	0.0 0.0	1		0.4
15V36ME407	22		17	12	1 5	117	112	6	17	-	-		-			10	10	10	10			15.5	34.8	4.8	10.0	01 0.4	0.4	-11	0.4
ISV16ME40	12	2	15	12	11	11	1		25	-	-		-	-		10	10	10	10	10	44	- 20	16	11	10	0.7 0.8	0.5	8.7	0.5
INVIENDAND	11	-	13	1 11	1	1.11	1 11	1.1		4	-	-	-	4	4.8	4.8	4.8	4.8	4.8	24	17.8	20.8	8.8	17.8	8.8	0.5 0.5	0.3	0.5	0.3
LEVISMENTS	10	-	12		1	11	1 11		11	-	-	-	1		10	30	10	10	10	10	ш	38	37	73	17	0.4 0.8	0.5	-84	0.5
LEVIANE ALL	10		15	10	1	11	15	1	10	1	-	3	1		1	7	7	7	7	15	38	25	38	23	10	0.7 0.8	0.3	6.7	0.3
LOV COMENTS	10	4	35	20	1	10	16	3	29	1	1	1	1	1	30.4	30.4	30.4	30.4	30.4	53	37.4	30.4	34.4	17.4	34.6	0.8 0.7	0.4	0.8	0.4
15 V LODELALS	1	14	35	1	14	13	1	34	25	1	1	1	1	1	7.8	7,8	7.8	7.8	7.8	29	9.8	23.8	22.6	8.8	33.8	8.3 8.3	8.7	0.8	0.7
ISVIONEALS	11		15	11	1	13	32	3	15	1	1	1	1	1	6.8	6.8	6.8	6.8	6.8	34	19.8	32.8	10.4	19.8	30.8	0.4 0.7	0.8		6.3
USVIDME417	36	1	17	15	1	37	26	1	17	1	1	1	1	1	8.8	8.8	8.8	8.8	8.8	44	25.8	36.8	10.4	25.8	30.8	0.8 0.0	0.3	6.8	6.3
ISV16ME418	25	0	15	35	0	15	35		15	1	1	1	1	1	8.4	9.4	5.4	9.4	9.4	47	25.4	25.4	10.4	25.4	30.4	0.7 0.8	0.3	0.7	6.3
15V16ME419	11	3	34	11	3	54	11	1	34	1	1	1	3	1	7.2	7.7	7.2	1.2	7.2	34	19.2	32.2	11.2	18.2	11.2	04 01	1.8.8	0.8	6.5
15V16ME420	12		20	12		20	12		30	1	1	1	1	1	2.6	25.6	25.4	25.4	23.4	13	15.4	46.6	84.6	38.6	14.6		110	1.1	10
ISV16ME421	12	6	18	12	6	10	12		14	1	1	1	1		20	10	10	30	10	10	11	20	17	11	11		1		
15V16ME423	11	2	1.0	11	1	18	-11	2	10	1	1	1		1	6.2	4.7	6.5	41	63	81	18.2	20.2		10.2			1 4 5	0.1	0.7
18V16ME424	2	17	30		17	10	1	12	20	-	-	1					-	-	-	-	10.2	202	44	18.2	84		1 4.3	0.5	6.2
ISVIGME415	12	5	14	10		10	11	11	10	-	-	+	-	-	8.4	11.0	-	6.4	8.4	43	13.4	25.4	26.4	12.4	25.4	64 67	0.8	0.4	8.8
TOTAL	787	413	1100	343	1 414	11100	340	100	1100	-	-	-	-	1	11.1	11.1	11.7	11.1	11.7	34	24.2	90.2	18.2	24.2	18.2	67 63	0.5	0.7	8.5
NO OF STUDENTS	68	60	44	-	64	ALC: N	100	64	60			-		-	370.6	353.5	3416	543.6	MIL	1603	1115.6	1771.6	1004.8	1358.4	1024.8	29.3 40.7	1 30.1	40.0	30.1
AVERAGE	11.47	1.45	18.135	11.7	6.000	10.00	11.47	100	10.11	-	-	-	-	58		-			68	-	18	58	68	-	4.8	58 68	68	68	68
	10.71	4.40	10.053	38.7	1.433	10.10	1.88.97	2,221	10.14		1.1	4.4	441	1.1	6.10	8.47	8.49	8,49	8.42	40.67	30.8	27.7	36.0	21.2	16.0	61.41 62.7	41 47.1	62.4	47.1

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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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PRINCIPAL SIET., TUMAKURU.

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SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

	SUBJECT	Dynamics of Machinary	SUBJECT CODE	15ME52	1
I					

COURSE OUTCOME

CO1	Apply the concepts of static and dynamic balancing of reciprocating and rotating masses on automobiles
CO2	Determine static and dynamic forces for four bars and slider crank mechanism, stability of governors, Natural frequency of different parameters of vibratory system, force and motion
CO3	Analyze the stability of governors , gyroscopic effects on ships, plane disc, aero planes , automobiles
CO4	Distinguish different types of vibratory systems
CO5	Formulate mathematical equations for damped and undamped vibratory system

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

PRINCIPAL SIET. TUMAKURU

COLLEGE		SHR	IDEVI	INSTI	TUTE	OF E	NGIN	EERIN	G & T	ECHNO	DLOGY	C.
FACULTY	NAM	IE I	MALT	ESHA	РJ							
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COURSE	B.	E	SEM	ESTE	R	v	5	SECTIO	N			
SUBJECT		Dyn	amics	of M	achin	ary		SUBJE	стс	DDE	15M	E52
CO & PO M	APPI	NG										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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i line	-	and the second	-	THE R	No.	OVE	RAL	L MAP	PING	OF SUE	BJECT	1.75

	C0%	PO1	PO2	PO3	PO4	PO5	PO6	PO7	POS	PO9	PO10	P011	PO12
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

hanne burnet PRINCIPAL SIET., TUMAKURU.

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15V14ME011		7	1 14	1	1	14	7	T	. 14	1	1	1	1	1	11.8	11.6	13.6	11.6	11.6	58	19.6	36.6	39.6	28.6	23.6	0.6	0.8 0	16 0.5	6 0.6
15V14MED16		5 1	1 13	5		2.8	5		13	1	1	1	1	1						45	15	23	18	15	18	0.4	05 0	3 0/	4 0.7
ISV14MED18		1 1	1 12	1	11	11	1	11	12	1	1	1	1	1	3.0	1.4	1.0	1.0	1.0	10	5.4	36.8	15.4	5.8	15.0	0.2	0.4 0	5 81	0.1
15V14ME026			1 14	-	11	10	1.	15	1.0	1	1		1	1	1.4	1.4	1.1	1.0	1.4	34	36	21.6	23.4	2.6	21.0	0.7	01 0		2 01
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15114040004	-	11	3.6			16			16	3	1	1	1	1	0	0	0	0	0	0	.9	17			9	0.3	0.4 0	3 63	1 0.3
15V14ME083	-	6 1	15	6		15			15	1	1	1	1	1	58	5.6	5.6	5.6	5.6	28	12.5	21.8	15.6	12.8	15.6	0,4	9.5 0	13 0.4	4 0.9
15V14ME084	1.1		34		6	34	8	6	.34	1	1	1	1	1	7.4	7.4	7.4	7.4	7,4	17	16.4	32.4	34.4	35.4	34.4	0.5	05 0	4 0.5	5 0.4
15V15ME001	1.1	1 3	15	6	9	15	1.6	1.9	15	1	1	1	1	1	5.6	5.0	5.4	5.6	5.4	28	12.6	23.6	15.6	12.6	25.6	0.4	0.5 0	5 0/	4 0.5
18V15ME001		1 1	30		11	20	9	33	10	1	1	1	1	1	10	10	10	10	10	59	20	21	22	30	22	0.6	07 0	6 0/	a 0.4
18V15MED07		1 1	1 10	1 2	47		1 3	177	10	1		1	1	1	10.4	10.4	10.4	30.4	10.4	1.2	11.4	30.4	28.4	11.4	28.4	0.4	07 0		
15V19M0008	-		1 14		+**		1.1	1 11	10	1	1		1	1	10.0	10.4	10.4	30.4	10.4		10.4	30,4	40.0	10.0		0.4	27 0	-	
DEVISIAENIO	-	-		1 .			1 10	11	10						-					41	- 10	30	41	- 10	41	0.4	0.710	-	
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15VCSMERT		1 7	10	11	1	13	11	2	13	1	1	1	1	1	1.7	1.1	8.7	8.3	4.2	41	30.3	32.2	33.2	30.2	11.7	0.6	0.5 0	3 64	0.7
15V15ME217	11	1 7	19	12	7	38	3.2	7	19	1	3	1	1	1	5.6	5.6	5.0	5.8	5.6	29	18.6	25.6	13.6	18.6	13.6	0.5	8.6 0	4 8.	5 0.4
15V15ME018	1	5 2	17	11	12	17	15	1	37	1	1	1	1	1	11	-11	23	11	33	55	- 27	29	14	37	34	0.6	8.7 0	4 0.	0.0
15V15ME019	1	1 4	18	3.2	1	16	13		36	1	1	1	1	1	7.8	2.6	7.6	7.8	7.6	38	20.6	34.6	12.6	20.6	12.6	0.0	0.8.0	4 0/	8 0.4
HSV15ME023	11	1 5	18	13	1	18	13	5	1.0	1	1	1	1	1	7.4	24	7.4	7.4	7.4	17	21.4	26.4	114	21.4	23.4	0.6	36 0	4 8/	a 0/
15V15ME025	1		1 20	84	1	1 10	1 15	1	20	1			1	1	1.5.0	1.0	3.4	1.0	5.6	24	22.0	36.0	11.0	21.0	11.0	0.4	20 0	2 0	01
ISVISMENT?	13	1	1 11		1.	10		12	10				-	-		1.1	3.0		5.0		21.8	26.0	11.0	21.0	110	100			
INVISIAL COM	14		10	11	1 1	11	M	13	10	1	1	1	1	1	1	1	,	1	1	25	20	15	13	10	10	0.8		4 0.1	0.4
TRACTOR DATE	11	1 3	11	11	5	17	12	3	17	1	1	1	1	1	8.3	9.3	8.3	0.2	9.1	46	32.3	27.3	15,3	11.1	15.2	0.7	0 45	4 0.7	1 0.4
18V13ME012	11	1 8	28	11		29	11		19	1	1	1	1	1	5.6	5.6	5.6	5.6	5.6	28	17,6	25.6	34.6	17.6	34.6	0.5	2.6 0	4 0.	5 0.0
15V15ME034	1	1 8	17	11		17	11	6	17	1	1	1	1	1	5.6	5.6	5.6	5.6	5.6	28	17.0	23.6	32.6	17.6	32.6	0.5	8.5 0	4 0.	5 0.0
1SV15ME039	1	1 1	25	17	1	25	12	1 2	15	1	1	1	1	1	5.6	5.6	5.6	5.6	5.6	28	18.6	71.6	9.6	18.6	8.6	0.5	85 0	3 0	5 01
15V15ME042	1 2		26	16	0	15	16	0	16	1	1	1	1	1	6.0	6.8	6.8	6.8	6.8	34	23.4	23.0	7.8	28.8	7.8	0.7	85 0	2 0	7 0.7
15V15ME044	1.1	1.1	17	14	11	17	14	1	17	1	1	1	1	1	10.8	10.0	10.8	10.0	10.8	54	15.4	36.0	14.0	25.0	14.0	0.0	27.0	4 10	
1501548-045	1.0		1 10	1 0	+÷	14	1 11	ti	- 14						1.00		1000		-		22.0	20.0	22.0	21.0		0.0		1 0	
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AND A DESCRIPTION OF	1.0	1.	10	1 11	1.	11	ш	1.	11	1	1	1	1	1	11	- 11	- 11	- 11	- 11	55	28	29	18	13	18	0.7	0.710	3 0.	0.3
15VI3MEOR	1	1.5	17	1)	1	17	32	1	37	1	1	1	1	1.	30.2	10.7	10.2	10.3	10.2	51	33.2	78.2	36.7	28.2	16.2	0.7	3.6 0	5 0.7	/ 0.9
18Y13ME031	12		18	11		-18	11	6	-18	1	1	1	1	1	. 7	. 7	*	· 7	3	35	10	36	14	30	14	0.6	8.6 0	4 0/	8 0.0
18V15ME056	15		18	35		3.9	25	4	29	1	1	1	1	1	7.8	7.6	7.6	7,4	7.6	38	23,6	27.6	12.6	23.6	12.6	0.7	0.8 0	4 0.	7 0.0
15VI1MED18	1.15	1 2	17	13	1	17	25	1	17	1	1	1	1	1	5.6	3.6	5.6	5.6	5.6	21	21.6	23.6	8.6	21.6	R.E	0.6	85 0	1 10	a 0.1
15V15ME059	115	1	18	15	11	18	25	1	28	1	1	1	1	1	8.4	8.4	8.4	8.4	8.4	42	24.4	27.4	12.4	24.4	12.4	0.7	26 0	4 11	7 0/
ISV15MEDE1	1.14		20	14	1.0	20	1.14	1.	38	1	1				10	10	10	10	10	10	15	11	17	25	17	0.7	87 0	5 0.	2 0.1
ISVINADORE	1.1		1.0	14	17	1.1	1.4	1.4					1		1 1					45	44	- 16				0.5			. 01
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12442.000	1 10	17	20	111	17	20	13	17	20	1	1	1	1	1	5.6	3.6	5.6	3.6	5.6	28	19.6	26.6	13.6	19.6	13.6	0.6	0.6 0	4 0.1	0.0
18 V13ME072	10		19	15	4	19	15	4	19	1	1	1	1	1	8.5	8.6	8.6	8.6	8.6	43	24.6	28.6	33.6	24.6	13.6	6.7	8.7 0	4 0.7	1 0.1
15V13ME073	11	1.3	14	11	1.1	24	11	3	24	1	1	1	3	1	11	11	11	11	11	55	23	28	25	21	25	0.7	26 0	4 0.	1 0.4
15V13ME074	14	5	19	34	\$	19	34	5	19	1	1	L	1	1	30.6	10.6	30.6	10.6	30.6	80	25.6	35.6	16.6	25.6	36.6	0.8	8.7 0	15 0/	8 0.5
15V15ME075	1.13	3	15	23	1	15	12	1	35	1	1	1	1	1	12	12	12	12	12	60	25	28	34		36	0.7	86 8	5 0.	7 0.5
SV15ME076	15	0	15	15	0	15	15	0	15	1	1	1	1	1	11.2	11.2	11.7	11.2	11.2	16	27.2	22.1	12.2	27.3	12.2	0.8	86 0	4 0/	. 0/
15V15ME077	11	11	13	11	11	13	11	1	15	1	1	1	1	1						40	10	11	11	30	13	0.6	25 0	3 0/	
SV15MEDT9	1 13	17	1.1	1.2	tż	1.1	112	1.	10	-										44	22.0	12.0	10.0	10.0	10.0	0.4	24	1 0	
SVIMEOR?	1.5	+÷	1 11	1.00	1.					-	-		-	-		8.0	8.0	-	8.8		61.0	40.0	15.8	41.0	10.0	0.0			
CVI SALLORS		+ *	1 11	1 44	10	M	M		м			-			10.4	30,4	10.4	10.4	30.4	ы	33.4	22.4	11.4	23.4	11.4	0.7	85 0	3 0.	1 0.3
TAY LONGEDIES	1.24	11	B	14	1	13	34	1	15	1	1	1	1	1	3.8	3.8	3.8	1.0	9.8	49.	24.8	25.8	11.8	24.8	11.8	0.7	88 0	3 0.	/ 0.3
BY LIMEUR7	1	111	14	1	13	34	1	13	14	1	1	1	1	1	11.3	33.2	11.2	11.7	11.2		10.2	26.2	25.2	11.2	25.2	0.4	85 8	1 0/	4 47
SV15ME400	5	1.1	34	5	. *	34	5	. 9	14	1	1	1	1	1	11.4	11.4	IL4	11.4	11.4	87	17.4	26.4	21.4	17.4	21.4	0.5	0.6 0	0 0.	5 0.0
SV16ME402	1	13	34	1	1.1	34	1	13	24	1	1	1	1	1	5.6	5.6	9.6	3.6	5.8	48	11.6	24.6	23.6	11.6	23.6	0.3	8.6 0	7 0.	1 0.7
SV16MB403	11	6	38	12		38	12	6	38	1	1	2	1	1		0.8	8.8	1.5	9.6	49	32.8	28.8	16.8	22.8	26.8	0.7	6.7 0	5 0	7 0.1
SVIGME404	12	6	10	1.11	1.	28	27	1.4	18	2	1	1	1	1	10.2	10.2	10.7	10.2	10.2		23.2	29.7	17.7	25.2	17.2	0.7	87 0	5 0	2 01
SVIGNEARS	1.	1	1.7	1 11	1	11	10	1	12				-	-	7.6	24	14	26	25	-	35.0	10.0	10.0	95.6	10.0	0.7		1 1	1 .
STATE AND	1	1	11	10	1.		10	1	41	-	-	-	-	-	10	5.0	1.0	1.0			22.0	49.8	10.0	25.0		10/1		-	1 1
SY IGMENUT	135	11	36	1 15	1	10	15	1	26	1	1	1	1	1			9			45	м	26	11	25	11	0.7	0.0 0	3 0.	1 0.
AV10ME408	11	1	34	111	1.1	14	11	1	34		1	1	1	1	18.2	11.3	19.3	18.7	13.2	66	75.3	28.2	17.2	25.2	17.2	0.7	0.6 0	5 0.	/ 0.5
SV16ME409	112	1	20	12	1.1	20	12		20	1	1	1	1	1	11.4	IL4	11.4	31.4	11.4	87	24.4	32.4	20.4	24.4	26.4	0.7	0.7 6	0.0.	7 65
SV16ME410	1.12	4	36	12	4	16	12	4	10	3	1	1	1	1	10.8	10.8	10.6	10.8	20.8	84	23.8	27.8	15.8	29.8	15.8	0.7	0.6 0	5 0.	7 0.1
SV16ME412	11	6	37	11		17	11		17	1	I	1	1	. 1	32.8	12.8	12.6	32.8	12.0	64	24.8	30.8	19.8	24.8	25.8	0.7	8.7 0	6 1	7 6/
SV16ME413	1	38	3.9	1	1.8	35	1	14	19	1	1	1	1	1	30.8	10.6	10.8	30.0	10.8	54	12.8	33.8	29.8	12.8	23.8	0.4	8.7 0	0 6	4 01
SVIEMP416	111	1	1.0	1.17	1.	20	22	1	10	1	1	-		-	10.7	10.1	10.1	35.2	10.1		25.2	25.1	122	20.2	122	0.7	871 .	110	1 0
SVIAMENT?	1.11	1	1.1	1 12	1		11	1	10			-	-	-	30.5	1013	10.2	20.4	10.1		33.3	213	114	41.4	5/4	1			-
EVIANCE T	1	-	M			M	-	-	17	-		-			10	13	4.9	4.0	1.5	80	34	44	19	34	10	0.5	0.7 0	a a	
AVIDADO418	14	1	11	14	1	10	14	1	U	1	1	1	1	1	30.6	10.6	10.6	10.4	10.6	53	25.6	28.8	14.6	25.8	34.6	0.8	9.7 6	4 0.	
5V16M0419	12	12	3.4	13	11	14	12	1	54	1	1	1	1	1	7	y .	7	7	7	35	30	21	30	30	10	0.6	85 0	1 0/	6 0.7
5V365420	23	1	34	12	2	34	12	2	14	1	1	1	1	1	13.8	13.6	13.8	33.8	13.6	88	25.8	28.8	16.6	26.8	16.6	0.8	8.7 0	5 0.	A 0.5
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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PRINCIPAL SIET., TUMAKURU.



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	Turbo Machines	SUBJECT CODE	15ME53
SUBJECT	Turbo Machines	SUBJECT CODE	15ME53

COURSE OUTCOME

CO1	Recognize the appropriate turbo machine and dimensionless variables for a given dynamical situation and predict the prototype based on similitude.
CO2	Comprehend the significance of static and stagnation properties for turbines and compressors.
CO3	Summarize the Euler's equation to analyze energy transfer in turbo machines.
CO4	Apply the velocity triangles for steam turbines and hydraulic turbines to estimate various performance parameters.
CO5	Perform the preliminary design of centrifugal pumps and centrifugal compressors.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

H.O.D Dept. of Mechanical

PRINCIPAL SIET., TUMAKURU.

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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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1111111	14	18	19	14	1		19	14	3	3.0	1	1	1	1	1	6.6	6.8	6.6	6.6	6.6	33	21.6	45.6	32.6	21.6	12.6	0.6	10 0	1.00	t
ME410 1	12	18	18	12		6	38	14		10	1	1	1	1	1	6.4	5.4	11	14	6.4	83	19.4	124	12.4	28.4	10.0		-	1	+
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PRINCIPAL SIET., TUMAKURU



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	Design of Machines Elements-1	SUBJECT CODE	15ME54	1
SUBJECT	Design of Machines Elements-1	SUBJECT CODE	15ME54	l

COURSE OUTCOME

CO1	Apply the concepts of stresses for 1-d, 2-D and 3-D elements
CO2	Formulate; analyze stresses and strains in machine elements, permanent and temporary joints subjected to various loads.
CO3	Analyze and design for static, fatigue and impact strength, permanent and temporary joints
CO4	Evaluate the stresses in the elements such as Gears, cotter and knuckle joint keys and couplings
CO5	

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- P011 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

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13ME025	12	1.	1 10		12	1	10		15	1.1	-	-	-	1	1	4	4	4	4	4	. 29	1.1	38	38	2.8	10	0.4	0.4	0.3	6.4
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ME036	12	1	133	1	2 1		10	12				1	1.	+ + +	+	3.8	1.0	5.0	5.8	5.8	78	18.8	30.6	8.8	38.6	8.6	0.5	0.8	0.3	8.5
ME058	11	1	12	1.0								-		1	1				1		40	21	72	30	21	10	DA	85	8.3	0.6
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ME073	12	1	25	11	1.1	-	15		-	-	-		-			111	31.1	11.1	11.3	111	54	27.2	29.2	14.2	27.2	38.2	0.8	0.7	0.4 1	0.0
ME074	12		11	1.11	-	-				- 10		1	1	1	1	7.6	7,6	7.6	7.6	7.6	34	30.6	23.4	11.6	20.6	11.6	88	0.5	03 4	0.4
MED25		-	10	1.14		-	17	11	3	17	1	1	1	1	1	5.6	5.6	5.6	5.6	5.6	216	18.4	114	11.4	10.0	11.4				
and the second	11	- 5	38	11	1.5	1	18	11	5	38	10	1	1	1	1	3.0	1.0	1.4		2.2		10.0		11.0	10/6	11.0	0.5	11.5	0,0 5	10.9
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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PRINCIPAL SIET., TUMAKURU



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	NON-TRADITIONAL MACHINING	SUBJECT CODE	15ME55X	1
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COURSE OUTCOME

CO1	understand the difference between traditional and non-traditional machining process, its need and their applications
CO2	Identify the variables involved in water jet machining and abrasive jet machining, and also its working principle .
CO3	Recognize the different elements that affect the working of chemical and electro-chemical machining.
CO4	Identify the parameters that influence the working of electrical discharge machining
CO5	Analyse the mechanism and working principle of plasma arc and laser beam machining

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- P010 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- P011 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- P012 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

Dept. of Mechanical S.I.E.T., TUMKUR -8

PRINCIPAL

SIET. TUMAKURU.

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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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Chillion .		1	1 11	+	-	-+		31		11	1	- A -	L	1	1	38.6	10.6	33.6	10.4	30.6	55	25.6	28.8	14.6	25.6	34.6	0.6	8.7	24	0.0	
CALCULA .			31	1.	4		17	13	3	17	1	1	1	1	1	11.4	11.4	11.4	11.4	11.4	82	24.4	74.4	42.4	10.0	12.4					
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SMI6062	12	6	1.0	1	2	1	14	11	-	10	-	-		-	1	10	10	10	30	30	50	22	25	24	22	14	0.6	0.6	0.4	0.6	
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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PRINCIPAL SIET., TUMAKURU.



SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	OPEN ELECTIVE-1 (ERE)	SUBJECT CODE	15ME56X
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COURSE OUTCOME

CO1	Understand thermal energy conversion system for real time applications
CO2	Apply the knowledge of principle of energy conversion by diesel and hydel energy
CO3	analyze the solar radiation parameters, working of solar PV and thermal systems.
CO4	Interpret principle of energy conversion from wind and tidal.
CO5	Review the applications of biomass energy, fuel cell, and thermoelectric conversion and MHI generators.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- P011 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve

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PRINCIPAL SIET. TUMAKURU.

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CO4	70.16	1.40	1.40				0.14						
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dłu. PRINCIPAL SIET., TUMAKURU.

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SMI027		5	1	16	11				10	-	17	1	+	-	1	1	1	11	11	11	1	1 1	3	35	24	29	17	24	1 17	1.00			10	-
5541-1128	1	-	-		-	+ 1	-	10	15	1	18	1		1	1	1	1	11.2	11.2	11.1	1 11	3 31	2	56	27.5	74.5	22.2	1 100.0	M	1.0	1	-1-0	0 0.7	4 6
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101039	1	2 1		18	11	1.	1	18	12		-	1:	+	-	-	-	-	1	1	1	17	1		15	38	15	30	28	10	0.67	1 11	7 0	10 10.0	0 0
5ME042		1	4	15	1	1 14		-	-	-		1	+	-	4	1	1	8.8	3.8	8.8	1.84			45	32.0	38.8	76.8	72.8	26.0	Ine	1 11	1 1		1 1
1ME044	1.	1		14	-	1.0	-			14	15	1	1		1	1	1	8.4	8.4	8.4	1.8		4	42	10.4	24.4	22.4	10.4	20.4	1	1	1	0.4	1 00
SMILLAS			-		41	1	11		11	3	14	1	1	1	1	1	1	8.4	8.4	6.4	1.0	1 1		40	10.4	17.4	1114	10.4	43.4	1.0.81	103	10	0.0	1 0.7
CLAR DAR	-	4		14	11	1.1	1	4	12	2	14	1		1	1	1	1	11.2	11.7	11.2	1 11	1 11	-		24.4	22.4	. 10.4	20.4	11.4	0.00	0.3	4 0.7	6 0.0	A 0.7
ANIE OF B	1	1		19	15	4	3	8	15	4	28	1		-	1	1	1	10.0	10.0	10.4	1	4 11	4	30	34.2	26.2	14.7	24.2	14.2	0.73	0.6	0 0.0	2 0,7	1 0/
MEDER	1	1 4	F. 1	4	13	0	1	2	12	0	12	1	+			÷+		20.0	10.8	30.6	10/	6 10	.8	33	26.6	30.6	15.6	36.6	15.6	0.76	0.7	0 0/	8 13.7	4 0/
ME011	1	1 3		18	12	2	1.1		10	7	10	1	+ :	-			1	8.6	8.8	8.0	8.4	6 A/	6.	40	25.0	21.6	8.6	21.6	9.6	0.84	0.4	0.07	8 0.6	
MEU36	1 1	1 1			12			-	÷.	-		-	1	-	1	1		12.2	11.1	12.2	12.	3 12	1	41	25.3	12.2	20.7	25.7	20.2	0.74	87	1		-
ME058	1	1.1	-	-		1	+ *	-	<u></u>	1	10	1	1	0.1	1	1	1	10.6	30.8	10.6	15	5 10.	4	53	25.4	10.6	10.0	79.0	10.0	100	100	4	0.0	1 0.3
MENTE	+	-	-	-	11	1	1.1	3	n	1	12	1	1	1.1	1	1	1	8.8	8.4	8.6	1.84			-	10.4	11.6	10.0	21.0	18.8	0.00	10.2	2 23	5 0.6	1 0.5
A Clark	1.11	1.2	1	2	12	5	1	7	11	5	17	1	1		1	1	1	7	7	1	1 7	1.1	-		20.9	44.0	10.0	10.8	29.4	9.61	0.4	1 0.7	1 0.61	0.7
CARDING.	1 15		1	9	8	. 4	1		15	4	38	I	1		1	1		11.4	114	1114	1	1 1	-		10	25	1.9	20	- 13	12.5.9	8.5	7 0.3	6 0.5	1 0.7
MILUGO	33	5	1	4	11	- 5	1		13	1	16	1	1	-		. +	-	11.4	11.4	31.4	11.4	1 11.	•	87	27.4	31.4	38.4	27.4	36.4	0.83	0,7	1 0.6	6 0.81	8.4
ME067	12	3	1 3	4	12	2	1		0 T	7	14		+	-	-	<u> </u>	A 1	- 14		8.2	0.1	8.2	1 1	41	70.1	25.2	14.2	30.2	14.2	0.59	85	7 0.4	2 0.54	
ME070	12	7	1.1		1	1		-	-	÷				-	-	-	1	5.6	5.6	5.8	5.6	5.6		28	18.6	20.6	8.6	18.6	8.0	0.55	0.4	1 07	6 0.54	1
ME972	11	17			5		1.3	-			- 10	1	-	-	1	1	1	11.7	31.2	11.2	111.7	3 33	2 9	56	34.2	81.2	19.2	34.7	10.5	0.71	1.00	1.00		
Arro71	1 11	+ -	+		-	-	1.0	+	H.	7	19	1	1	1		1	1	8.5	8.5	8.6	8.6	8.6		42	71.6	28.6	16.6	21.6	10.4	10.74	1.4.1	400	0.73	0.5
345074	1.11	+ :	+ *	-		-	1 11		n	21	20	1	1	1		1	1	3.5	8.6	9.6	9.6	9.6		48	19.4		30,0	31.8	16.6	0.64	0.60	0.4	0.84	0.4
445-0778	<u> </u>	11		1	2	7	1 10		12	7	29	1	1	1		1	1					1 1	-		43.0	90.0	15.4	11.8	15.4	8.64	0.21	/ 0.5/	0.64	0.5
Call Of a	11	11		1	2	Ť	1 23		u T	7	29	1	1	1			1	30.3	10.2	10.1	110.0	1.11	-		11	18	18	21	18	6.62	0.64	1 8.4	7 0.62	0.4
MD976	14	1.1	1	1 3	4	1	17	1	4	3	17	2	1			-	-	-	10.4	10.7	10.1	10.7	1 3	14	21.2	30.2	11.1	23.2	18.2	0.68	6.67	0.5	0.68	2.5
ME077	11	1	1	1 1	1		1.0		1	1	14	-	-	+	-	-	-	11	ш	11	11	11	1	10	26	29	25	36	15	0.26	2.00	1.0	1 1 70	
ME079	15	1.5	1 1		1	-	1	1	-	-	14		1	1,	-		1	14	5.8	3.8		3.8		60	23.8	24.8	33.8	27.8	15.0	10.64	1000	1.00	0.10	1
MEDES	112	17	1		-	-	30			-	30	1	1	1	1		1	3.8	3.5	3.4	9.8	3.6	1	49	25.8	80.0	15.0	20.4	10.0	0.04	10.00	1	C. BA	0.4
divisit.	- 14	-	1	-	41		18	1 1	4		38	1	- 1	1			1	8.4	14	84	1.4	1 14		0	11.6	17.0	10.0	10.8	15.8	9.75	0.70	4.8.8	0.76	0.4
1000	14		3.8	1	1	4	18	1	4	4	38	1	1	1			1	14			100	1	-		22.4	27.8	35.4	21.4	15.4	0.65	0.57	6.4	0.63	0.4
10.0007	- 15	1	18	1	2	1	16	1	5	1	10	1	1			-	1	7.0	24	-		1 14	-		22.4	D.A.	13.4	23.4	13.4	0.69	0.62	0.7	0.69	0.3
008:319	- 35	1	28	1	1	1	18	1 11	5	1	10	1			+	-		1.4	1.8	7.8	.18	1.6			23.8	24.6	9.6	21.6	2.6	0.59	0.54	0.2	0.69	0.2
48402	24	1	17	1.0	1	1	17	1		-	11		-	+ *	-	-	-	8.6	8.8	8.8	8.6	8.6	4	0	74.6	27.6	12.6	24.6	12.6	8.72	0.67	0.2	675	
66403	25	2	1 12	1.5	1	-		1 .	-	-		-	1	1	11	-	1	2.4	8.4	9.4	3.4	3.4	4	17	24.4	17.4	15.4	24.4	12.4	0.72	0.01	100	1	-
(Fidda	22	1 -		+5	+	-	M	1	-	4	17	1	1	1	1		1	9.6	3.6	9.6	9.6	9.6	1		25.4	27.6	124	20.0	32.4	4.78	-	1.0.0	0.74	0.0
10.004	10	-	1.0	1.1	4		1.8	12	1	6	3.0	1	1	1	1		1	38.4	30.4	10.4	10.4	1 10.0			22.4	10.4	30.0	0.5	1/4	0.75	0.63	1 0.37	0.75	6.3
10.002	11	1	14	1		2	34	13		3	34	1	1	1	1	-	1	4.4		4.4		1 10	1	-		28.4	17.4	23.4	17.4	6.6%	0.67	0.51	0.49	0.57
01407	3.8		17	11		4	37	11			17	1	1	1		-	1	24	14			1.6.8	-		11.0	21.8	9.8	19.8	9.8	6.58	8.50	8.27	0.58	0.21
11408	12	1	88	1 11		3	25	11		1	25	1	-		+	-	-	14	7.0	7.6	7.6	7.6	3		21.6	25.6	12.6	23.4	11.8	0.64	0.58	0.31	0.84	8.1
E.409	23		19	11	T		10	1 11		-	10	-	-	1.4	+ 1	-		14	7.2	7.1	7.2	1.1			30.2	23.2	11.7	30.2	11.1	0.58	0.51	0.01	0.58	0.0
2410	15	1	16	1 11	+	1	10	1 1		-	-	-	-	1.1	1	-	1	8.8	8.8	8.8	8.8		4	4	20.8	28.8	17.8	20.0	17.0	0.61	A 10	1 and	1.0.01	-
6412	11	1	-	1.0	+	-		35	-	-	10	1	1	1	1		1	5.6	3.4	3.4	5.6	5.6	21		21.6	22.6	76	21.4	3.4	0.01	-	10.34	10.01	6.57
EALS.	11	-	-	11	+	-	38	12	4		38	1	1	1	1	1		10.4	30.4	10.4	10.4	10.0	1	1	22.4	12.4		41.4	1.0	0.04	9.51	10.22	6.64	6.33
Calls.	14	1	- 10	11	1	2	38	11	1	1	38	1	1	1	1		1	8.4	84		84	1.04	1	-	22.4	21.4	15.4	23.4	15.4	0.89	0.61	0.45	0.89	0.45
618.	M	4	- 18	1 12		4	38	12	1.4		34	1	1	1			-				-		- 41		22.4	37.4	36.4	20.4	36.4	0.00	0.62	9.45	0.00	8.44
6417	34		17	14	T	3	3.7	14			17	1	-	t÷.	+ +	-	-			8.4	8.4	8.4	40	1	21.4	25.4	\$3.4	31.4	33.4	0.63	0.58	0.39	0.63	0.31
6418	32	4	26	12	T		34	1 12	11	-	14	++	-	1	+ *	-	-	8.8	8.8	11	4.8	1.8	44		28.8	26.8	11.8	23.6	12.8	0.70	0.65	0.34	0.30	0.75
6419	11		17	1 11	1-	-	12	1	± 2	-	-		1	1	1	1		8.8	8.8	8.6	4.6	8.8	43	1	11.6	25.6	11.6	21.4	18.6	1164	DEP	10.00	0.00	-
E420	13	-	24	1.22	+	-	17	11	+ *	-	17	1	1	1	1	1		14.2	14.2	14.2	24.2	14.2	21		26.7	10.0	21.2	34.4	22.0	100	-	0.40	0.84	1.40
1411		-	30	111	+	•	38	11	4		34	1	1	1	1	1		7.4	7.4	24	7.4	24	1 1	-	20.4	and a	11.1	26.3	11.1	9.77	8.73	0.63	8.77	0.62
	н		18	11		1	19	11			19	1	1	1	1	1		12.4	11.4	11.4	11.4	111		-		24.4	12.4	29.4	12,4	0.60	8.55	0.94	8.60	0.34
0423	13		- 38	12		4	38	12			18	1	1	1	1	+			11		33.4	11.4	57		23.4	31.4	20.4	23.4	20.4	8.69	0.71	0.60	0.69	0.00
1424	11		39	13	1		38	11	11		-	-	-	-	++	+-	-	1.0	14	1.6	7.8	7.8	39	1	0.0	35.8	34.8	20.8	34.8	0.61	0.61	5.44	6.61	0.44
E425	12	5	17	1 22	1		11	1.1	12	-		44	1	1	1	1	1	8,01	10.8	10.8	30.8	38.8	54		17.8	30.8	23.0	22.0	13.0	0.67	0.75	0.60	0.47	-
AL	BAR 1	111	19957	1 ALL		-	11	11	13	1	1	1	1	1	1	1		30	10	30	38	58	- 50		10	28	14	10	14	and a	0.78	2.00	0.67	4.5#
UDENTS			ALL.	1 100	14		1157	544	11	1 11	157	52	68.	6.8	1	64	1 4	14.6	614.4	14.6	634.6	614.0	107	1 10	126.0	1000					0.04	0.47	0.68	0.43
and the second se	10.4			. 68	1.5		44	6.0	44			64				1.00				100	-	1000	- 200	10	1.6.8	1471.6	100.0		205.8	44.901	41.017	25.38	44.90	29.36
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Manun Dungette PRINCIPAL SIET. TUMAKURU.



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	OPEN ELECTIVE-1 (ERE)	SUBJECT CODE	15ME56X	1
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COURSE OUTCOME

CO1	Understand thermal energy conversion system for real time applications
CO2	Apply the knowledge of principle of energy conversion by diesel and hydel energy
CO3	analyze the solar radiation parameters, working of solar PV and thermal systems.
CO4	Interpret principle of energy conversion from wind and tidal.
CO5	Review the applications of biomass energy, fuel cell, thermoelectric conversion and MHD generators.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- P011 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

PRINCIPAL SIET., TUMAKURU,

COLLEGE		SHR	IDEVI	INST	ITUTE	OFE	NGIN	EERIN	G & T	ECHN	OLOGY	ć
FACULTY	Y NAN	1E	BABU	KARE	GOW	DA						
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COURSE	B.	E	SEM	ESTE	R	v		SECTIO	ON			
SUBJECT		OP	EN ELE	CTIVE	-1 (EF	RE)	1	SUBJE	стс	ODE	15ME	56X
CO & PO M	APPI	NG					-					
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CO2	65.33	1.30	Partie I										
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CO4	70.16	1.40	-					Part and					
CO5	45.75	0.91	2			100		192	-		1200	No. Har	
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	the second	-	P.S.C.		1000			FINA	LAT	CAINA	IENTI	EVEL	1.18

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Munder the 9 PRINCIPAL SIET., TUMAKURU.

Academic year	20	17-18	- Contraction	SEM	V		T	otal st	rength	68	1	Sut	lect	0	nen Electi	-	10.075	-	Leve	1 C. A.	1				_		-		_	11
SEM:V	IA	TEST	1(20M)	IA.	TEST :	2(2056)	IA	TEST	3(20M)	ASS	SIGNE	MENT /	OUIZ/1	0 Mi	1 AMERICA	SFF	MARK	Bren h	Sub	geer Code	1504	ES6X		in the second	-		1.1		L	-
USN	C01	COI	TOTAL	C01	C03	TOTAL	CO4	CO	TOTAL	COL	C01	C03	C04	COS	CO1-12	Cm	Loni	Lon	1 cos	TOTAL	COLAR	Total C	OI ATTAR	NMENT			*	of indiv	idual C	0
15V14ME011	11	5	16	11	5	16	11	5	36	1	1	1	1	1	83	8.2	8.2	1 8.2	100	TOTAL.	001-94	C02-44	C03-34	C04-34	C05=34	CO1	CO1	C03	C04	COS
1SV14ME016	12	4	16	12	4	16	12	4	16	1	1	1	1	-	6.6	8.4	8.4	8.2	8.2	41	20.2	25.2	14.2	20.2	14.2	0.59	0.57	0.42	0.59	0.42
1SV14ME018	12	7	19	12	7	19	12	2	19		1		-		0.0	0.0	6.6	9.9	6.6	33	19.6	23.6	11.6	19.6	11.6	0.58	0.54	0.34	0.58	0,34
15V14ME026	11	7	18	11	7	18	11	17	1 10		-			1	10.4	10.4	10.4	10.4	10.4	52	23.4	30.4	38.4	23.4	18,4	0.69	0.69	0.54	0.69	0.54
1SV14ME034	15	0	15	15	0	15	15	1 0	10		-	1	1	1	7.6	7.6	7.6	7.6	7.6	3.8	19.6	26.6	15.6	19.6	15.6	0.58	0.60	0.46	0.58	0.46
15V14ME055	12	7	19	12	7	10	1.7	1 2	15		1	1	1	1	7,4	7.4	7.4	7,4	7.4	37	23.4	23,4	8.4	23.4	8.4	0.69	0.53	0.25	0.69	0.25
1SV14ME064	12	19	10	12	1	- 10	11	1	19	1	1	1	1	1	9,4	9.4	9.4	9.4	9,4	47	22.4	29.4	17.4	22.4	17.4	0.66	0.67	0.51	0.65	0.51
15V14ME083	11	1 2	19	14	1	19	111	1	19	1	1	1	1	1	11	11	11	11	11	55	24	31	19	24	19	0.71	0.20	0.56	0.71	0.56
1SV14MF/084	14	1	18	11	1	3.8	11	7	18	1	1	1	1	1	9.6	9.6	9.6	9.6	9.6	48	21.6	28.6	17.6	21.6	17.6	0.64	0.65	0.52	0.64	0.53
ISVISMENT.	15	1	1/	15	2	17	15	2	17	1	1	1	1	1	5.6	5.6	5.6	5.6	5.6	28	21.6	23.6	8.6	21.6	84	0.64	0.00	0.35	0.64	0.32
ISVISACOUT	15	1	17	15	2	17	15	2	17	1	1	1	1	1	10.2	10.2	10.2	10.2	10.2	51	26.2	28.2	13.2	36.3	12.1	0.04	0.24	0.23	0.04	0.25
1CULE ADDOS	12	7	19	12	7	19	12	7	19	1	1	1	1	1	10.8	10.8	10.8	10.8	10.6	54	21.8	30.8	10.4	20.2	13.2	0.77	0.64	0.39	0.77	0.39
13V15ME007	15	2	17	15	2	17	15	2	17	1	1	1	1	1	7.2	7.3	7.1	73	2.2	16	23.0	30.8	18.8	23.8	18.8	0.70	0.70	0.55	0.70	0.55
15V15ME008	15	1	17	15	1	17	15	2	17	1	1	1	1	1	0			1.4	1.4	30	43.4	45.4	10.2	23.2	10.2	0.68	0.57	0,30	0.68	0,30
1SV15ME010	15	2	17	15	2	17	15	2	17	1	1	1	1	-		0.0				49	25	27	12	25	12	0.74	0.61	0.35	0.74	0.35
15V15ME011	12	3	15	12	3	15	12	3	15	1	1	-			8.9	0.0	8.9	8.9	8.9	43	24.6	26.6	11.6	24.6	11.6	0.72	0.60	0.34	0.72	0.34
1SV15ME017	11	5	16	11	5	16	11	5	16			:			1	1	1	7	7	35	20	23	11	20	11	0.59	0.52	0.32	0.59	0.32
1SV15ME018	12	6	18	12	6	18	12	6	18	-		-	-		9.2	9,2	9,2	9.2	9.2	46	21.2	26.2	15.2	21.2	15.2	0.62	0.60	0.45	0.62	0.45
ISV15ME019	12	4	16	12	4	16	12	1	36	-	-		1	1	9.2	9.2	9.2	9.2	9.2	46	22.2	28.2	36.2	22.2	16.2	0.65	0.64	0.48	0.65	0.48
15V15ME023	11	7	18	11	7	10	44	-	40	-	1	1	1	1	1.1	8.8	8.8	8.8	8.8	44	21.8	25.8	13.8	21.8	13.8	0.64	0.59	0.41	0.54	0.41
15V15ME025	12	5	17	12		10		-	18	1	1	1	1	1	11.4	11.4	11.4	11.4	11.4	57	23.4	30.4	19.4	23.4	19.4	0.69	0.69	0.57	0.69	0.57
1SV15ME027	15	1	16	4.6	-	- 11	14	5	17	1	1	1	1	1	31	11	11	11	11	55	24	29	17	24	17	0.71	0.65	0.50	0.71	0.50
ISVISME028	12	÷	17	13	-	10	15	1	16	1	1	1	1	1	11.2	11.2	11.2	11.2	11.2	56	27.2	28.2	13.2	27.2	13.2	0.80	0.64	0.39	0.80	0.39
1SV15ME032	12	4	36	12	3	1/	12	3	17	1	1	1	1	1	6	6	6	6	6	30	19	24	12	19	12	0.56	0.55	0.35	0.56	0.35
15V15ME034	15	2	10		-	10	12	4	16	1	1	1	1	1	8.8	8.8	8.8	8.8	8.8	44	21.8	25.8	13.8	21.8	13.8	0.64	0.59	0.41	0.64	0.41
15V15ME039	13	-	10	15	4	17	15	2	17	1	1	1	1	1	7	7	7	7	7	35	23	25	10	23	10	0.68	0.57	0.29	0.68	0.79
1SV15ME042				14	.0	18	12	6	18	1	1	1	1	1	9.8	9.8	9.8	9.8	9.8	49	22.8	28.8	16.8	22.8	16.8	0.67	0.65	0.49	0.67	0.40
ISVISMENTA	44	10	15	1	14	15	1	14	15	1	1	1	1	1	3.4	8.4	8,4	8.4	8.4	42	10.4	24.4	23.4	10.4	28.4	0.31	0.55	0.69	0.31	0.69
ISVISMENTS	44	-	14	11	3	14	11	3	14	1	1	1	1	1	8.4	8.4	8.4	8.4	8.4	42	20.4	23.4	12.4	20.4	12.4	0.60	0.52	0.36	0.60	0.24
1SV15ME048	14	-	14	12	2	14	12	2	14	1	1	1	1	1	11.2	11.2	11.2	11.2	11.2	56	24.2	26.2	14.2	24.7	14.2	0.71	0.60	0.42	0.74	0.55
15/15/02/40	15	4	19	15	4	19	15	4	19	1	1	1	1	1	10.6	10.6	10.6	10.6	10.6	53	26.6	30.6	15.6	26.6	15.6	0.71	0.00	0.42	0.74	0.46
1SVISAEDEL	12	0	12	12	0	12	12	0	12	1	1	1	1	1	8.6	8.6	8.6	8.6	8.6	43	21.6	21.6	9.6	21.6	8.6	0.70	0.70	0.40	0.78	9.45
15V1414E031	12	7	19	12	7	19	12	7	19	1	1	1	1	1	12.2	12.2	12.2	12.2	12.2	61	25.3	33.3	30.5	35.3	9.8	0.64	0.49	0.28	0.04	0.28
15 V 13 MEUSO	12	7	19	12	7	19	12	7	19	1	1	1	1	1	10.6	10.6	10.6	10.6	10.6	53	12.6	10.5	60.2	43.4	20.2	0.74	0.73	0.59	0.74	0.59
13VISME038	11	1	12	11	1	12	11	1	12	1	1	1	1	1	8.6	8.6	8.6	8.6	8.6	43	30.6	30.0	10.0	23.6	18.0	0.69	0.70	0.55	0.69	0.55
18V15ME059	12	5	17	12	5	17	12	5	17	1	1	1	1	1	7	7	7	7	2		20.0	23.0	10.6	20,6	10.6	0.61	0.49	0,31	0.61	0.31
18V15ME062	15	4	19	15	4	19	15	4	19	1	1	1	1	1	11.4	11.4	11.4	11.4		55	20	29	13	20	13	0.59	0.57	0.38	0.59	0.38
1SV15ME066	11	5	16	11	5.	16	11	5	16	1	1	1	1	1	8.2	# 1			11.4	3/	21.4	31.4	16.4	27.4	16.4	0.81	0.71	0.48	0.81	0.48
1SV15ME067	12	2	14	12	2	14	12	2	14	1	1	1	-		5.6	8.2	8.4	8.2	8.2	41	20.2	25.2	14.2	20.2	14.2	0.59	0.57	0.42	0.59	0.42
1SV15ME070	12	7	19	12	7	19	12	7	19	1	-	-	-	-	3.6	5,0	3,0	5.0	5.6	28	18.6	20.6	8.6	18.6	8.6	0.55	0.47	0.25	0.55	0.25
1SV15ME072	12	7	19	12	7	19	12	7	10	1	-	-	-	-	22.2	11.4	11.2	11.2	11.2	56	24.2	31.2	19.2	24.2	19.2	0.71	0.71	0.56	0.71	0.56
1SV15ME073	11	9	20	11	9	20	11	-	20	-	+		*	1	8.6	8.6	8.6	8.6	8.6	43	21.6	28.6	16.6	21.6	16.6	0.64	0.65	0.49	0.64	0.49
1SV15ME074	12	7	19	12	7	10	12	2	10	: +	-	*	-	1	9.6	9.6	9.6	9.6	9.6	48	21.6	30.6	19.6	21.6	19.6	0.64	0.70	0.58	0.64	0.58
ISVISME075	12	7	19	12	7	19	12	7	10	-	-	-	1	1	8	8	1	8	8	40	21	28	16	21	16	0.62	0.64	0.47	0.62	0.47
ISV15ME076	24	3	17	14	3	17	14	-	17	-	-	1	1	1	10.2	10.2	10.2	10.2	10.2	51	23.2	30.2	18.2	23.2	18.2	0.68	0.69	0.54	0.68	0.54
ISV15ME077	11	3	14	11	1	14	11	-	14	-	-	1	1	1	11	11	11	11	11	55	26	29	15	26	15	0.76	0.66	0.44	0.76	0.44
ISV15ME079	15	5	20	15	5	20		-	24	1	1	1	1	1	9.8	9.8	9.8	9.8	9.8	49	21.8	24.8	33.8	21.8	13.8	0.64	0.56	0.41	0.64	0.41
SV15ME082	12	6	18	12	6	18	12	-	20	1	1	1	1	1	9,8	9.8	9.8	9.8	9.8	49	25.8	30.8	15.8	25.8	15.8	0.76	0.70	0.46	0.76	0.46
SV15ME083	14	4	18	14	4	10	14	-	18	+	1	1	1	1	8.4	8.4	8.4	8.4	8.4	42	21.4	27.4	15,4	21.4	15.4	0.63	0.62	0.45	0.63	0.45
	-	-		-	-		14	41	18	1	1	1	1	1	8.4	8.4	8.4	8.4	8.4	42	23.4	27.4	13.4	23.4	13.4	0.69	0.62	0.39	0.69	0.39

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LISVISME087	15	1 1	36	1.15	1.4	4.5	45	1.	1.16	1 .	1		1			1	1 100	1.0.0	Law	1 44	1000	1	1				-	-	-	
ISVISME400	15	+		13		10	13	+÷	10	1 :	-	1	1	1	7.6	7.6	7.0	7.6	7.6	38	23.6	24.6	9.6	23.6	9.6	0.69	0.56	0.28	0.69	0.28
10 TIME HOU	1.5		3.0	13		1.6	15	1	18	1	1	1	1	1	8.6	8.6	8.6	8.6	8.6	43	24.6	27.6	12.6	24.6	12.6	0.72	0.63	0.37	0.72	0.37
15V16ME402	14	- 3	17	14	3	17	14	3	17	1	1	1	1	1	9.4	9.4	9.4	9.4	9,4	47	24.4	27.4	13.4	24,4	13.4	0.72	0.62	0.39	0.72	0.39
1SV16ME403	15	2	17	15	2	17	15	2	17	1	1	1	1	1	9.6	9.6	9.6	9.6	9.6	48	25.6	27.6	12.6	25.6	12.6	0.75	0.63	0.37	0.75	0.37
15V16ME404	12	6	18	12	6	18	12	6	18	1	1	1	1	1	10.4	10.4	10.4	10.4	10.4	52	23.4	29.4	17.4	23.4	17.4	0.69	0.67	0.51	0.69	0.51
ISV16ME405	12	2	14	12	2	14	12	2	14	1	1	1	1	1	6.8	6.8	6.8	6.8	6.8	34	19.8	21.8	9.8	19.8	9.8	0.58	0.50	0.29	0.58	0.79
1SV16ME407	13	4	17	13	4	17	13	4	17	1	1	1	1	1	7.6	7,6	7.6	7.6	7.6	38	21.6	25.6	12.6	21.6	12.6	0.64	0.58	0.37	0.64	0.37
1SV16ME408	12	3	15	12	3	15	12	3	15	1	1	1	1	1	7.2	7.2	7.2	7.2	7.2	36	20.2	23.2	11.2	20.2	11.2	0.59	0.53	0.33	0.59	0.33
1SV16ME409	11	8	19	11	.8	19	11	8	19	1	1	1	1	1	8.8	8.8	8.8	8.8	1.1	44	20.8	28.8	17.8	20.8	17.8	0.61	0.65	0.52	0.61	0.52
1SV16ME410	15	1	16	15	1	16	15	1	16	1	1	1	1	1	5.6	5.6	5.6	5.6	5.6	28	21.6	22.6	7.6	21.6	7.6	0.64	0.51	0.32	0.64	0.72
1SV16ME412	52	4	16	12	-4	16	12	4	16	1	1	1	1	1	10.4	10.4	10.4	10.4	10.4	52	23.4	27.4	15.4	23.4	15.4	0.60	0.62	0.45	0.69	0.45
1SV16ME413	11	7	18	11	7	18	11	7	18	1	1	1	1	1	8.4	8.4	8.4	8.4	84	42	20.4	27.4	16.4	30.4	15.4	0.65	0.63	0.40	0,03	0.42
1SV16ME416	12	4	16	12	4	16	12	4	16	1	1	1	1	1	8.4	8.4	8.4	84	8.4	42	21.4	25.4	12.4	21.4	10.4	0.60	0.02	0.48	0.00	9,48
1SV16ME417	14	3	17	14	3	17	14	3	17	1	1	1	1	1	8.8		8.8			44	33.8	36.8	13.9	22.4	10.4	0.93	0.56	0.39	0.03	0,39
1SV16ME418	12	4	16	12	A	16	12	A.	16	1	1	1	1	1	8.0		0.0	8.0	0.0	44	23.8	20.8	12.8	23.8	12.8	0.70	0,61	0.38	0.70	0.35
15V16ME419	11	6	17	11	6	17		1	17	1					4.0	0.0	8.0	8.8	8.6	43	21.6	25.6	13.6	21.6	13.6	0.64	0.58	0.40	0.64	0,40
15V16ME420	13	1	16	13		10	13			-	-	-			29.6	14.2	14.2	14.2	14.2	71	26.2	32.2	21.2	26.2	21.2	0.77	0.73	0.62	0.77	0.62
15 V 1004E420	12		10	12		36	12	4	10	4	1	1	1	1	7.4	7.4	7,4	7.4	7.4	37	20.4	24.4	12.4	20.4	12.4	0.60	0.55	0.35	0.60	0.36
15V10ME421	11		19	11	8	19	11	8	19	1	1	1	1	1	11.4	11.4	11.4	11.4	11.4	57	23,4	31.4	20.4	23.4	20.4	0.69	0.71	0.60	0.69	0.60
1SV16ME423	12	0	18	12	- 0	18	12	6	18	1	1	1	1	1	7.8	7.8	7.8	7.8	7.8	39	20.8	26.8	14.8	20.8	14.8	0.61	0.61	0.44	0.61	0.44
15V16ME424	11	8	19	11	8	19	11	8	19	1	1	1	1	1	10.8	10.8	10.8	10.8	10.8	54	22.8	30.8	19.8	22.8	19.8	0.67	0.70	0.58	0.67	0.58
1SV16ME425	12	5	17	12	-5	17	12	5	17	1	1	1	1	1	10	10	10	10	10	50	23	28	16	23	16	0.68	0.64	0.47	0.00	0.47
TOTAL	844	313	1157	844	313	1157	844	313	1157	68	68	68	68	68	614.6	614.6	614.6	614.6	614.6	3073	1526.6	1839.6	995.6	1526.6	995.6	44 95	41.91	20.20	44.00	20.30
NO OF STUDENTS	68	68	68	68	68	. 68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	6.8	68	68	68	6.8	69	68	68.08
AVERAGE	13.19	4.89	18.078	13.2	4.891	18.08	13.19	4.89	18.078	1.1	1.1	1.1	1.1	11	9.6031	9.603	9.603	9.603	9.603	48.01563	23.9	28.7	15.6	23.9	15.6	20.14	65.22	45.75	20.16	45.76
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SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	ENGINEERING ECONOMY	SUBJECT CODE	1011571	٦
	ENGINEERING ECONOMIT	SUBJECT CODE	10ME71	

COURSE OUTCOME

C01	Explain the development of management and the role it plays at different levels in an organization
CO2	Comprehend the process and role of effective planning, organizing and staffing for the development of an organization
CO3	Understand the necessity of good leadership, communication and coordination for establishing effective control in an organization
CO4	Understand engineering economics demand supply and its importance in economic decision making and problem solving
C05	Calculate present worth, annual worth and IRR for different alternatives in economic decision making

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.

PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve Contemporary issues and acquire lifelong learning. PRINCIPAL SILE.T., TUMKUR -6 PRINCIPAL SILE.T., TUMKUR -6

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ARM VID		A TES	TRANS	0	IA TE	87.24	DRMD.	84.	TEST	ALMOND.	AS	SIGNE	MENT /	QUIZ	III MD	T	NER	HARR	(Sever)	-	I	1	Total Co	ATTAI	NMENT	-	-	8.00	manuface	100	-
USN	0	01 0	00 101	CAL 4	0001.4	COD D	TOTAL	COR	COS	TOTAL	. 000	0.00	C03	604	001	C00+1	£ C02	COU	CON	CD8	TOTAL	C00+54	C00+44	C03-34	C04-14	C08-34	001	000	cost	CONT	C08
15V11ME021		12	6 3		11	4	18	12		18	1	1	1	1	1	13.4	13.4	18.4	13.4	23.4	87	26.4	31.4	20.4	36.4	20.4	0.78	0.34	0.60	0.78	0.60
USVI1ME646		11	4 E	8	11	4	18	31	4	15	1	L	1	11	1	2	1 7	7	7	1		18	11	11	10	11	11.54	6.63	0.45	11.54	6.85
15V12ME077		12	1 1	8	11		11	12	1	18	T	1	1	11	1	1.1	12	8.2	1 87	8.2	41	111	24.2	12.2	14.1	41.1	11.6.2	0.54	0.00	100	0.00
ISV13ME018		15	0 1	1	11-1	0 1	19	11	8	18	ti	11	1	1.	1 1	1 11	1 4 2	1 1 1	1 11	1.2	1 1	24.7	24.2		14.4	M.4	0.42	0.25	0.00	0.44	-
1SV13ME949		12 1	10 E		11	24	12	17	10	-22	1.	1.2	1.1	+ -	+ :-		1 4 4		4.1			-	10.1		100		0.73	0.25	0.47	0.71	9,47
15V13ME172		4	7 1		-	71	18	- 11	TT	12	1	1	1.1	1 .	1	12.0	10.4	100	11.4	14.4		20.0	14.4	30.2	. 41.4	10.1	0.45	0.72	0.59	0.85	0.19
15V14ME001			13 B		<u>.</u>		23	11	10	22	÷	1		1.	1.	10.0	11.0	11.4	15.0	11.8	14	28.6	89.6	23.6	26,6	25.6	0.84	0.85	0.07	0.84	0.68
ISVI4MEDOF		12			**	~+	-	11	14		+ + +	+ + +	-	-	-	11.0	11.0	17.4	17.4	D.A.		25.6	41.8	10.4	29.0	30.8	0.87	0.95	4.90	0.87	0.90
TEVLAMEDOT	-			-	<u>.</u>		-	M	1.	- 10		1		1	1	113	m	11.1	113	111	- 41	36.3	31.2	11.2	15.1	39.2	11,74	0.71	0.54	0.74	0.16
12VLANE DOG					**	4	- 11	M		11	1	1	1	1	1	11.4	13.4	.13.4	15.4	15.4	11	38.4	37.4	25.4	28.4	25.4	11.84	0.85	0.75	0.84	0.75
TEVIANEETS	-		1 1	-	H F		- 11	ш	m	- 23	1	1	1	1	1	11.8	11.0	13.8	11.8	11.8	8.0	25.8	35.8	34.8	. 25.R	26.8	0.26	0.85	0.78	8.76	0.78
INVIANIO14	-		2 2	-	H	10	- 24	U.	11	34	1	1	1	1	1	17.8	17.0	37.8	17.6	37.8		30.8	42.8	30.8	30.8	30.8	0.91	0.92	0.01	0.91	0.91
10 Clabal Cold	-		1 1	-	<u>u</u>	11	8	u	n	25	1	1	1	1	1	16	16	36	3.6	24	80	29	42	30	29	30	0.83	0.95	0.68	8.65	10.88
13 Y HAMILUES		1 1	0 11		11	10	11	11	30	21	1	1	1	1	1	15	33	35	35	13	25		32	26	17	26	0.79	0.84	8.76	11.79	:0.76
15VIAMENT9	-	1 1	1 29		11	11	23	12	11	28	1	1	-1	1	1	12.4	12.4	33.4	12.4	12.4	62	25.4	36.4	34.4	25.4	24.4	0.75	0.83	0.72	8.75	0.72
15V14ME020	1	1 1	P 23		11	10	11.	- 11	30	25	1	1	1	1	1	33.4	13.4	13.4	13.4	13.4	87	25.4	33.4	24.4	25.4	34.4	0.75	0.60	8.72	8.75	6.72
15V14ME022	1	1 1	17	E. 0	11	3	11	12	- N.	\$7	1	1	1	1	1	13.4	23.4	33.4	18.4	13.4	87	25.4	31.4	28.4	26.4	18.4	0.78	6.71	0.57	8.78	6.57
15V14MERQ4	1	1 4	1.14		11	4	28	12	4	38	1	1	1	1	1	10	10	10	10	20	50	22	22	15	23	15	0.88	0.61	12.44		11.44
15V14ME027		1 0	4 25		1	24	n	1	24	25	1	1	1	1	1	15.1	15.2	15.2	15.2	15.7	34	17.3	41.2	41.7	17.2	40.2	0.51	11.94	1.18		1.18
15V14ME60	1	2 1	2 24	1	12	11	24	ш	ш	24	1	1	1	1	1	13.0	13.0	12.0	12.0	12.0	1 44	25.4	10.0	20.0	10.0	35.0	0.70	0.00	0.70		10.76
INVIAMED44	1	1 1	19		11		18	11		10	1	1	1	1	1	10.0	10.1	10.7	10.0	10.0		22.2	10.0	10.0	10.0	10.0	1.18	0.00	0.75		-
ISVIAMEORS	1	2 1	7 24		12	11	24	D	12	24	1	1	-		1	12	111	12	10.4	MAX .		20.0	30.2	10.2	- 11-1	10.1	10.80	0.00	0.56		
ISV14MEDIAS			1 1		15	11	10	11	10	10	-			-	1	10		M	11	M	80	25	11	-23	23	15	8.78	0.86	0.74	1.74	0.74
ISVIANITORS.	1 2					-			10			-	-	1	1	18.1	18.2	18.1	18.7	18.7	. 41	34.2	44.2	29.2	34.7	29.2	1.01	1.00	13.86	rut	0.86
ISV14MILTON	1			+		-		18	10	-	-	1	-	1	1	17.8	113	111	111	117	. 89	33.8	43.2	28.2	38.2	38.2	0.99	0.98	6.63	9.56	0.83
INVIAL BURN			1 10	-		10	10	n	п	в	1	1	1	1	1	36.8	14.4	14.4	15.6	18.6	#5	23.6	42.8	90.8	29.4	30.6	0.87	0.97	0.98	0.67	0.90
LAND COMPANY		11	13		1	D .	25	11	-13	25	1	1	1	1	1	34	34	34	14	54	70	27	40.	. 28	27	38	6.79	0.91	0.83	0.78	10.82
HELLING COMPANY	1 1	4	37	11		1	10	34		37	1	1	1	1	1	11.6	11.6	33.8	33.4	11.6	58	26.6	29.8	15.6	36.6	25.8	0.78	0.47	0.46	4.78	15.46
LEVIAMERS7	1	1 1	24	1	1 1	u	34	IJ.	12	24	.1	1	1	1	1	32.4	12.4	32.4	12.4	32.4	43	35.4	37.4	35.4	25.4	25.4	9.75	0.85	0.75	11.75	10.75
DAN14WEID1	31	1 1	24	1	1 1	U	24	11	11	24	1	1	1	1	1	36	38	36	36	16	10	29	41	39	29	29	0.85	0.98	0.45	1.45	0.85
1SV14ME0.59	11	1 1	17		1	6	17	11		17	1		1	3	3	15.2	15.2	35.3	25.3	35.2	26	27.2	33.2	22.2	27.2	72.2	10.00	6.75	0.45	11.80	0.45
ISV14MEI061	14	1 1	1 32	13	12 1	10	11	11	10	22	1	1	1	1	1	54.3	14.2	24.3	34.2	34.2	71	27.2	87.2	25.2	27.2	25.2	10.00	12.45	0.24	0.80	0.74
ISV14MED63	- 13	1	17	1	15	1	12	15	2	17	1	1	1	1	1	11.6	11.8	11.0	11.4	11.6	10	27.8	29.4	14.4	77.4	14.8	0.67	11.64	0.44	1 42	0.44
15V14ME070	13		25	1	18 1	0	25	15	0	15	1		1		1	11.3	11.7	71.2	11.2	11.2	14	22.5	22.2	12.2	22.2	11.1	-	0.62	0.44		
ISVIAMED72	1.11	1	34	1	2 1	11	24	12	12	24	1		1			14	14	14		24		110	10.0	20.5	- 47-4			0.44	0.20		1.10
INVIAMENTS:	11	1 5	11				12	11	-	12						1.1	11					47	39	- 41	41	41	0.78	0.87	0.79	0.79	6.79
15VI4MED78	1 11	17	14	11		7	10			10						17.4	17.4	87	- 17	11	85	200	20	25	30	20	0.86	6.80	0.68	0.88	0.88
INVIAMENTS.	1 11		14	+1	1	-	-				-	-	-			17.4	17.4	17.4	D.A.	17.4	87	25.A	36.4	25.4	25.4	25.4	G.86	0.82	0.75	0.85	0.75
INVIANCE CORU	1 1	1.	1	+ 3		-	. +		-	20			1	1	1	13.4	13.4	13.4	15.4	13.4	67	26.4	BLA	18.4	35.4	18.4	4.78	0.45	0.54	0.78	0.54
INVIANEUR?	1	+	1 2	+ 1		-	<u>-</u> +	10		- 10	-	1	1	- 1	1	12.4	12.4	12.4	32.4	12.4	82	27.4	34.4	30.4	17.4	20.4	0.81	0.78	0.40	0.81	11.40
EVIAMENT?		1.0	10	1.	-	-	20	H	-	20	1	1	1	1	1	17	17	17	47	- \$7	#5	30	35	- 26	10	26	0.88	0.86	0.76	0.88	0.78
COLUMN T		1 10		1.1	4	-	#	11	10	11	1	1	1	1	1	13.2	11.2	33.2	33.2	13.2	65	- 26.2	36.2	34.3	26.2	24.3	0.77	0.82	0.71	0.77	0.71
LAN PARENTY	11	17	19	1 1	4		19	11	7	18	1	1	1	1	1	33	11	11	11	11	35	24	- 11	38	34	19	0.71	0.70	0.54	0.71	0.54
LAY LEADERSON	10	1.	22	1.2	4	-	11	34		33	1	1	1	. 1	1	11.4	11.4	33.4	31.4	11.4	\$7	28.4	34.4	25.4	26.4	30.4	0.78	0.78	9.60	0.78	0.60
DATE (MANUTARY)	11	11	24	1	1 1	1	24	11	11	34	1	1	1	1	1	12.8	12.8	32.8	12.8	12.8	64	25.8	87.8	25.8	25.8	25.8	0.76	0.86	0.76	0.76	0.76
LSV14ME094	12	11	24	1	1 1	2	34	ш	12	34	1	1	1	1.1	1	11.8	11.8	11.8	31.8	11.8	39	24.8	36.8	26.8	24.8	34.8	0.73	0.84	9.73	0.73	0.78
ISV14ME401	15	1.5	20	1.1	5 5	F	32	25	8	30	1	1	1	1	1	Ð	0	0	0	0	Ð	24	21	6	36		0.47	0.48	5.18	0.47	0.18
ISV14ME410	1	. 14	13	1	1	4	25	1	14	15	1	1	1	3	1	15.2	25.2	15.2	25.2	15.2	76	17.2	31.2	30.2	17.3	80.7	0.51	0.71	0.09	0.51	11.89
SV34ME411	11	1	28	1	1 1		28	12	3	15	1	1	1	3	1	30	10	30	80	10	50	28	26	34	29	14	11.68	0.14	0.41	0.68	0.41
SV14ME412	11	3	15	1 12	1 1		18	12	3	35	1	3	1	1	1	10.4	10.6	10.6	10.6	39.6	63	28.6	26.4	14.6	23.6	14.6	71.63	0.40	0.41	0.68	0.43
ISV14ME414	11		20	11	1 .		20	14		20	1	3	1	1	1	10.4	10.4	10.4	10.4	32.4	12	22.4	81.4	19.4	22.4	18.4	0.65	0.21	0.57	0.64	0.51
ISV15ME400	11	1.8	19	11			19	11		38	1	1	1	1	1	17.4	11.4	11.4	11.4	11.4		22.4	11.4	30.4	22.4	30.4	0.65	0.73	0.00	0.00	0.02
SVISMEAU.	112	1.0	21	10	1 .		n	17	-	23	1	1	1		-	16.2	10.2	10.0	10.0	10.0		10.0	10.4	2018	22.0	20.0	0.00	0.73	0.00		100
SVI3ME403	15	17	12	1 25	1 1		11	15	1	22	1		-	-	-	14.2	14.1	14.2	14.1	14.1		10.2	10.1	20.2	20.3	19.1	0.00	0.87	6.07		4.77
SVISME404	112	1 4	1 21	1 1			11	11	-	21	1			-		14.4	14.2	14.4	14.2	10.1	74	30.2	1.18	24.7	36.2	44.4	0.97	0.65	6.85	11.89	0.45
SVISMEAN	1 12	tř		1 1		-	14		-		-	-	-	-	-	34.6	34.0	14.5	14.6	34.8	19	27.A	36.4	74.6	27.6	34.6	0.81	0.83	0.72	0.81	0.72
SVISNE AV	1	1.	1	1.1	-	-	-		-	-	-	-			1	8.4	8.4	11	84	8.6	43	31.6	25.4	13.6	11.4	13.6	6.44	0.58	0.40	0.64	0.40
EVISNE AND	1 11	1.0	10	11	4	-	10	11	-	15	1		1	1	1	8.8	8.6	8.6	88	8.6	.44	31.8	24.6	12.6	21.8	32.6	0.64	0.56	0.37	8.64	0.37
SUISALE AND	1 11	1.04	8	111	10	4	8	8	34	18	1	1	1	1	1	17.6	12.6	17.6	17.A	\$7.6	80	29.4	43.6	12.4	29.4	10.6	0.47	0.99	0.96	8.87	8.96
A VISION	11	11	21	11	11	44	12	11	11	11	1	1	1	1	1	26.4	15.4	38.4	36.4	18.4	82	38.4	38.4	28.4	28.4	28.4	U.M.	0.90	0.84	0.84	0.84
OVIDALE AND	12	11	23	12	11	4	23	12	11	D	1	1	1	1	1	13.6	13.6	13.6	13.6	13.4		36.6	17.6	25.8	26.6	25.6	6.78	0.85	0.75	0.7A	0.75
SVISME411	11	11	13	11	11		11	11	11	32	1	1	1	1	1	7.2	7.1	7.2	7.3	7.1	36	19.2	30.2	19.2	19.2	18.2	8.36	0.89	0.54	0.34	0.34
SV19ME412	32		11	1/		1	n	12		21	1	1	1	1	I.	11	13	13	13	10	45	26	10	21	26	13	0.76	0.40	0.68	0.76	0.84
SV23ME413	12	9	111	11		1	в	13		21	1	1	1	1	1	\$7.4	17.4	17.4	17.4	17.4	87	30.4	19.4	17.4	30.4	17.4	6.85	0.00	0.01	0.00	0.81
SVISMEATS	36		25	14		1	8	16		25	1	1	1	1	1	15.4	16.0	16.0	14.4	18.0		11.0	47.8	20.0	12.4	36.8	6.00	0.97	0.78	0.00	0.74
SVISMEAIA	35		21	13			n	15		23	1	1	1	1	1	7.4	24	14	2.4	24		23.4	28.4	14.4	17.4	14.4	1000	0.07			ALC: NO
SVISME417	12	10	22	1 H	10		12	11	10	22	1		1		-	17.6	17.6	11.4	12.4	12.4	-	20.4	40.4	10.0	224	10.4		0.67	0.43		1.42
SVISME418	12	1 1	1.0	12	17		1	U T	71	10	1	11	1			10	10	10	AT/R	12.	47	2010	10.0	38.0	10.0	10.0		0.01	0.04		1.00
SVISME421	1.12	112	1.0	1 12	1	1	-		44	-	-	+	-		-		10.0	10	10	10	85	15		11	- 20	-11	8.76	8.75	0.63	0.76	0.67
EVISMEANT	111	1		1.0	1 1	+	-				-	++	-		-	15.4	15.8	11.8	13.8	11.8	19	24.8	41.8	39.8	18.8	23.8	8.85	B.95	0.58	0.80	0.88
CUISAR 454		1 11	-	1.1	1 1	+ 1	-		-		-	1		-	1	13.4	13.4	11.4	13.4	13.4	67	25.4	36.4	37.4	31.4	27.4	4.75	-0.87	6.81	8.75	0.81
CUISME AND	M	11	n	1 11	1 10	1	0	11	10	25	1	1	1	1	1	11.8	13.6	13.4	13.6	13.6	- 648	26.8	. 39.6	27.K	36.0	27.8	4.76	0.90	0.81	0.78	0.81
CUISES CALS	u	1.	14	1 U	4	1		17		34	1	1	1	1	1		8.8	1.0	14	8.8	49	22.8	38.8	36.8	33.8	26.8	4.67	0.85	0.48	0.67	0.49
1 V 13MEA27	n	30	31	33	30	1	0.	11	10	21	1	1	1	1	1	11.1	11.2	11.2	11.3	11.3	14	23.2	89.2	22.2	13.2	22.2	0.48	0.75	0.65	0.68	0.65
IVESME429	15		34	25		1 2	14	15		34	1	1		1	1	11.6	12.8	12.0	12.6	12.6	63	28.4	17.6	22.8	28.6	72.4	6.84	0.85	0.64	0.84	0.66
W15ME431	15	6	88	15	-0	1	18	15	0	15	1	1	1	1	1	8.4	8.4	8.4	44	8.4	47	24.4	26.4	8.4	24.4	8.4	0.77	6.55	0.28	0.71	0.74
TOTAL	854	805	3461	854	605	14	40 4	66 0	105	3461	71	71	n	T	n	925	104.3	824.2	924.2	834.2	4625	1857	2456.2	1000.7	1811.7	1000.2	1	10.07	42.06	4.45	\$7.00
O OF AVERAGE	- 73	71	71	71	71	7	1	73	11	71	71	71	71	1	n	73	23	71	n	71	71	71	71	71	71	71	1	21	71	22	77
AVERAGE	13.38	3.45	32.828	13.4	8.45	1 22	83 1	1.34 9	45 2	2 838 1	100 1	1.10%	1.3094	1,1000 (1.100	14.453	24.44	14.04	24.44	10.00	23.22	10.0		10.0	10.0	70.0	Sec. A	82.25	71.54	in the second	and the other

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Mander Demograthe

PRINCIPAL SIET., TUMAKURU



SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

	SUBJECT	MECHANICAL VIBRATION	SUBJECT CODE	10ME72	
- 13				and the second se	

COURSE OUTCOME

COI	Understand the fundamentals of mechanical vibrations.
CO2	Ability to apply different methods for formulating the equation of motion for free and damped vibratory system and their solution cases.
CO3	Analyze the response of rotating imbalance and harmonic excitations, and applications in vibration isolations.
204	To learn various methods for calculating influence coefficients and principle modes of vibrations.
C05	Understand the different modes of vibrations and applications of numerical methods.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

H.O.D Dept. of Mechanical SIFT TUMKUR -6

PRINCIPAL SIET., TUMAKURU,

COLLEGE		SHR	IDEVI	INST	ITUTE	C OF E	NGIN	EERIN	G & T	ECHN	OLOGY	Y
FACULTY	NAN	1E	BHV	ASUDI	EVAM	URTH	Y					
BRAN	СН			ME		A	CAD	EMIC Y	EAR		2017	-18
COURSE	B.	E	SEM	ESTE	R	vn		SECTIO	N			
SUBJECT		MEC	HANI	CAL VI	BRAT	ION	1	SUBJE	ст с	DDE	10M	E72
CO & PO M	APPI	NG							-	-		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
COI	2	3		-								
CO2	2	3		13		1213	-3					
CO3	2	3	1	112.73					100		ENE	-
CO4	2	3		100							10 10	
CO5	2	3	1000									
AVERAGE	2	3										
					pa	OVE	RALI	L MAPI	PING C	OF SUB	JECT	2.5

	C0%	PO1	PO2	PO3	PO4	PO5	PO6	PO7	POS	PO9	PO10	POIL	PO12
CO1	70.77	1.41	2.12			18.2	1	100		222202		ALL CONTRACTOR	and the second second
CO2	71.45	1.42	2.14	13,22	2					The second	11		
CO3	54.28	1.08	1.62			-			130			1000	
CO4	70.77	1.41	2.12		92.00	14-611				-		1000	
CO5	54.28	1.08	1.62	1		100				And the	1000	1000	
AVERAGE	64.31	1.28	1.92	2.2		100			1			1	
	and the second	174	ALC: 2		200	1		FINA	LAT	CAINA	IENTL	EVEL	1.6

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Mender the PRINCIPAL SIET., TUMAKURU.

Academic year	r 30	17-1		4	EM	VII		T	Total	strength	T	1	1 5	shiert	1 Me	charatical	Willer	-	1	-	Rebler	104	1		-	-	-				_
3036.911	IA	TES	TACH	M0	IA T	ENT 1	2(3684)	1	A TES	T ADAM	A	REAGAN	MENT	/ QUED	10 MJ	T	SEE	MAR	N. Semi		and and	Code .	- 30 Toroi C	MATT	the new years	-	+		1	_	_
LINN INCOME.	00	1 0	A 101	TAL	103	003	107,4	1 00	0# CI	DS TUTA	L CO	6.00	6113	C104	005	C01+1	a co	t co	al ce	HC	IL TOTA	1. 001-3	4 C000+4	ALCOND.	ALCON.	al cost	10	at Lo	A set m	Strikes	031
LSV11NEUC1	1	1.1	1 1	8	2	10	18	1.1	1 1	3 35	1	1	1	1	1	1 8.8	1.					11.0	24.4	1000	a const	1000	14 65	are o	0010	an ca	4 0
ESVI1MED66	11			6	12	4	36	1	2 4	1 16	1 1	1	1	1	1	1	17	1.	+	+ -	-	11.0	- 24.5	22.4	11.0	111	- 0.	15 B.	M 0	007 0.1	5 0
ISV12MERT7	.11	4	1	5	11.	4	15	11	1 4	35	11	11	1			1 11	1.5				10	47	n		17		0.	10 0.	All G	16 0.1	0 0.
ISVI3ME#18	12	1	1	1	11	1	15	11	2 3	1 11	11	1.1	1				1	1		1.	1 22	35.4	20.4	. 9.4	18.4	8.4	- 0,	AR 0/	A6 0	38 0.4	4 11
SV03ME049	10		11		UT I	-	15	1:		1 11	÷				1	2.4	120	12	1.	1 14	1 11	15.4	14.4	5.4	15.4	6.4	6.	45 6/	47 0	39 0.4	15 B.
EVIJMETT2	11		11		11		15	17			÷	1	1			3.4	1.44	1.94	1 2/	1 3.4	47	32.4	25.4	23.4	- 31 A	13.4	0.0	46 0.7	54 0	39 6.1	6 0.
SVERMEDRI	11		1 1	-	**	-		1.1	4	10	1.	1	1	1	- 1		1	1.4	1.1		- 40	28	-24	10	30	18	0.1	10 0.1	55 0	38 8.5	0 0
SV14ME103	11	ti	1	-	**	- 1		1 2	1	18	11	1	1	1	- 3 -	12.2	12.1	1 12.	3 13	2 12.	3 44	25.2	11.2	39.7	10.1	19.1	a	24 0.	23 6	34 0.3	4 0
SVIAME INT		H	+	-	<u>H</u>	-	- 15	1.1	2 3	15	1	1	1	1		13	13	1.10	1 11	11	45	24	21	17	34	12	10	25 0/	11 1	20 4.1	
CUTALATION.		44		-	<u>H </u>	1	37	11	2 5	17	1.1	1	1	1	1	32.4	12.0	1.12	4 12	4 12	4 42	15.4	30.4	18.4	1 12.4	10.0	100	-	<u>et</u> r		-
SVI 45 4EOUT	- 11		1.15		11	4	13	11	1 4	38	1.1	1	1	3	1	3.6	1.14	1 14	1.14	1.14	30	26	10	10	1 10	1 10.0	-	3 0.4	<u>- 12</u>	24 (4.)	5 6
av pression.	-11	1.11	11		11	11	- 38	-11	1 11	28	1	1	1	1	1	11	111	1 11	1 11	111	44	14	1 1	1 11	1		- 0.1	0 0.4	.	24 11.7	4 0
NV14ME018	11				11		205	11	1 8	70	1	1	1	1		3	17	17	17	1 .	1	1 10	1 10		- 24	10	18.3	1 0.5	10 0	88 0.7	3 0/
SV14ME015	- 11	3	24		11	3	16	11	1 5	16	1	1 1		1	-	13.2	1.	1.	1.1	1.0		- 40	- 18	16	- 20	14	0.5	19 0.8	14 0.	47 0.3	9 0.
SV14ME009	12		20		11		28	T II		205	ti	1			-	10.4	1.00.0	144	<u>111.</u>	1 11-	41	-24.2	29.3	38.2	- 24.2	18.2	10.1	1 0.0	10 0.	54 0.7	1 0.5
SV14ME320	11	1	1.10		11	7	2.0	1.11	1	1 10	12			-	-	11.4	1114	117	111	111.	4 57	24.4	12.4	20.4	- 28.4	30.4	0.7	13 0.3	4 0.	40 0.7	1 0.
SV14ME022	12	1	15		<u>ii</u> †	÷	15	1.	++	1	÷.		-	1	1	11.4	114	11.4	111	11.4	1 14	23.4	30.8	19.6	28.6	25.6	0.6	0 0.7	10 0.	54 0.4	9 0.1
SV14MERCH	1	14	115	+	-	-		14	4.0	10	1.1	1		1	1	11.2	11.2	11.1	1 11.	11.1	1 50	24.2	17.1	15.2	24.1	35.2	0.7	11.0.0	12 0.	45 0.7	1 0.
Wishning?	11	12	1 2	+	4		- 10	11	14	15	1	3	1	1	1	\$0.4	10.4	10.0	10.4	1 10.4	52	12.4	26.4	25.4	12.4	25.4	10.7	101	0 0	73 0.3	0.0
EVI and states		10	10	-	1	19	20	1	19	20	1	1	1	1	1	9.4	3.4	8.4	3.4	8.4	47	11.4	30.4	25.4	11.4	10.4	101	-			
Contraction of the second	11	11	n	1	4	11	28	12	11	23	1	1	1	1	1	7.4	7.6	7.6	7.4	24	10	20.4	11.0	10.0	101.4		+==				-
**********	1	22	75		1	22	13	1	21	2.9	1	1	1	1	1	1.4	5.6	1.0	1.0	111	1 10	1 10	1 10.0	10.0		10.6	10.4	1 0.7	412	10.0	0.5
SV34MED45	1	34	13		1	14	15	1	14	25	1	1	1	1	-	11.4	100		1.00	100	1	1.0	12.8	38.8	1.0	28.8	103	1 0.4	813/	6 0.2	6.
W14MED46	11	13	34	1		13	24	11	12	24	1			-	-	10.4	11.4	11.4	1.1.1	11.4	- 17	114	37.4	38.4	13.4	35.4	18.8	2 36	4 1	18 0.8	4.
W14MEpay	11	10	21	1		10	21	117	1 10	1 11				-	-	66.8	12.8	111.6	112.	111	- 63	24.8	37.8	26.6	24.6	36.8	0.7	2 0.0	5 0	78 0.7	0.3
W14MH012	12	10	1.11		2	10	-	11	1 10			-			1	3.4	9.4	1.4	1.4	3.4	47	21.4	81.4	20.4	21.4	30.4	10.0	1 0.7	1 0.	00 0.0	0
VIAMEONY	111	12	1.11	+	-			M	1.00	- 41	1	1	1	1	1	7.6	7.6	7.8	7.8	7.4	34	20.4	30.4	18.8	25.6	18.0	10.0	1107	al al	IN DA	1 10
VIAMENTS		-	- 15	+	-	1.1	25	12	111	10	1	1	1	1	1	11.6	11.6	11.4	11.0	11.4	18	24.4	37.4	15.6	34.0	79.0	10.	1 0.	100	-	
VIANDARY	- 11		15	11	4	1	18	12	1.3	33	1	+ 1	1	1	1	-7.4	7.8	7.8	7.8	2.8	10	20.8	12.4	12.0	10.0	21.0	100	1	5	1 4.1	0.7
* P4962057	11		19	1	1		38	11		19	1	1	1	1	1	22.8	10.0	30.0	10.0	10.0		11.0	100	10.0	20.8	and a	10.8	100	취원	0.0.0	0.1
VIAMEDUB	. 12	1	39	1	2	7	10	12	17	1.9	1	1	1	1		14.8	144	14.6	14.4			22.0	20.0	19.8	4.8	19.8	1 D.A	/ 0.7	0 8.9	9 2.6	0.5
V14ME059	12	1	35	1	2	3	15	12	1	13	1	1	1		-	10.5	24.9	24.6	-	24.4	10	17.6	24.8	11.8	11.6	32.4	0.8	1 8.7	5 67	6 6.8	0.6
V14ME061	11	7	2.0	1 1	1	7	10	11	t÷				-	-	-	10.7	1011	10.1	30.2	30.7	<u>- 11</u>	11.2	26.2	34.3	29.2	14.2	6.6	A 0.6	0 8.4	12 0.6	0.4
V14ME053	12		25			-	-		+÷			-	4	-	1	8.8	44	8.8	8.8	.6.8	44	20.4	27.8	24.8	30.8	18.8	8.6	1 0.6	0 0.1	19 0.41	0.4
V14ME070	10	-		+3	-	-		- 14		- 10	1	1	1	1	1						45	- 22	25	11	22	13	10.8	4 85	7 01		
LANGUTT	121	-	45	+ *		-	11	12		25	1	1	1	1	1	1	2	7	. 7	7	15	20	23	11	30	11	0.5	1 0 5	2 01	1 0.1	
148480074		10	-11	1 1	11	D	31	11	10	11	1	1.	1	1	1	30.8	30.8	15.4	30.8	10.4	54	11.8	12.4	21.0	11.0	10.0	10.3	107	1.0		
140410276	11	1	25	1.1	1	1	18	11	1	13	1	1	1	1	1	11.8	11.8	11.0	11.0	11.0		34.0	22.4	44.4		41.0	0.0	2 4.7.	4.88	0.7	0.6
V14/ME0/78	11	7	39	14	1.1.1		18	11	7	18	1	1	A.	1	1	11.4	11.4	11.4	11.0	11.0		24.0	47.8	10.0	24.4	15.8	0.73	10.4	1 8.4	4 6.7	0.4
V34M8079	33	4	18	1 11			15	11		15	1	1	1	i	1	2						76.4	13.8	21.8	25.8	114	0.79	1 8.7	/ 0.8	4 0.75	0.6
V14ME080	13	0	15	11			15	15		15	-		**	- +	-	10.0	-	-		1	n	19	- 10	12	19	11	0.54	1 0.57	1 9.3	6 4.54	0.8
V14ME-082	1 15	5	30	15			20	15.	-	10			**			11.4	111	13.8	33.8	11.8	. 69	29.8	21.8	34.8	25.8	14.8	0.8	1 13.65	1 6.4	4 6.88	0.4
VIAMENT T	1.14	1	20	1 14		-	-		-			-		1	1	44	8.8	8.8	8.8	8.8	- 44	24.8	21.8	34.8	34.8	14.8	12.7	0.00	1 8.4	4 0.71	0.4
14MEXIEP	11	-		1-2				-	-	- 20	1	1	1	1	1						.45	24	30	38	34	16	11.77	C.M	104	7 8.21	0.4
AMERICA	1	<u>.</u>	-	1.0	-	-	<u>n</u>	10	0	- 25	11	1	1	1	1	2.4	3.4	1.6	3.6	3.6	1.6	19.6	15.8	4.6	25.4	44	0.47	10.41	Ins	4 0.54	6.1
Laborat	1.0	<u>-</u>	- 11	1 11	1.1	4	H	11	-11	п	1	1	1			1	1	2	+	1	25	19	301	10	28	10	0.54	1 mail	1	0.44	
A shall be	141	#1	- 24	-11	1.1	1	34	11	12	34	1	1	1	3	1						40	21	11	21		10	10.00	1	1.0.0	0.30	0.8
14MERA4	111		38	11	1.1		20	11		20	1	1	1	1	1	11.7	** **	11.3	11.2	11.1		22.2	44.5	- 22	- 22	43	0.62	0.75	0.6	1 0.61	0.8
34ME493	112	1	35	12	1		25	11	1	15	1	1	1	1	-	-		-	44.4			454	N.4	11.1	20.7	21.2	0.63	0.79	0.6	2 0.68	0.6
14MEADD	11	3	28	11	1.6		18	12		15	i l	1	-	-	-		-	-				11	38		- 19		0.38	0.36	0.1	2 0.38	0.1
TAMENT.	31	4	11	11	1		15	11	1	15	÷			* +		2.4	2.0	2.6	2.8	44	-26	58.6	23.6	8.6	18.8	5.5	0.55	D.45	1 0.3	0.95	0.2
14546412	1 11		10	11	17	1	11		-			-	4	-	-	14	1.1	1.2	7.2	7.2	. 36	39.2	28.2	12.2	15.2	12.2	0.54	0.54	0.3	6 0.56	0.3
14ME414	12	1	10	1 17	12	+	-		-	10	44	-	1	1	1	4	4		4	4	30	26	20	9	36		6.47	0.41	9.2	6 0.47	0.24
TIMEAND	1 1	-	-	14	14	+	-	11	1	15	1	1	1	1	1	12	12	7.2	7.2	7.2	36	20.2	25.2	\$1.7	25.2	33.2	0.55	10.91	103	0.64	
15545 415	1.	-	-	34	11	+		14	1	38	3	1	1		1	12.2	12.2	12.3	\$2.2	12.7	41	37.2	29.2	15.2	22.2	35.2	0.00	ter	1 ac	10.0	-
LABOR AND	1.0	-	11	13	12	1	17	15	3	17	1	1	1	1	1	10.6	ID.6	10.4	10.4	30.4	10	28.6	28.4	11.4	20.0	12.4	10.20	122	100	10.00	8,41
1110	34	1	17	34	1.1	1	11	34	3	17	1	1	1	1	1	12.0	1.4	11.8	11.0	11.0	30	24.0	10.0	15.0		14.8	4.78	10.65	1.0.4	0.78	6.4
SALE-4D4	11 1	6	18	12		1	18	u l		1.0	1	1	1	1	1						-	10.0	28.8	19.4	0.8	15.8	8.79	10.60	10.4	0.79	0.44
5ME405	12	1	15	11	1		18	12	1	13	1	1	-	-	-				-	-	4/	42.4	38.4	16.4	22,4	36.4	0.66	0.45	10.4	0.66	0.4
5ME406	15	0	13	19	1.0		1	15	-	15	÷+-	-	-	-	4	1	1	7	1	1	15	30	28	11	20	11	6.59	0.57	0.3	8.59	0.12
5ME407	12 1		23	11	T in	1	-	12	-		-	-	-	-	4	8.8	14	9.8	9.8	3.8	49	25.8	25.8	30.8	25.8	10.8	0.76	0.59	0.3	8.76	0.12
SMEAGE	1.0	1	30	11	17	1	-	-			4	1	1	1	1	34	14	14	14	14	70	27	40	28	27	24	6.79	0.91	Ine	0.78	D.BI
Shill don	1 11 1	1		44	10	+ *	-	4		20		1	1	1	1	8.6	8.6	8.8	8.5	8.5	43	21.6	29.6	17.6	23.4	17.6	0.84	9.67	Ine	0.04	0.1
INSTATIA		-	-	- 11	1.10	11	0	11	10.	n	1	1	1	1	1			8			40	20	30	19	30	10	0.10	0.00	100	0.00	0.1
Strain	H I	-	-	u	11	1	3 1	12		11	1	1	1	1	1	7.8	2.8	2.8	2.8	7.8	29	20.0	13.4	12.0	20.4	12.0	0.00	100	120	0.34	0.54
WINTEZ.	11 4	1	38	LI I		1	4 1	12	4	3.0	1	1	1	1	1	84	14	1.4	8.4	14	42	21.4	10.0	11.4	24.6	37.8	441	0.68	105	0.61	0.53
ME413	11 1		30	12		2	0 1	12		20	1	1	1	1	1	11					-	114	-12.4	10.4	41.4	11.4	0.63	0.58	0.39	0.61	8.39
ME415	13 3	8	11	11	10	1	1 1	14	10	11	1	1		1						-	- 20	24	H	10	24	20	0.71	0.71	0.5	0.71	0.55
ME416	12 1	1	23	32	11		1 1	UT I	11	73	-	-	-	-	-			-	41	11	55	20	.0	22	23	77	0.68	0.75	0.41	0.68	8.65
MEAT	15 2	1	22	11	111	1		-	-	10	-	-	-	4	-	44	H.	11	11	11	60	25	34	34	8	24	0.74	0.40	0.71	0.74	8.73
MEALE	10 4	-	11	11	1	1					-	4 1	4	1	1	18.8 1	1.8 1	3.8 1	13.0	13.4	69	21.8	36.8	25.8	23.8	25.8	0.74	0.94	0.7	6.74	11.74
MEAT	11	-		-	1	- 11	1	-		17	1	1 1		1	1	12.7 1	2,2 1	2,2 1	12.2	12.2	62	25.2	30.7	16.2	25.2	18.2	0.74	0.60	0.34	0.74	0.54
AUX AVA	11 1	4	0	- LL	-13	- 21	1	4	1.0	23	1	3 1		1	1	11 1	11	11	11	11	55	24	37	25	34	20	0.11	1000	120	10.74	0.94
ALC: NO.	11 4	1	10	11	4	11	1 1	1	4	15	1	1 1		1	1	8.7 .	12 1	17	12	17	41	10.1	24.7	13.5	100		2/1		10.76	071	0.74
NEADS	31 3		13	21	2	23	1 2	1	2	29		1 1	-	1	1	2.4			7.6	14			-	10.0	41.4	11.1	1.54	0.55	1.88	0.59	0.31
ME423	12 3		15	12	3	15		1	1	15		1	-	-	-	1	1			-	-	19.8	11.8	10.8	23.4	30.8	0.88	0.72	0.37	0.88	0.83
ME427	12 3		15	12		11			-	13	-	-	-		-	-	-		44	-	40	11	34	12	25	12	0.62	0.55	0.25	0.42	0.35
ME429	11 4	-	13	11	-			-	-		-	1	-			1	F	7	1	1	15	20	28	11	30	11	0.58	0.52	0.37	0.59	0.81
MEAL	12 .	+		-	-	1	-	1	-	15	-	A 1		1	1	7.	1	7	2.	2	31	29	28	12	19	17	0.16	0.57	0.35	0.44	0.01
CONTRACTOR OF THE OWNER OWNE	M S	+-	-	M	-	11	1	1	3	15		1 1		1	1	7.6 7	6 7	6 1	1.6	7.6	34	20.4	23.6	11.4	30.6	11.0	A.F.1	0.54	4.24	0.00	0.00
DOTAL	ALC: N	11	2011	809	472	114	1 80	8 4	72	1281 3	1	71 7		11 1		40 4	10 A	and a	and a	inter 1	-	10.00	ADD IN COLUMN	-	10.00	14.4		10.24	1000	0.01	0.94
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H.O.O Dept. of Mechanical S.I.E.T., TUMKUR -6

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SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT HYDRAULICS & PNEUMATICS SUBJECT CODE	10ME73
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COURSE OUTCOME

CO1	Understand the basic concepts (principles) of working and maintenance of fluid power system with its potential applications.
CO2	Interpret the construction and working of input and output elements of fluid power systems viz. hydraulic and pneumatic pumps, motors and cylinders.
CO3	Demonstrate the functioning of control valves for obtaining desired output from fluid power systems.
CO4	Formulate (construct) the hydraulic and pneumatic circuits for various outputs
C05	Integrate fluid power system with electrical and logic elements, controls to maintain the sequence of operations
	CO1 CO2 CO3 CO4 CO5

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- PO7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve Contemporary issues and acquire lifelong learning. PRINCIPAL SIET., TUMAKURU,

Dept. of Mechanical TUMKUR -6

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SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	OPERATION RESEARCH	SUBJECT CODE	10ME74	٦
	or another meser men	SUBSECTCODE	TOME /4	1

COURSE OUTCOME

C01	Apply the significance of Operations Research in decision making and identify and develop mathematical model from verbal description of real system problems
CO2	Obtain the solution of formulated real life problem with its inherent resources and constraints.
CO3	Recognize and formulate a transportation and assignment model and obtain optimal solution with all the variants of models.
C04	Construct network diagram and determine critical path, floats for deterministic and PERT networks including crashing of networks and waiting line problems for M/M/1 and M/M/K queuing theory.
C05	Solve problems on game theory for pure and mixed strategy under competitive environment and also Determine minimum processing times for sequencing of n jobs-2 machines, n jobs-3machines, n jobs-mmachines and 2 jobs-n machines using Johnson's algorithm.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- PO7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- P012 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve memory issues and acquire lifelong learning.

 PRINCIPAL
 SIET. TUMAKURU

Dept. of Mechanical

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15V13ME018	12	3	25	13		15	12		15	1	1	1	1	1	8.6	8.6	8.5	8.6	8.4	-43	21.4	24.8	12.6	21.6	12.6	0.64	0.5#	0.37	0.88	0.03
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ISVISMENTS	11	-	17	11		12	17	5	17	1	1	1	1	1	7.4	2.4	7.4	7.4	3.4	\$7	20.4	25.4	13.4	200.4	18.4	0.40	0.58	0.38	0.40	0.99
100133462001	1	<u>-</u> +	47	-	14	12	-	14	17	1	1	1	1	1.	34.8	14.8	14.8	14.8	34.8	34	36.8	33.8	31.8	10.0	81.8	0.48	0.75	-0.94	6.48	8.94
154 SWALDON		-		-			-		10	-		-	-				-			40	21	27	19	21	15	10.62	0.61	6.44	0.42	0.44
15V34MB065	10	-	18	11		- 10				-	-	-	-		11.0	10.0	13.6	13.6	11.4	44	28.4	12.6	21.6	26.6	21.6	0.78	0.78	0.44	0.76	0.64
15V14ME007	11	7	. 29	12.	1	29	-	1	28	1	-	-	1				10.0	10.7	10.0		10.0	10.0	16.7	22.2	15.3	0.45	0.60	0.43	10.65	12.45
15V14ME009	11	4	15	11	4	35	11	4	35	1	1	1	1	1	91.2	10.2	10.2	10.4	10.4	34	11.0	10.1	10.0		24.5	4.84	0.80	0.48	1.40	0.64
15V3AME012	42	8	20	12	8	30	34		28	1	1	1	1	1	34.2	14.2	14.2	14.1	14.7	n	111	M4 1	23.2	11.4	49.4	0.00	0.00		0.01	0.01
15V14ME014	11	15	22	11	11	22	11	33	22	1	1	1	1	3	25.4	25.4	15.4	25.4	15.4	n	DA.	38.4	27.4	17.4	17.4	0.81	0.87	0.01	0.01	0.04
18VIAMED13	12	-	18	12	6	38	12		14	1	. 1	1	1	3						45	11	28	18	- 11	38	0.65	0.64	1.47	0.95	0.47
TRV14MED10		-	19	28		28	11		2.8	1	1	1	1	1	15.8	15.8	11.5	15.8	15.8	79	27.8	35.8	24.8	37.8	24.8	0.83	0.81	0.73	0.62	0.73
TEXTAMENTO .		-		24	-	23	31	0	21	1	1	1	1	1	3.8	8.8	9.8	8.8	3.8	49	31.8	31.8	35.8	31.8	90.8	0.94	4.72	0.37	0.94	0.32
CONTRACTOR OF A	4.6	-+			-			-	10	-	-	-			12.2	12.2	12.2	12.7	13.2		25.7	25.2	\$7.2	25.3	17.2	6.74	0.48	8.51	0.74	0.51
15410500044	M		24	24		34	- 14		- 18		-		-		44						11.4	77.8	25.0	21.6	13.6	0.64	0.49	0.46	11.84	0.46
15V14MED24	u	4.1	34	14		3.8	-12		3.6	1							0.0				20.0		12.0	11.0	11.6	0.64	0.62	0.52	12.64	0.52
15V14ME027	11	8	20	12		38	12		20	-1	1	1	3	1	8.8	8.6	8.8	AA	8.8	43	25.8	22.6	37.00	43.9	100		10.00	10.10		0.54
ISV14MED43	15		23	25		73	15		28	1	.1	1	1	1	- 11	11	-11	11	11	55	17	- 10	30	- 16	- 40	1.19	1.00	1 10.00	10.10	0.45
ISVI4MED44	14		18	34		18	34	4	18	1	1	1	1	1	10.8	10.8	30.8	10.8	10.8	54	75.8	29.8	15.8	25.8	15.4	8,76	1 1.8.8	10.45	0.76	0.48
ISVI4MEDB5	15	1	20	25	1	20	15		70	1	.1	1	1	1	88.2	11.7	11.7	11.2	11.7	56	27.2	12.2	17.2	27.2	17.2	0,80	6.75	0.51	0.80	0.51
TRATANGO A		-	34	15		24	15		24	1	1	1	1	1	17.2	17.2	17.2	17.2	17.1	86	88.7	42.2	27.2	33.2	37.2	0.98	8.96	0.80	8.98	5.80
100 Carlos and and		<u>-</u>	-	10	11	-	12	10	10	-		1		1	10.0	14.0	14.0	14.8	14.8	74	27.6	36.8	26.8	27.8	26.8	0.52	1.88	0.79	11.82	6.79
TRA LANDORS	-		49	м	11		-14		-13	-	-	-	-	-	12.2	13.3	42.5	12.2	12.2	63	25.7	15.2	28.2	25.2	28.2	10.34	0.80	0.48	0.74	0.68
15V14ME052	11	10	- 11	11	33	12	12	10	11				1	-	30.0	10.0	100	14.8		-		10	25	12	76	0.00	0.81	10.74	0.92	8.24
15V14ME053	15	2.1	11	11	1	22	15	7	22	1	1		1	1	M	47	47	87	37	-			44.4	32.5	12.4	1.0.0	11.84	Low	0.04	0.45
ISV14ME054	12	4	- 36	11	4	10	12		84	1	1		1	1	8.6	8.6	2.6	86	8.5	43	21.6	20.8	24.8	21.8	15.6	10.04	10.00	1.00	10.00	0.52
ISV14ME057	12	3	17	12	8	17	12	8	57	1	1	1	1	1	34.2	14.1	14.2	34.3	34.3	75	27.2	32.2	20.3	11.1	20.1	1.8	0.78	0.50	0.80	0.39
INVIAMENTA	1	12	28	1	22	33	1	22	33	1	T	1	1		11.4	13.4	25.4	15.4	35.4	77	17.4	39.4	38.4	37.4	38.4	851	0.90	110	0.81	111
INVIAMENTS	12	-	15	12	-	13	12	1	18	1	I	1	1	1	10.6	364	18.6	33.6	33.6	58	23.6	26.6	34.6	33.4	14.6	6.67	0.60	0.43	0.69	0.43
LEVI ANALISTY	10	-		- 11	-		- 11	-	-				1	1	12.4	12.4	11.4	11.4	12.4	-62	25.4	31.4	29.4	25.4	15.4	0.75	8.73	0.57	0.75	6.57
LSV 14NEDRI	11	*	- 10	H	-		- 14						1		14		1.1	1.1	3.4	27	17.4	21.4	10.4	17.4	10.4	0.51	0.45	0.51	0.51	0.81
INV14ME093	11	4	15	n		13	11		- 23				-		2.0			14.2			10.0	10.0	34.7	26.2	24.2	0.77	0.00	0.71	B.77	0.71
15V14ME030	11		- 30	11		20	11		30	1	1		1		14.2	14.2	11.1	11.1	94.4	- 11	28.4	10.4	14.4	52.6	24.4	0.0		0.85	0.82	0.85
15V14ME072	11	12	- 10	11.	11	10	15	12	25	1	1	1	1	1	15.8	15.8	15.8	11.8	15.8	79	27.8	15.4	10.0	41.4	28.8	10.0	100	1	10.00	0.00
15V14ME076	15		1.0	25	4	19	15	4	19	1	- X -	1	1	1	13.8	13.8	13.4	11.8	13.8	- 63	29.8	11.1	10.0	21.8	34.8	10.00	0,11	1 8.85	10.00	0.35
TSV14ME078	15		28	35		10	15		25	1	1	1	1	. 1	12.8	12.8	32.4	12.6	12.6	63	38.0	36.6	21.4	24.6	21.6	0.04	0.0	0.84	0.84	0.94
TSV14MER79	15	1	14	35	1	34	15	1	34	1	1	1	1	1	8.6	8.5	8.4	4.6	8.6	-40	34.4	25.4	10.4	24.6	30.6	9.77	0.54	1 6.81	1 4.72	0.31
ISV14ME040	10	-	17	15	3	12	15	1	17	1	I	1	1	1	31	11	11	11	11	55	37	29	34	10	34	0.7	0.66	6.41	0.79	0.41
CONTRACTOR !	10	-			-	10	- 15	-	-	-	-		1	1	14.4	14.4	14.4	14.4	14.0	72	30.4	36.4	25.4	30.4	21.4	0.8	0.83	OAR I	0.89	0.63
US VIANEDRS	10	-	- 11	10			- 15		- 11				1		14	14	-	14	14	70	80	44	28	80	29	0.0	1.00	0.85	0.88	0.45
USV14MED87	B	34.]	20	13	24	- 20	- 15	- 24	- 20			-						1.1		41	22.4	24.4	11.4	71.4	17.4	0.67	0.40	0.34	0.69	8.36
15V14ME089	34	3	17	34		37	34		11	1	1	1	1		8.4									10.0	1.4	0.5	0.44	0.14	0.57	0.16
1SV14ME090	. 24	0	34	14		14	34	.0	34	1	1	1	1	1	8.4	4.4	4.4	4.4	4.4	11	10.4	10.4	2.4	10.4		1.00		0.00	10.81	0.62
15V14ME091	34	7	21	14	2	n	34	. 7	.21	1	1	1	1	1	11.7	13.3	11.7	18.2	13.7	66	78.2	85.2	11.1	38.3	11.7	10.0	10.0	0.64	10.00	1.04
15V14MED04	34	7	21	14	2	- 13	14	7	21	1	1	1	1	1	12.2	12.2	12.3	11.1	12,2	#1	27.2	34.2	30.3	11.1	20.1	18.8	1 2.7	0.58	0.80	6.99
15V14ME401	34	1	17	34	3	17	34	3	1.7	1		1	1	L		0	. 0	0	0.	0	10	18		15	4	0.8	4 D.AI	1 0.13	0.84	8.12
TECTOREA10		÷	11	24	-	17	14	-	17	1	1	1	1	1	7	7	. 7	7	7	35	22	25	28	11	14	0.6	0.5	/ 9.82	0.65	0.32
12 Clause and	- 11	÷	11	42	-	- 10	12	-		1.1			1.1	1	3.6	11	1.4	3.4	1.1	2.8	36.8	17.8	5.8	35.8	5.8	16.4	9 0.40	0 8.17	0.45	0.17
15 TAMENTI	u .	-	- 11	H.	1		-	-		-	-	1	1	1	8.5	1.1	1.1	1.1	1.0	26	22	21.7	20.2	7.7	20.3	1.0.2	1 0.4	0.51	0.11	0.59
INVIAMENTS	1	14	D	A.	34	1.9		1	- 23		-	-	-	1	10.0	1		100.0	10.0	1.1	10.1	10.1	16.7	23.2	26.2	12.0	0.0.0	0.00	0.60	12.48
15V14ME414	u	3	17	12	3	11	11	3	11	1	. 4	1	1	1	10.7	1 10.1	1 100	10.4	10.1		10.0	10.0	10.0	17.0	1 194	1.00	6 0.5	100	0.00	0.40
15V15ME400	12	3	25	u		_ 15	M.	. 1	13	1	1	1	1	1	8.6	1.0	9.6	3.6	3.6	40	44.6	45.4	14.4	44.8	100	1.00		100	1.00	0.01
ISVISME402	12	10	32	12	30	22	ш	30	22	1	1	1	1	1	8.6	3.6	9.6	9.6	34	48	12.4	11.6	23.8	11.6	30.8	0.4	0.0	100	1	- Call
ISVISME400	11	7	29	12	7	29	11	1	19	1	1	1	1	1	18.2	11.7	1.13.3	111.2	13.3	44	26.2	18.2	1.1	16.3	111	0.7	1 4.1	104	1.71	0.84
USVISNIE404	11	1	15	17	1	25	11	1	35	1	1	1	1	1	3,6	7.6	7.6	7.6	7.8	1.0	30.6	28.6	11.6	20.4	11.8	0.4	1 25	0.34	0.61	0.34
TEVI CHIERON	1	10	17	1	24	22	1	76	11	1	1	1	11	1	8.2	8.2	111	8.2	8.2	46	11.2	37.2	36.3	11.2	26.2	0.3	1 56	2 0.77	0.37	0.77
CENTER ALLOWED	1				-			-	- 14	1	1	1	11	11	30.0	10.	100	103.6	100.4	52	22.6	37.6	16.8	12.6	16.8	0.4	ā 0.6	3 0.4	0.64	0.49
LBX COME HOR	11		- 10	11	3		34.	-		-	-	-	+	1	1 10.0	1	111		1.4	74	27.8	36.0	34.8	17.4	24.8	0.0	2 0.8	4 0.7	0.8	8.73
15V15ME407	U	9	31	н		n	11	3	- 11	1	1	1	1	1	14.8	1.0	-			14	22.0	12.4	10.0	1 77.8	1 25.0	100	1 0.0		0.00	0.16
15V15ME408	11	10	33	13	10	11	11	10	11	1	1	1	1	1	34.8	134.8	14.	14.8	1.1.1	78	41.4	11.0	10.0	21.4	1 22.0	12	1 0 1	-	100	1 1.65
ISVISME404	13		20	11		30	11		20	1	1	1	1	1	11.4	12.4	111/	12.4	11.1	62	34.4	33.4	64,4	100	11.4	101	4 47	1	1.00	1
ISVISME411	12		18	32		28	13	4	18	1	1	1	1	1	8.6	9.5	9.4	9.6	9.6	48	32.6	28.6	16.6	32.8	18.4	10.0	0.6	2 0.40	1	-
ISVISMENTS	11		18	12	4	26	12	4	16	1	1	1	1	1	30.8	35.4	30.	11.4	30.0	54	33.8	27.8	15.8	23.8	15.8	0,7	0 68	3 0.4	4 9.7	0.66
ISVIDALI		-	14	12	1	26	12	1	20	1	1	1	1	1	10	10	1 10	10	10	50	23	n	15	13	15	0.4	0.6	1 0.4	1 0.0	0.48
TRUIS AND AND		-	-	10	-	-	11	-	-		1	1	11	11	14.0	114.	14	1 14.0	14.0	24	36.8	15.6	34.8	26.8	34.8	0.7	9 6.8	4 0.7	1 0.7	0.78
15415615415	11	-	- 20	- 14	-	49	11			1	-	1	1	1:	1 11.0	1	1 2 2		111	1.1	77.0	81.8	36.0	27.8	36.8	61	12 6.7	3 0.4	0 0.4	0.49
15V15ME436	15	4	19	-15		19	.15	4	19	1	1	1	1	1.	11.0	1.44	1	1 1 1	1		10.0	10.0	11.0	1 114	31.4	0.1	0 6	4 9.0	1 1 1	1 0.12
15V15ME417	1	28	20	1	13	20	1	39	20	1	1	1	1	11	11.4	111.	111	1414	111	1 11	10.0	100	24	- 14	1 11	10	1 64		2 47	0.47
ISV15ME418	14	4	3.6	12		16	32		38	1	1	1	1	1	11	14	1.11	111	1 11	35	14	14	10	1	1 11			100	1 0.0	0.10
ISV19ME471	11		21	12		21	12	. 9	21	1	1	1	1	1	15.6	15.4	15.	1 15.4	15.4	78	28.8	87.8	25.8	28.6	23.8	0.		-	-	0.75
ISVISMEATS	10	2	17	35	2	17	15	2	37	1	1	1	1	1	8.4	1.8.4		1.8.4	6.4	41	24.4	26.4	13.4	34.4	11.4	0.7	2 0.4	10 0.9	19.5	6.34
TECTIONIZIA	10	-	24	15		24	15		24	1	1	11	1	1	38.2	14.7	1 16	2 14.2	14.	81	147.2	41.3	16.7	82.2	36.2	0.9	5 0.9	16 0.7	7 9.0	0 B.T7
TRUTCHIE TH	1	-		24		1.0	10	1	1.0	1	1	11	11	1	7.2	17	177	1 7.2	7.7	1.00	23.2	26.2	11.7	28.3	11.2	4.	. 0.4	0.0	1 0.6	# 0.33
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18V15ME427	34	1	23	34	1	15	14	1	15	1	1	1	1	1.	1 10	1.4	1.1	H AL	1.0	1	21.0	14.0	110	1 21.0	12.0		4 0.			4 0.34
15V15ME429	127		38	32	3	15	12	1	15	1	1	11	1	1	11	144	1.1	1.4	1.64		1 11		-	1 11	1 1	17		12 0 1		0.00
1SV15ME431	54	1	15	34	1	15	34	1	35	11	1	1	1	1	1.7	17	17	17	17	15	11	-	1000	1 1/10/	1 1000		-		10.00	
TOTAL	854	462	1354	854	463	3336	854	462	LY	71	71	71	71	1 22	769.8	170	178	770	175	1049	1194.8	2158.8	1802.8	1000	1.100	-				1 11
MO OF AVERAGE	71	71	71	71	71	. 71	71	71		71	71	71	71	71	71	1.71	1.71	n	1 23	1.73	n	11	71	1	14	1	4	and all		
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Runder PRINCIPAL SIET. TUMAKURU,



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	NON CONVENTIONAL ENERGY SOURCES	SUBJECT CODE	10ME754
	JOONCES		25490000025

COURSE OUTCOME

C01	Understand the need of energy convention of various methods of energy storage.
CO2	Explain the fields application of solar energy.
CO3	Identify wind energy as alternate form of energy and to know how it can be tapped.
CO4	Explain biogas generation and its environment.
C05	Understand the geothermal and tidal energy and its mechanism of production and its application.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- O4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.

P012 Life long learning: A recognition of the need for, and an ability to engage in, to resolve L Dept. of Mechanical SIET. TUMAKURU
contemporary issues and acquire lifelong learning.

FACULTY	NAN	1E	RAVI	KUMA	RDS				_			
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COURSE	B.	E	SEM	ESTE	R	VII		SECTIO	N			
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CO & PO M	APPI	NG									1000	
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CO4	2	1		1		2		-		1		1
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COI	79.40	1.58	0.79	100	0.79	Suit.	1.58	13 The				Terre an	0.79
CO2	93.18	1.86	0.93		0.93	0.00	1.86	1	1 2 1				0.93
CO3	82.67	1.65	0.82		0.82	12/2	1.65		15 miles	100		New Y	0.82
CO4	79.41	1.58	0.79		0.79	1.7	1.58						0.79
CO5	82.67	1.65	0.82		0.82	-	1.65			-	12153		0.82
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6 Manual mensel

PRINCIPAL SIET., TUMAKURU,

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11 11 11 11 11	- 14		- 17	1 10		1.1	17	11	5 1	7	1 1	1	1	1	1	12.4	12	6 12/	5 52		41 43	38.4	100.4	10.0	-		-	-	10 10.0	1.1.0.0	0.71
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14ME020	11	11	22	11	11	1 1	12	33.	1 2			T		1.1	1	71.0	1.0		1.11	1 11		44.0	31.4	23.4	25.4	23.4	0.77	1 0.8	0107	5 8.71	0.75
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14ME048	33	22	25	112	11	1 1	1	12 1	1 22			1			1	1 11.7	1.0	-	100		1	43.6	40.3	1 21	1.11	34.1	0.8	0.9	1 8.7	7 0.86	0.77
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A PERSON A	111		39	33		1		11 1	39	1		1	1	1	1	10.0	100	10.4	100	100		1 100	1		1000	10.0	19/1	10.0	10.0	0.78	4.78
AME007	11	12	28	33	1.12	1	1 1	13 4	2 24	1	-	1		-	-	1	1.00	-	104		14	44,4	10.4	10.0	12.8	19.8	100	0.2	0.5	0.67	0.58
40/E018	u I	11	23	12	1.11					1	-	++	-	-	1	1 13.6	In.	15.6	18.	11.4	78	37.6	39.6	38.6	27.8	28.6	0.85	0.9	2 11.8	4 10.01	0.64
4ME056	11		-		1.0	1			1 10	1	-	4	4	1	1	11.4	1L	IL.	11	4 11.4	1.7	24.4	35.4	31.4	34.4	23.4	0.77	Ine	2 0.4	0.7	0.40
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47523/62	11	2	п	11	1.8	25		2 9	21	1 1		1	1	1	1	1.15	1 11	11	1.11	1.11		1 14			24.4	24.4	0.72	0.8	1 0.0	1 6.72	0.72
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4501-172	**	-		-	1.				- 41	-	1	1	1	1	1.	111	1111	11.3	111	1111	- 14	24.2	33.2	21.2	24.2	31.7	8.73	0.7	100	0.75	0.43
ALC: No.		-	10	-11		19	1 3	3 8	3.0	1		1	1	1	1	11	1 11	1 11	115	1.11	85.	23	81	10	100	-	-	1.0.7	1		0.02
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4ME074 1	83 1		24	88	1.8	24	1 1	1 11	34	1 1	-		1	-	-		1.00	100.0	100.0	1 14.2	14	11.1	16.2	- 24.7	11.1	- 24.3	0.80	0.82	1 8.7	0.80	6.71
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ALC: NO. 1		-	-	н	24	n	1	1 10	25	1	11	1	3	11	1	34	14	14	34	34	20	26	40	20		1 10	0.75	10.00	-		0.82
evenues 1	11 1		38	12		18	1	2 6	1.18	1	1	1	1	1	1	11.4	22.4		1		2.2		-			17	0.78	6.41	0.0	8.76	0.85
IMEGR7 1	11 2	Ú.	21	11	10	25	1 1	5 8	21	1	-	-	-	-		10	1.00	10.4	1.0.0	1.1.1	M	24.4	30.4	38.4	24.4	28.4	8.73	0.69	0.54	0.72	0.54
MEOB9	3 1	8	20	2	10	30			1	+ + +	+		÷+	-		10	1.10	30	10	38	- 50	12	- 11	11	11	21	0.85	8,75	0.67	6.45	0.67
AMELING 1				-			-	-	1 10	-	-		11	1	1	11.3	1111	11.2	11.7	11.1	14	14.2	10.2	80.7	14.2	38.2	0.42	8.77	L D. M	0.42	10.400
A STREET		-	10	14		15	1	2 3	15	1		1	1	1	1	7	1	1	1.3		25	20	21	11	100		-		1.00	1 1 1 1 1	0.85
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CMED94 1	11 L	1	23	10	31	25	11	2 11	13	1		1	1	1		24.4			1				-	11	- 28	27	0.76	0.86	0.71	0.76	0.78
ME401	12 3	0	12	32	10	22	11	1 30	2.0	1		-	-	-	-	10.4	10.0	10.0	38.4	36.4	- 62	_23.A	40.4	28.4	-23.4	28,4	13.84	0.52	0.84	0.86	0.84
ME455 1	15 1		-	44	10			-		+ + +	-					0	0	0	0	0	0	2.3	29	. 11	1.9	11	0.34	0.32	0.37	0.88	0.82
MEATI		-	<u></u>	- 14	-101	- 24	- 0	1 30	21	1		1	1	1	1	10.2	30.2	30.3	39.2	30.2	55	12.2	82.2	21.2	33.2	21.2	0.45	0.75	0.01	0.00	0.43
Lange L		-	40	11		20	M		30	1		1	1	1	1	30.4	312.4	10.4	193.4	20.4	32	22.4	11.4	10.4	10.0	100	10.00	M.7.4	1 4 6 2	0.05	0.67
ME412 1	11 1		19	11		28	11		10	1	1	1	1	1	-	-	1	-	1	-	-	2.5.4	31.4	18.4	33.4	13.4	0.69	8.78	0.37	0,49	0.57
ME414 1	12 34	0	22	12	30	22	10	10	1 22	1 1	1		-	-	-		1	1	1.7	1	- 10	19	- 27	16	29	36	0.54	0.81	0.47	0.56	0.47
ME400 1	11 6		10	12	1		1	1 1		1	-	-	-	1	1	19.3	13.1	15.2	115.2	13.2	76	38.2	10.2	26.2	38.3	26.2	0.83	0.87	0.77	0.42	0.77
MEAN		-		-	-	18	11	1.2	10	1	1		1	1	1	14.2	14.2	34.2	14.2	14.7	71	28.2	34.7	25.2	70.1	22.4		10.00	1 contra	1.0.00	0.00
Lange La	411	4	-	M	11	28	13	11	23	1	1	1	1	1	3	3.9	12	1.0	11	11	41	. 24	11	10	-	10.0	-	10.18	10.00	1.000	0.64
MD-813 11	18 204	2 2	22	10	209	322	1 11	200	311	1	1		1	1	1	14.4	10.0	11.1	1.1	111	-		- 14	40	10	0	8.76	0.84	0.74	0.76	0.74
ME404 10	0 10		n	11	10	23	1 11	100		1	1	-	-	÷+	-	-	-		24.4	14.4	14	48.4	237,4	724.4	38.4	224.4	0.94	5.4D	8.60	0.84	6.60
ME405 E	2 6	1	14	12		-	1.0	17			+ - 1	-		-		10.6	38.8	23.6	20.6	20.6	58	34.6	34.6	21.6	24.5	21.6	4.72	10.79	0.64	0.72	0.64
di din		-	-			-	1 1	+ *	10	1	1		1	1	1	8.2	9.2	8.2	8.3	9.2	44	32.2	28.2	16.7	22.2	38.7	0.45	0.44	0.40	0.65	0.44
AL AND		-		14		20	11		29	1	1		1	1	1	24	3.4	2.6	2.4	34	47	22.4	10.4		100.0	10.1	-	-	1.00	0.85	
10497 11	1 13	1	14	11	13	34	11	13	34	1	1 1		1	1	1	14.4	10.0	10.0	10.0	11.1	-	20.4	-	10.0	44.4	38,4	1.64	0.68	0.54	0.66	6.54
VE:408	2 8		10 1	12		30	12	1	140	1	1	-	-	(+			-	10.0	14.4	14.4	13	25.6	29.4	78.4	26.4	28.4	0.78	8.90	0.84	0.78	0.84
dE409 111	1 .		10	11	-	-	1.0	17	-	-	+	-	-	44	1	13.4	13.4	13.4	13.4	13.4	67	25.4	34.4	22.4	26.4	22.4	8.78	8.78	Das	0.78	0.46
10411	1 10	1			-		1.11	12	20	1	1	1	1	1	1	13.4	13.4	11.4	13.4	13.4	-67	25.4	34.4	23.4	25.4	23.4	8.75	0.74	1 ner	0.00	0.68
10 115	-1 m	1	1	11	10 1	n	11	10	23	1	1			1	1	10.2	30.7	30.2	10.7	10.1	82	72.3	100.0	11.1	22.0	20.0	-	-	1.0.00	8,12	0.69
10413 13	1	1 2	9	11		20	11		30	1	1		1	1	1	22.2	12.1	10.0	42.4	10.0	-	10.4	-	41.4	11.1	11.1	8.85	8.78	0.62	0.65	0.62
46423 11	1 6	X	7	13		17	111	1.	27			-	-	1	-	11.1	44.4	11.5	14.2	44.7	55	16J	34.2	32.3	26.2	32.2	8.77	8.78	0.45	0.77	0.65
46425 34	1 1	1 3		25	. 1	24	1 10	1	-		+-4	-	-			11.4	11.4	11.4	11.4	31.4	57	21.4	25.4	38.4	23.4	38.4	8.49	8.67	6.54	0.69	0.54
	1 10	1			-	-	1.2	-	-	1	1		1	1	1	13,4	23.4	13.4	11.4	23.4	67	29.4	38.4	23.4	29.4	22.4	1.00	0.67	0.40	0.10	0.00
16416	1 11	+ *	-	R.	11	11	1.30	1.11	21	1	1		1	1	1	12.2	12.2	12.2	12.2	12.2	61	29.7	34.7	24.2	22.2	10.0	-	10.00	1.000	0.00	0.69
dE416 53	1 11	1 2	2	11	11	33	1 11	111	22	1	1 1			1	1	12	11	11		10				-	44.4	16.1	1.08	4.18	1 0.71	0.68	6.71
4E416 30 4E417 33		1	0	12		30	1 11		20	1	1.1	1		-	-	-	-	-	м	4	60	24	- 10	24	24	24	6.71	0.82	10.71	0.71	8.71
66417 13 66417 13 66418 12		_		12	11	34	1	1	-	-	-	-	-	-	4	8.4	8.4	8.4	8.4	8.4	43	21.4	29.4	37.4	21.4	17.4	0.43	0.67	0.51	0.83	8.53
46416 30 46417 33 46418 32 46421 32		1.0		-		-	1 M	- 11	- 14		1	1	1		1	34.4	14.4	34.4	34.4	14.4	72	37.4	39.4	27.4	27.4	77.4	0.84	0.44	0.00	0.01	12.01
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dE416 50 dE417 11 dE417 11 dE417 12 dE421 12 dE422 13 dE423 12 dE424 12 dE425 11 dE425 11 dE425 12 dE425 12		* = * = = =			11) 11 11)	14 10 12	ц ц ц	3	34 30 33	1	1	Ŧ,		1	1	34	34	34	34	34	48	20.6	29,68	18.69	20.48	18.45	0.61	8.67	0.78	0.74	0.54
dE416 s0 dE417 11 dE417 11 dE417 11 dE417 12 dE421 12 dE422 13 dE423 14 dE425 14 dE425 14 dE427 13 dE423 14 dE425 14 dE427 13	2 8 1 13 1 5 1 13 1 13 1 13 1 10 1 10	3 3 3 21 21			11	14 10 11	11 11 11	11 9 10 10	34 30 31 21	1	1	F		1	1	34	34	34	34	34	48	20.6	29,68	25	20.49	18.49 25	0.61	6.67	0.55	0.74 0.41 0.79	0.54 0.55 0.74
ME416 50 ME417 11 AE418 12 AE421 12 AE422 13 AE422 13 AE422 13 AE424 12 AE425 11 AE427 12 TE429 11 IE431 12	2 8 1 13 1 13 1 13 1 13 1 13 1 13 1 10 1 10	3 34 35 21 21 20			12 8 10 8	14 10 11 20	11 11 11 11	11 9 10 10	34 30 33 31 21	1 1 1					1	8.4 34 34	34	14	34 34 34	34	48 70 70	20.6 27 26	29,48 37 36	18.69 25 25	20.48 77 26	34.49 25 25	0.61 8.79 8.76	6.67 6.84 6.82	0.78 0.55 0.76 0.76	0.74 0.41 0.75 0.75	0.54 0.55 0.74 0.74
ME418 98 ME417 11 HE418 12 HE421 12 HE421 12 HE422 13 HE422 13 HE422 13 HE422 13 HE422 14 HE425 11 HE427 11 HE427 11 HE427 13 HE427 13 HE437 13 HE4	2 8 1 13 1 13 1 10 10 10 10 10	3 11 34 21 21 20 177			12 8 10 10 8	34 30 30 1771	11 11 11 11 11 11 11 11 11 11 11 11 11	11 9 10 10 10 10 10 10 10 10 10 10 10 10 10	34 30 32 31 30 31 30 31 30 31 30 31 30 31 31 31 31 31 31 31 31 31 31 31 31 31	1 1 1	1 1 1				1	8.4 34 34 2.2	34 34 2.2	34 34 22	34 34 22	8.69 34 34 2.2	48 70 70 11	20.6 27 26 15.3	29,68 37 36 21.7	18.69 25 31.7	20.49 77 26 11.2	38.45 25 31.2	0.61 8.79 8.76 8.45	6.67 6.84 6.82 6.53	0.74 0.55 0.76 0.30	0.74 0.41 0.79 0.76 0.45	0.54 0.55 0.74 0.74 0.74 0.33
ME414 38 ME417 11 ME416 12 ME421 12 ME421 12 ME422 12 ME422 12 ME425 11 ME427 12 ME425 11 ME427 12 ME429 11 ME429 11 ME429 11 ME429 12 ME429 12 ME4	2 8 1 11 1 12 1	3 10 30 30 30 30 30 30 30 30 30 30 30 30 30			12 8 10 10 10 10	14 10 12 13 14 15 15 15 15 15 15	11 11 11 11 11 11 11 11 11 11 11 11 11	11 9 90 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	14 10 11 10 10 11	1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1			1 1 1 71	8.4 34 22 811.8	34 34 2.2 812	34 34 22 811.85	8.65 54 14 2.2 812	8.69 34 34 2.2 882	48 70 70 11 4158	20.6 27 26 15.3 1777.8	29,49 37 36 21,7 3671,89	18.48 25 31.2 11.2	20.49 77 26 11.2 1777.49	18.49 25 35.31.2 17%4.40	0.61 8.79 8.76 8.45 6.82	8.67 8.84 0.82 0.53 35.43	0.74 0.55 0.74 0.33 54 01	0.74 0.81 0.79 0.76 0.45	0.54 0.55 0.74 0.74 0.33 52,45
ME418 30 ME417 11 ME417 11 ME418 12 ME421 12 ME422 13 ME422 13 ME424 12 ME427 12 ME427 12 ME427 12 ME427 13 ME427 13 ME428 13 ME429 13 ME4	2 8 1 11 1 12 1 12 1 12 1 12 1 12 1 10 1	3 11 34 21 21 21 30 177 71			13 10 10 10 10 10 10	14 10 10 10 1721 11	11 11 11 11 11 11 11 11 11 11 11 11 11	10 10 10 10 10 10 10 10 10 10 10 10 10 1	14 10 11 11 11 11 11 11 11 11 11 11 11	1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1			1 1 1 71 71	8.4 34 22 811.8 71	34 34 2.2 802 71	34 34 32 811.85 71	8.65 54 54 2.2 812 71	8.69 34 34 22 832 71	48 70 70 11 4159 71	20.6 27 26 15.3 1727.8 71	29,49 37 36 21,7 3671,89 71	25 25 11.2	20.68 77 36 15.3 1727.48	18.48 25 35 31.2 17%4.89	0.61 8.79 0.36 0.45 16.83 71	8.67 8.84 0.82 0.53 55.43	0.74 0.55 0.74 0.33 51,91	0.74 0.41 0.79 0.76 0.45 50.42	0.34 0.55 0.74 0.74 0.33 0.33

H.O.D

Dept. of Mechanicat S.I.E.T., TUMKUR -6

Nemen Lamorate

PRINCIPAL SIET., TUMAKURU,



SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	SMART MATERIALS	SUBJECT CODE	10ME764
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COURSE OUTCOME

C01	Understand and classification of smart materials and various functions of intelligent materials.
CO2	Categorize the various types of smart structure systems, actuators and sensors.
CO3	Describe the various types' batteries, such as lithium ion batteries.
CO4	Describe the various types of SMA based hybrid composites and smart battery materials.
CO5	Understand the structure and properties of various types of nano tubes.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- O5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

PRINCIPAL SIET., TUMAKURU

FACULT	Y NAM	1E	MAM	ATHA	км							-
BRAN	NCH			ME	Т	A	CAD	EMICY	EAR		2013	7-18
COURSE	B.	E	SEM	ESTE	R	·VII		SECTIO	ON			
SUBJECT		S	MART	MAT	ERIAL	s	1	SUBJE	стс	ODE	10MI	E764
CO & PO M	APPE	NG					-					
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	POS	PO9	PO10	PO11	PO12
CO1	2	2		- Cint								
CO2	3	2										1.2.5
CO3	2	3	1	1		Carles -	24		CERT.			
CO4	3	3										
C05	2	3	ines.	-	The second		200		le cont			1076
AVERAGE	2.4	2.6									1272	
		ace of		122		OVE	PALI	MADI	INC	DECUD	IFOT	Contraction of the local division of the loc

	C0%	PO1	PO2	PO3	PO4	PO5	PO6	PO7	POS	PO9	PO10	POIL	PO12
Ccoi	82.91	1.65	1.65	-		1	1	Salar Ba		1000			
CO2	83.35	1.66	2.5		1.19			- 2		1.4.4			
CO3	69.08	1.38	2.07		Contraction of the						E PAR		-
CO4	82.50	2.46	2.46										
CO5	69.08	1.38	2.07		100			18 and	1000	1	2-60		
AVERAGE	77.38	1.70	2.13	12									
			E. C. T.		126		1	FINA	LAT	TAINN	IENT L	EVEL	1.91

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Kamen thu: PRINCIPAL SIET., TUMAKURU.

NEMA-YES	2817-1	NT N	ANN I	SEM IA	VII	1000	0 1	Tetal A 775	strongth (T. 3/ with	TI AP	ICARA	1.5	ubjett	In Mr	Smart	Material	to M A Data	1		lahjest (Sale .	IND	48764	N N I T N I							-
ESN	COIL C	0017	OTAL	000	Loo	TOT			Del TOTA	U AN	LORD	Len	QUIN	10 10	COL.	MER.	MARA	A COL	Long	THE OWNER ADDRESS	-	Tital C	MATTA	INMENT	Toron as	-	N.	of their	voltual C	0	-
CUTIMENT	1.10		THE .	44	1.	- IVI		0410	ow rons	tal con	1 600		1 004	60	COI-1	001	000	604	COL	TOTAL	CEI+34	COU-	C00+34	004-04	CD8-04	001	cou	cm	CD4	6.08	
NY I I PREMARE	M	4	10	u.	1.1	1 10			11	1	11	1	1	1	11.0	11.8	11.6	11.6	11.4	- 14	34.6	27.4	15.4	24.8	15.6	6.72	0.63	0.46	6.77	0.46	1
SVIIMEUMS	11		28	- 11		15	1	1 1	1 35	1	1	1	1	1	8.1	9.2	8.2	3.2	1.12	46	31.8	25.2	14.7	21.7	34,2	0.62	0.37	6.47	0.62	0.42	
SV12MEB77	17 (F	28	.12	6	3.8		12 6	1.18	1	1.1	1	1	1						45	11	28	35	-22	10	0.65	0.64	6.47	0.45	0.47	1
SVI3MED18	12 1		17	12	5	1.7		12 1	17	1	1.1	1	11	11	2	1 1	7	1	1	85	30	25	- 13	30	11	0.66	0.57	0.38	0.10	0.18	1
SY13MED49	12 4		14	12	14	16			10	1	1	1.	1.	t÷	1 10.0	10.5	1 45.6	10.0	100		11.6	100	10.0	20	10.0	100	0.07	10.00	10.00	0.44	•
SVIIMETT2	11	-	14		17	1	-				+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	+ + +		-	80.0	- 20.0	441/6	30.0	- 54	42.4	47.8	15.4	25.8	15.0	0.84	0.63	0.00	6.69	0.48	4
CULINAL COLUMN		++			+	1 10	-		1 11	+ +	-	1.1	1 .	1.1	10.2	10.2	39.2	36.7	1.10.7	- 11	. 82.1	26.2	11.7	33.5	15.2	0.65	0.60	0.45	0.65	0.45	
A & THINKING T	14 1		23	12	1.11	10	1	911	1 29	1 1	1	1	1 1	1.1	32.4	52.4	12.4	12,4	12.4	47	25.4	36.4	24,8	25.4	34.4	0.75	0.63	0.72	0.75	0.77	
SV14ME005	21 4		17	11	1.6	17	1	1 4	17	1	1	1 1	1.1	1	11.4	13.8	11.6	11.6	114	58	21.4	29.8	18.6	23.6	18.6	0.69	0.67	6.55	6.69	0.55	1
SV14ME007	1 1	1	38	1	17			1 1	7 18	1	1	11	1	1 1	12.8	12.8	12.8	12.8	12.8	64	14.8	21.8	30.8	34.0	30.8	0.44	0.72	0.91	0.44	0.91	
SV14ME009	12 1		18	12	1.7	19	1	3 7		1.1	1	11	1 1	1	14.4	14.0	14.6	14.6	14.0	73	77.4	24.4	33.8	77.6	11.6	0.01	0.22	-	1.0.01	0.65	4
SV14ME012	5		-		1 11	30			1 10	1	+ + + + + + + + + + + + + + + + + + + +	+ *	+ + +	+++	1 111	10.0	1.00	1 100	1.000		27.00	-	44.0	47.0	33.4	0.01	10.00	1.000	1	11.00	•
CULAMENTA		-	-	-	1.11		-		2 20	-	-	+ *	-	1.1	10.0	10.4	11.1	11.0	111.8	- 69	19.8	34.4	25.8	18.4	39.8	0.58	11.79	1.88	1.0.54	0.68	
Contraction of the local division of the loc		-	11		111	1 11		11	1 · H	1	1	1	1	1	11.8	13.8	1114	13.8	13.8	69	33.8	35.8	33.8	33.8	27.8	1.67	0.81	6.A2	8.67	0.62	
AA LANGED LY	14 7		21	14	1	21	1	4 7	H	1	1.1	1	1	1	3.6	9.6	9.6	9.6	9.4	48.	14.A	31.6	17.6	38.6	17.6	0.72	0.72	8.52	4.72	0.52	
SV14MEB19	12 0		20	11		30	1	2 8	30	1	1	1	1	1	11.4	11.6	11.4	11.6	11.4	18	24.4	32.4	20.6	24.6	20.6	0.72	0.24	2.61	8.72	0.61	1
SV14MED20	13 9		21	12		21	1	21.8	21	1 1	1	1	1	1	11.6	11.6	11.6	11.6	11.5	- 44	74.4	11.4	22.6	34.6	22.6	0.22	0.74	-		0.64	1
WI4MEII22	31.0	-	17.	- 11		11	+ 3		1.10	1.1	1 1	+ + + +	1 2	+ + + + + + + + + + + + + + + + + + + +	10.0	111.4	100	10.0	100				44.0	14.4	41.0	9.74	-0.78	-	a ra	0.94	4
CULAR DOTA		-			1.0	1 1	+4		11	1.	-	1.	1		11.4	11.4	13.4	11.4	11.4	67	25,4	31.4	20.4	25.4	20,4	0.75	0.75	0.02	0.75	0.60	
COLUMN TO AN AVERAGE	4 3	-	-		16	18	1	1.11	14	1	1	1	11	1	30.8	1.5	1.8	1.8	1.4	54	18.8	29.8	38.8	4.8	38.8	0.41	0.47	6.55	6.14	0.55	
5 Y 14MID027	11 1	1	23	11	11	23	1.1	2 11	28	1	1	1	1	1	35.8	15.8	15.8	25.8	15.8	79	18.8	35.8	27.8	28.8	21.8	0.65	0.90	6.83	E.45	0.82	1
5V74ME043	11 4		17	11		37	11	1 4	17	1	1	1	1	1	12	12	11	11	12	60	24	30	1.9	34	15	8.72	0.68	11.54	1671	0.54	
SV14ME044	12 4		38	12	4	18	T	1 4	16	1	1	1	1	1	1.8.8	8.4	8.0	1.00	24	42	22.4	25.0	11.0	22.6	37.6	0.60	0.00	12.45	10.04	0.40	1
VIAMEOUS	15 4		78	15	1	1 10			1 10	1	1	11	1:	1	1 10.0	100	1.00	1	1.10	-		-		10.0	24.0	0.00	1.00		1000	10.00	1
CULAMERICA	10	1		17	1.00	1	+			1	1	1	1	-	1 13.6	63.6	15.6	1.0.4	35.8		11.0	19.0	24.6	31.4	26.6	0.91	0.90	8.72	10.85	0.73	-
All and party	10 1	-	-	M.	- 13	10	1	10	25	1	1	11	1	1	34.8	54.8	14.8	14.8	14.8		37.8	43.8	28.8	17.8	28.8	0.82	0.93	0.85	10.82	0.83	-
A DAMEDRY	14 9	1	11	12	. *	21	1	1 1	13	1	1	1	11	1	12.8	52.8	12.8	12.8	32.8	64	25.8	34.8	22.8	25.8	22.6	0.76	0,79	0.67	0.76	0.67	
SVIAMED12	11 8		20	11		- 20	1	1 9	38	1	1	1	1	1	11.8	ILS.	11.6	11.6	11.6	58	23.6	32.6	23.8	23.6	21.6	0.68	0.74	2.64	2.69	0.64	
SV14MER93	2 1		22	2	20	22	1.2	20	32	1	1	1	1	1	13.0	12.4	13.8	13.8	12.0	63	26.0	16.0	34.0	10.0	30.0	0.47	DAT	1.00	10.00	1.00	1
SV14ME454	11 .	1	17	12	1	112		1 1	112	1	1	1	1	1	1 11	1 11	111	111	110	-	-	-		100		0.44	10.04	1.14	1000	1.00	1
TRUE AND	14 1	+		34	1	1 11	+		1	-	1	1	1	1	14	- 11	n n	u	11	60	45	10	10	13	10	0.74	0.68	0.58	10.74	0.53	4
CULLAR RECEIPT	10 10	-		28	m	24	1.0	1.8	34	1	1	1	1	1	11.8	11.8	13.8	11.0	13.8	- 89	28.8	38.8	24.8	28.8	24.8	0.85	0.68	0.73	0.00	0.79	1
SV34MD038	11 8	1.3	10	10		30	1	1.1	20	1	1	1.1	1	1	12,4	11.4	12.4	32.4	12.4	62	25.4	31.4	21.4	25.4	21.4	0.75	0.76	0.63	0.75	0.61	
EV14ME059	11 8		1.0	11		1.9	1.1	1 8	19	1	1	1.1	1	1	11.6	11.6	11.4	31.6	11.6	58	23.8	21.4	20.8	23.6	20.6	0.40	0.72	0.41	0.48	0.61	
V14ME061	11 7		18	12	7	19	11	1 7	10	1	1	1	1	1	11.4	11.4	11.4	11.4	11.4	57	24.4	31.4	10.4	34.4	18.4	0.73	0.74	0.17	10.72	0.57	1
VIAMEON3	15 7			15	1	37	+:			1		++		÷	10.4	33.4	11.4	10.4	11.4	31	20.0	11.4	20.4	24.4	20.0	0.74	0.78	4.57	10.72	B.ar	•
Winkstown		+ +	<u>-</u> +				-	11	1 11			1.1	1	1	14.4	14.8	12.8	32.8	11.8	54	28.8	27.8	20.8	26.8	20.8	0.85	18.81	0.61	0.85	0.61	
TT CAME AND	10 7	-	n	10	7	D	13	17	n	1	1	1	1	1	13	13	11	11	13	- 65	28	15	21	28	21	0.82	8.80	0.62	0.82	0.62	
W14ME072	15 1	1	11	15		23	1	1	23	1	. A	1	1	1	11.4	13.6	13.6	13.4	11.6	66	29.6	37.6	22.6	29.6	22.6	8.87	0.85	0.66	0.87	0.66	
EV14MED76	14 4	1.1	18	14		10	1	4	3.0	1	1	1	1	1	35.4	15.4	15.4	15.4	15.4	77	161.4	34.4	26.4	N1.4	20.4	11.89	0.76	0.60	0.85	0.60	1
VIAMED78	15 4	10	18	15	4	19	11	4	1.10	1	1	1	1		33.4	11.4	12.4	12.4	13.4	47	201.4	-	16.4		10.4	10.000	1.70	-	1.0.00	0.84	1
V14ME079	14 8		10	14		33	10		1 12	1.	1	1.	1	÷	111	13	41	10.0		-	10.4		20.4	100	30.4	0.00	0.76	0.34	0.00	0.54	1
VIANAVARA	-	+ 3	-	-	-		+3	+		+ + + +	-	1.1	-	1	<u> </u>	<u>u</u>	u.	11	м	60	11	<u>n</u>	21	21	21	0,79	0.00	0.62	0.79	0.61	
TT AN ADORT	11 11	- 1	4	11	- 11	- 11	1.0	1 11	.22	1	1	1.1	1	1	34.8	34.8	24.8	34.8	34.8	74	26.8	37.4	26.4	26.8	26.8	0.75	0.86	0.75	0.75	0,79	0
VANEURI	13 6	1	1	23		n	1.11	1 1	21	1	1	1	1	1	12.3	12.2	12.2	-12.2	12.7	. 61	38.7	34.2	19.2	28.2	19.7	0.83	0.78	0.56	0.83	0.56	5.
VI4MEOR7	54 4	11		14	4	38	14	4	1.8	1	1	1	- 1	1	18.2	18.2	33.2	13.7	18.7	86	38.7	57.7	18.2	38.2	18.2	0.83	6.73	0.54	0.43	0.54	
V14ME089	15 6		1	15		21	35	1	11	1	1	1	1	1	32	32	12	52	17	60	24	34	29	74	24	6.87	0.77	0.54	0.42	6 %	1
VI4MED90	11 .		-	11		20	1		20	1		1.		1	1 11			-		47	22.4		10.4	22.4	10.4		4.77		0.00		•
VIAMEDOT	15 3		-		-		12	1.		1.		1.1		-	2.4	2.4	2.4	2.4	3.4	42	11.4	30.4	19.4	31.4	19.4	G.6.8	1.69	0.57	0.63	0.57	4
UTAMETING 1	10 17	+ 1	-	10	-			1 1						- 1	14.2	741	34.2	14.2	14.2	31	30.1	37.1	33.3	30.2	32.2	0.89	0.85	D.EL	13.89	9.65	
A LOUGHERONS	пп	1		11	- 11	n	11	11	23	1	1	1	1	1	34.4	14.4	24.4	14.4	14.4	72	36.4	38.4	23.4	36.4	37.A	0.78	11.87	0.81	13.78	0.81	
V14ME401	4 30	1	4	4.1	30	34	4	1 10	3.4	1	1	1	1	1	.8	8	0	4	0	0	. 5	35	11	. 8	11	0.15	0.34	0.52	0.25	0.37	1
V14ME410	35 3	1.0		15	1	38	15		38	1	1	1	1	1	11	11	31	11	11	35	27	30	25	27	15	0.79	0.68	71.44	0.78	7.44	1
V14ME4T1	14 1		5	34	1	25	14	1.1	25	1		1.1			** *	43.3	** *	22.2	11.1		10.0	42.5	18.2	24.5	14.7		0.00	-	1		•
VIAMENT	12 8	13			-	-	1.5	11	1 10	1 .					44.4	44.4	44.4	44.4	11.4	30	48.4	41.4	13.4	18.4	18.4	0.11	0.82	0.11	0.77	0.29	4
VIAMENTA	111	1	-	-	-		14	-	10	1	1	1	1	-	11.4	12.4	52.4	12.4	12.4	62	25.8	33.4	21.4	25.4	31,4	0.75	0.75	0.63	0.75	0.63	4
A LANSED IN	11 1	1		м	1	19	111	7	19	1 1	1	1	1	1	34	14	34	34	34	78	27	34	11	27	22	0.79	0.77	0.65	0.79	0.65	1
VISME400	11 30	1	1	31	10	11	11	10	21	1	1	1	1	1	13.6	13.6	13.6	33.6	13.6	65	25.8	25.6	24.6	25.6	34.6	a.35	0.85	0.72	0.75	0.72	
V15ME402	15 9	1	4	15	3	24	15	2	24	1	1	1	1	1	15.4	15.4	15.4	15.4	15.4	72	81.4	47.4	25.4	82.4	25.4	0.87	0.01	0.75	0.00	0.75	1
VISME403	14 7	1 1	1	24	2	21	14	1 4	21	1		1	-	1	12.0	12.0	12.4	10.0	22.0	40	10.1	-	32.4	10.0	27.0	0.00	0.00	and a	10.00	4.44	1
VISMEROR	12 .				-	-	1.0	1	1 1	1		-		-		10.0		-				10.0	11.0	18.8	33.0	10.04	1.44	1.64	0.84	0.64	-
USGE AND		1	-		-	-	- 14	1.	- 00	1	4	1			13	10	18	15	15	73	- 18	26	24	78	24	9.67	0.62	0.71	0.82	8.71	
CONTRACTOR OF	1 4	1	-	H	4	18	1 12	4	16	1	1	1	1	1	32.6	32.6	32.6	12.6	12.6	- 63	25.6	29.6	17.6	25.6	17.6	9.75	0.67	0.52	0.75	9.52	
¥ 13ME406	11 8	1	•	11	5	38	11	1.5	16	1	1	1	. 2	1	30.8	35.8	10.8	30.8	10.8	54	22.8	27.8	96.8	22.8	36.8	0.67	0.63	0.49	0.47	0.49	
V35ME407	12 12	2	4	11	12	24	52	12	24	1	1	1	3	1	13.6	13.6	13.0	13.0	13.0	65	26.8	38.8	25.0	26.8	26.0	11.78	0.00	1.79	B.29	6.78	1
VISME408	11 .		0	11		34	1 11	1.	101	1		1		-	12	11	12	11	11	-	35	11			10.0	10.00	0.11	0.00	10.75	0.10	1
VISMEAN	13 14	1			10	100	1.0	1	1 1	1	-	-	-	-	44	-		-	-		- 63	-	- 41	43	11	66.74	4.77	0.64	0.74	0.68	4
VINAN COL		-	-		-	- 25	1.84	1 14	0	1		1		1	11.1	11.2	19.3	11.2	11.3	86	19.1	39.1	28.2	25.2	28.2	0.74	0.85	0.83	0.74	0.63	1
CONTRACTOR OF STREET	11 30	1 2		11	10	21	11	10	23	1	1	1	1	1	13.6	13.6	13.6	11.6	13.6	48	25.0	33,6	24.6	25.8	34.8	0.75	0.81	0.72	0.75	6.72	1.16
155010412	11 34	1	5	11	34	25	11	14	25	1	1	1	1	1	15.2	15.2	15.2	15.2	15.7	76	27.1	41.2	30.2	27.3	30.2	0.80	0.94	0.89	0.00	0.09	
LSME413	15 8	1		15	3	3.8	1 25	1	3.8	1	1	1	1	1	12.8	12.0	17.0	12.4	17.4	64	26.8	31.4	16.4	28.8	26.8	0.85	0.72	0.40	0.05	6.44	
15ME415	14 8	1		34		25	14	1.4	1 22	1		1		-	17.0	17.1	17.0	17.4	17.0	-	33.4	41.5	37.4	32.4	12.4	0.00	0.00	-	0.00		
TIMETIC	15 .		-		-	-	1.0	1.	1 11	-	-	1	-	-	81/8	11.0	37.8	\$1.6	ALLA	-	14.8	41.8	17.8	84.8	37.8	11.9%	0.95	0.81	0.90	0.81	4
TEMEL		- 1	-		1	- 22	1 18	1	11	1		1		1	12.2	12.2	111	12.2	11.2	63	28.3	35.2	20.2	28.3	30.3	0.83	0.80	0.19	0.83	8,58	1
ISME417	11 6	1	/	11	6	17	11	6	17	1	1	1	1	1	10.0	10.6	30.8	10.8	10.8	54	22.8	28.8	17.8	22.8	\$7.8	0.47	D.65	0.32	B.67	0.52	1
ISME418	15 0	25	4	15	9	35	15	8	25	1		1		3	13.5	13.4	13.4	18.6	13.5	68	29.4	29.4	18.5	29.6	24.8	0.87	0.67	8.43	0.87	5.43	1
15ME421	15	34		15		24	115		24	1	1	1	1		15.4	15.4	15.4	15.4	10.0	10	11.4	40.4	10.4	81.4	25.4	0.00	0.00	-	0.00	A 14	1
15ME422	11 .	-		11	-	-	1 44	17	-	-	-	-	-	-	10.0	11.1		10.0	10.0	10	-		2017	20.0	49.4	10.99	MAR .	1.00	0.93	0.75	+
TIMEST		-	-	.	-	-	1.55	1.	-	-					11.8	81.8	11.6	11.6	11.8	34	23.4	AL.4	71.8	23.4	23,4	0.69	0,74	0.64	0.69	0.64	4
synthesis	-	2	-	14		22	34		22	1	1	1		1	15.2	15.2	15.3	15.2	19.2	78	30.7	18.7	24,2	90.2	24.2	0.69	5.87	0.71	0.89	0.71	1
13ME425	15 1	M		15	4	38	35	1	3.6	1	1	1	1	1	31.4	11.4	11.4	33.4	11.6	37	27.4	28.4	18.4	27.4	15.4	0.61	0.45	0.20	0.01	0.99	1
15ME427	12 0	11		12	.0	22	127		12	1	1	1	1	1	15	15	15	19	14	75	78	24	14	24	34	0.47	0.44	19.47	0.01	6.47	1
SME429	11 .				-	100	1	1	-		-	1	-	-	17.0	10.0	10.0	10	3.9	13		40	- 10	10	20	0.84	0.00	and a second	0.00	0.47	1
TANK AND		-	-	-	-	- 40	111	1	10	1					11.8	13.8	33.8	13.8	13.8	- 89	25.8	34.8	13.8	25.8	21.8	0.76	0.79	6.70	0.76	\$.70	1
100000000000000000000000000000000000000		1	_	11		10	111	1.	19	1		1		1	11	11	11	-11	11	- 55	10		20	20.	20	0.68	0.70	0.54	0.68	0.58	
And all a second s	441 152	119	6 1	44	\$52	These.	844	1 25.7	15	71	71	71	72	71	889.2	880.2	880.2	880.7	883.7	4445	1804.2	1	1903.2	1795.7	1508.2	53.06	53.35	44.22	52.00	44.71	
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H.O.D of Mechanical T., TUMKUR -6

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PRINCIPAL RET., TUMAKURU,

SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY DEPARTMENT OF MECHANICAL ENGINEERING

EVEN SEM 2017-18



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	FINITE ELEMENT METHOD	SUBJECT CODE	15ME61]
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COURSE OUTCOME

CO1	Demonstrate the basic concepts of Finite Element methods with its potential applications.
CO2	Interpret the use of the basic finite elements for structural applications using truss, beam, frame, and plane elements.
CO3	Derive element matrix equation by different methods by applying basic laws in mechanics.
CO4	Make use of professional-level finite element software to solve engineering problems in Solid mechanics, fluid mechanics and heat transfer.
CO5	Implement finite element methods for simple problems such as beam analysis and 1-D heat conduction either by hand calculation or by programming.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- P012 Life-long Tearning: A recognition of the need for, and an ability to engage in, to resolve confemporary issues and acquire lifelong learning.

H\O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

PRINCIPAL SIET., TUMAKURU

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	C0%	PO1	PO2	PO3	PO4	POS	PO6	PO7	POS	PO9	PO10	PO11	PO12
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PRINCIPAL SIET., TUMAKURU

Academic year	20	127-18	1	188.34	VI.	1	T	istad ut	rearth	-	-	5.0	diset.	17151	TEELEM	ENTS	METHOR		. Sabi	at Cale	155	TATE	1	1	I					R 14
BEMAYS.	14	TEAT	8(20M)	IA.	TEAT	1(38M)	IA	TEST	ADOM)	A.5510	NEM	ENT /	OUL	Lett h	6	183	MARKSON	60				Total C	In ATTAI	INMENT	10-11-5	1	Set	and wide	00 14	
USN	-00	f C02	TOTAL	600	COM	TOTAL	C04	00	TOTAL	COX	C02	000	CD	COI	C01+12	COU	COU	CON	-0.06	TOTAL	C01+34	002-44	C00-34	C04-34	C09+34	601	CUI	003	4:04	C05
ISVIAMED11	11	2	18	11	1	18	11	1	13	1	1	1	1	1	1.8	5.8	1.0	1.8	1.8	29	17.8	18.8	6.8	17.4	8.8	6.52	8.45	8.28	8.52	0.76
15V14ME016	12	2	14	H	12	24	12	1	14	1	i	1	1	Ti	3.4	1.4	1.4	1.4	3.4	24	18.6	20.4	4.4	18.8	8.0	8.85	0.47	8.75	0.55	0.25
ISV14ME018	n		17	n	1.	17	11	4	17	1	1	1	TT.	1	6.4	4.4	6.4	4.4	6.4	11	15.4	34.4	13.4	18.4	13.4	0.54	0.55	1.38	0.54	0.39
15V34ME026	12		17	11	17	1.7	-0	1 i	17	1	1	1	÷	t÷.	3.4	8.4	8.4		4.4	42	22.4	27.4	15.4	20.4	73.4	0.64	0.63	0.45	0.66	0.45
1EV14ME034	11	1	17	11	17	12	11	1	17	-	1	1	÷	t÷	10	4.1	6.3	4.1	4.1		19.1	14.1	12.1	18.2	12.2	0.54	0.55	1.14	0.54	0.36
INVIAMENTS	17	11	10		t÷.	14	- 10	÷		-	÷	++	÷	÷	8.2						35.0	10.0	10.0	10.0	10.0	4.14	0.64	1.1	5.74	0.30
TEVIANETHE	1.11	+ -		10	÷	10	- 10	+÷		-	+ + +		÷	÷	8.2	1.00		24	24		15.4	10.0	10.0	25.2	10.0	4.30	0.00	1.0	8.78	0.41
TEVIALETON'	- 11	1.1		13	÷		10	÷	20		1	-	1.	++	7.8	1.14	1.4	1.4	14		23.8	18.8	10.0	25.8	11.8	8.70		8.41	8,70	0.81
TENT CONTRACTOR		1	11	<u> </u>	14	19	- 14	1			-	1	1.	1.	5.6	1.00	5.6	3.5	3.4	- 11	18.8	25.8	15.4	18.8	13.6	0.55	0.58	8.40	8.35	0,40
LEVIE CON	11	1	38	H	11	10	12	1	18	1	1	1	1	1	7.8	7.8	7.6	7.6	3.4	- 10	20.4	27.6	15.4	20.8	15.6	0.61	0.63	0.66	0.81	0,00
LSVIJMEIMI	n	1.	11	11	11	13	11	1	13	1	1	1	1.1	1	7.8	1.4	7.6	7.8	.24	- 88	19,6	31.4	10.4	19.4	10.8	8.5#	0.49	6.11	0.56	0.31
LEVISMEND.	10	4	38	11		3.0	12		18	1	1	1	. 1	1	30.8	10.8	30.8	30.8	30.8	- 34	23.8	25.4	17.8	52.8	17.8	\$.70	0.68	8.52	8.70	0.52
15V15ME807	- 23		28	35	4	3.9	30		18	1	1	1	1	1	30.8	10.3	10.8	30.8	30.8	- 54	26.8	30.8	25.8	25.8	15.8	8,79	8.70	0.66	0.79	0.86
15V15MEB08	23	1.8	38	15		3.8	15	1	38	1	1	1	1	1	5.8	5.8	9.8	3.8	5.8	-49	25.8	38.8	11.8	25.8	13.8	8.76	0.45	6.41	0.76	0.41
ISV15MER10	- 12	1.5	3.7	14	. 5	17	12	. 3	17	1	1	1	1	1	7.6	7.4	7.6	7.6	7.6	38	20.4	25.6	13.8	20.4	13.6	0.61	0,54	0.40	0.61	0.40
USV15MER11	耕	1	34	. 83	1	34	.11		14	1	1	1	1	1	6.4	8.4	6.4	6.4	6.4	32	38.4	21.4	10.4	18.4	30.4	0.54	8,49	6.11	0.54	0.31
15VISMERIT	15	1	28	15	1	3.0	15	1	38	T	1	1	E.	1	9.6	3.8	8.6	9.4	86	-48	25.6	26.6	11.8	25.6	11.6	0.75	8.40	0.34	0.75	0.34
15V15ME018	15	1	18	15	1	18	15	1	18	1	1	1	L	1	6.2	6.7	6.7	6.2	63	31	33.3	25.3	10.2	32.2	36.2	0.65	0.57	0.30	0.85	0.30
15V12ME019	17	1	15	12	1	15	12	1	15	1	1	1	1	1	8.2	4.7	8.7	4.2	11	41	21.2	24.7	12.2	21.2	12.7	0.67	0.55	0.34	0.62	0.36
15V13ME023	17	7	19	12	1	10	12	Y	19	1	1	1	TT.	11	8.4	8.4	8.4	8.4	8.4	47	21.4	28.4	16.4	71.4	16.4	11.63	0.45	0.48	0.43	0.48
ISVISMEN25	15	1	10	15	1	28	75		78	1	1	1	1	1	8.4	1.4	1.4		1.4	#2	24.4	28.4	114	74.4	114	6.72	0.45	0.10	8.22	0.78
ISVISMENT.	117	11	76	12	1	78	12		74	-	1	-	÷	1	1.4	1	11		14	12	21.4	25.4	12.4	21.4	1114	0.42	0.04	0.75	0.83	13.99
USV13ME02E	10	11	12	10	1	71	14	-	12	-	-	-		1	1.1	1.1	11		11		34.0	10.4	11.0	24.0	1110	0.72	0.41	0.0	0.72	0.15
ISVISMENTS	11	1	14	10	1	- 14	40	-		-	-		-	+	1.5	100	-		-		24.8	14.4	111	1 111	11.0	0.13	0.04	0.00	0.78	0.11
CEVISBOOK .		1	14	11	1		- 11	-	34	-	-		-	1	9.6	-	8.6	9.4	24		21.4	24.6	184	41.6	11.6	0.64	0.56	0.40	0.84	0.40
LEVI3MEN74	- 11		11	<u>u</u>	-	u.	<u>u</u>	9	u.	1	1	1	1	1.	11		1.1	4.4	4.4		21.8	23.8	- 14	11.8	11	0.64	0.50	0.39	0.64	0.79
LSV13ME0.0V	H.	1	17	11	1.	17	ы		17	1	1	1	1	1	8.2	81	6.2	4.2	11	41	21.3	26.2	34.2	21.1	14.7	0.62	0.40	0.42	0.62	0.42
15V13M1042	13		18	15		15	в	0	10	1	1	1	1	1	7,6	7.4	2,4	7.4	3.4	37	23,4	21.4	8.4	23.4	8.4	0.69	0.53	0.25	0.88	0.25
15V13M1044	15	2	17	15	2	17	15	1	17	1	1	1	1	1	6.6	6.6	6.6	6.6	6.6	31	23.6	24.6	9.6	22.8	3.6	0.66	0.55	0.78	0.44	0.29
15V15MED45	-15	2	17	15	-2	- 17	13	2	17	1	1	1	1	1	9.4	8.6	8.6	9.6	8.6	48	25.6	27.6	12.4	25.6	12,6	0,75	0.63	0.37	0.75	0.17
TEVISMED48	11	2	39	12	1	38	11	7		1	1	1	. 8	1	8.4	8.4	8.4	9.4	8.4	47	23.4	28.4	37.4	22,4	\$7,4	0.66	0.67	0.11	0.44	8.55
IEVISMEIN9	11	3	23	LD LD	1	15	12		25	1	1	1	1	1	7.8	7.8	7.8	7.8	7.8		20.8	23.4	11.8	38.8	11.8	0.41	8.54	0.15	0.81	0.80
UNVISMENSI	15	- 0	35	15	0	15	13		18	1	1	1	1	1						45	25	25	30	25	10	0.74	0.57	0.29	8.74	0.28
15V13ME836	15	2	17	15	1	17	15	1	17	1	1	1	1	1	12.8	12.8	12.8	32.8	12.8	54	28.8	30.8	15.8	28.8	15-8	0.85	0.70	0.48	0.85	0.46
USV15ME05#	12		13	11	3	15	11	3	19	1	1	1	1	1	8.4	1.4	8.4	9.4	3.4	47	22.4	25.4	13.4	32.4	13.4	0.64	0.58	0.39	0.86	0.29
15V13ME039	14	0	34	34		14	14		14	1	1	1	1	1	7	2	1	7	1	30	11	11		11		0.45	0.50	0.24	0.45	8.24
ISV15ME062	15	3	20	15	15	20	15	-	10	1	1	1	Ť	ti	10.2	10.2	10.7	36.2	10.7	54	26.2	81.7	16.7	26.2	16.2	0.77	0.71	0.48	0.77	0.48
15V15MEDen	10	0	18	10		1.0	18	8	10	1	1	1	Ť	ti	13	7.2	7.2	7.2	23	14	36.2	26.2	13	36.7	8.2	0.77	0.40	0.34	0.77	0.24
ISVISMENT	1.7	11	11	11	1	10	12	1	11	-		-	÷	t÷	5.6	14	3.6	5.6	1.1	24	18.6	10.0	7.6	16.6	2.4	0.55	0.45	0.21	0.55	
INVISION INT	11	1.	30	11	÷	30	11	-	100	-		-	÷	t÷.	1.4		1.4	1.1	1.4		17.4	25.4	15.4	11.0	15.4	0.52	0.41	0.45	0.53	12.44
LEVI (MENT)	11	1.1			÷	- 10		-	- 10				÷	÷	10.0		10.4	-			10.0	10.0	114	10.0	1110	0.94	0.44	0.90	0.10	0.11
IEVI SHITTY		1.1						-		-			÷	++	21.0	20.0			10.0		22.0	22.4	17.8	20.0	10.0	0.70	0.00	0.54	0.70	0.04
LEN'I SHATTING	10	1.1	10	- 10		10	10	-	10	-				1	7.4	1.4	1.4	- 14	24	- 37	25.4	27.4	124	13.4	LLA.	0.69	A AL	0.94	0.69	0.00
LEVISMEN/4	15		20	- 15	1	20	35	2	20	1	1	1	1	1	6.4	8.4	6.4	6.4	6.4	32	22.4	27.4	12.4	22.4	12.4	0.66	0.62	0.96	3.66	0.70
15V13M3073	u.	1.2	10	u	1	n	<u>u</u>		13	1	1	1	1	1	7,4	1.4	7.4	7.4	7.4	. 37	75.4	25,4	13.4	20.4	13,4	0.60	0.54	0.35	0.80	0.35
ISVISME076	ш		10	н		10	u		38	1	1	1	1	1	5.8	5.8	5.8	5.8	5.8	- 29	38.8	24,8	32.8	38.8	12.8	0.55	0.54	0.38	8.55	5.18
15V15M8:077	15	4	30	15	4	19	15	4	39	1	1	1	1	1	4.1	6.2	8.2	6.2	\$2	31	11.1	36.1	11.2	12.2	11.7	0.65	0.40	6.33	0.65	4.33
15V15ME079	-15	5	30	-15	. 5	20	35	5	30	1	1	1	1	1	10.6	30.6	30.6	03.6	10.6	53	25.6	31.4	36.6	36.6	36.6	0.78	0.73	6.49	8.78	8,45
ESV15ME083	11	6	38	- 12	6	18	12	6	3.8	1	1	1	1	1	1.8	1.8	1.8	1.8	1.8		14.8	20.8	1.1	34.8	8.6	0,44	0.47	0.36	0.44	0.26
18V15ME163	13		38	11	- 6	28	12	. 4	3.8	1	1	1	1	1	3	.7	7	7	7	25	30	26	14	30	24	0.59	0.58	0.41	0.59	0.41
ISVISME187	25	1 1	28	15	1	28	15	1	38	1	1	1	1	1	8.8	8.4	8.6	8.6	8.6	43	24.6	23.4	30.6	24.6	10.6	4.72	12.58	0.31	0.73	0.81
15V13ME400	12	2	34	12	2	14	12	1	34	1	1	1	1	1	4.4	4.4	4.4	4.6	4.4	72	17.4	15.4	2,4	17.4	7.4	0.51	0.44	8.22	0.31	8.72
1SV16ME402	15	0	15	15	- 10	15	15	0	15	1	1	1	1	1	4.4	4.4	4.4	4.4	4.6	Z2	20.4	20.4	5.4	20.4	5.4	0.62	12.44	0.15	0.60	0.16
ISV36ME403	12	3	12	12	5	17	52	5	17	1	1	1	1	1	5.4	6.4	6.4	6.4	54	32	19.4	24.4	12.4	19.4	12.4	8.52	0.45	8.94	0.57	0.56
15V16ME404	82	6	18	12	6	28	12	5	18	1	1	1	1	11	7.1	12	2.1	7.2	2.2	36	20.7	16.7	34.2	30.2	14.2	0.55	0.65	6.42	0.59	6.42
ISV16MEADS	15	1	34	15	1	34	25	1	16	1	2	2	1	1		-		-		20	22	24		22		0.65	0.52	0.14	045	0.94
ISV16MEAUT	14		20	35	1	20	25		20	-	-	-	-	1	-	-		-	-	10	74		1 14	1 14	14	0.77	0.00	0.00	0.71	0.41
ICULENAL STR	10	1		44	-		10	-	11	-	-	-	-	-		1.1	11				10.0	100	1111	100	111	0.04	0.04	0.04	0.75	0.45
LEVICAN COL	Ad.			14	1	- 11	M	-	17	-	-	-	-	1	3.8	3.8	3.6	3.5	3.8		18.0	43.4	11.8	18.8	11.6	9.38	8.54	10.04	9.50	5.84
LEVIEWEAP	M	-	- 24	12		- 18	17		10	4	1	1	1	1	8.6	8.6	8.6	8.6	8.8	40	71.6	27.6	13.6	115	11.6	11.64	1 0.63	1 1.46	9.64	0.46
LS V PSME410	13		28	15		19	13	4	19	1	4	1	1	1	5.4	14	3.8	3.8	5.8	29	21.8	2.6	30.8	21.8	10.8	0.64	0.54	0.32	0.64	0.82
LSVISME412	15	1	38	25	1	- 34	15	1	38	1	1	1	1	1	6.4	6.4	6.6	6.4	6.4	312	23.4	25.4	30.4	22.A	10.4	1.66	0.58	18.31	0.66	0.35
15VIAME413	15	1	- 38	15		.18	35	1	38	1	1	4	1	1	5.6	3.6	1.6	5.6	5.6	28	23.4	24.6	9.6	11.6	9.6	0.64	8.56	8.28	0.64	0.28
ISVIAME414	11	6	38	12	6	38	11		38	1	1	- 8	1	1	4.3	6.2	6.2	6.2	4.2	13	18,7	25.3	18.3	19.2	13,2	0.56	8.57	6.89	0.36	0.35
ISVIGME#17	15	1	38	35	1	16	15	1	38	1	1	1	1	1	1.0	3.0	3.4	3.8	3.8	19	18.8	20.8	5.4	18.8	5.8	6.5#	8.47	8.17	0.14	0.17
15V16ME418	15	1	17	15	1	17	35	1	17	1	1	1	1	1						45	25	27	12	25	12	6.74	6.61	0.35	0.74	0.35
15V16ME419	15	4	18	15		18	13		19	1	1	1	1	1	1.0	3.4	3.6	3.8	3.8	10	19.8	23.8	8.8	15.0	8.8	0.58	8.54	0.76	0.14	0.25
15V16ME420	34	1	17	34	3	17	34	3	17	1	1	1	1	1		0		0	0	0	15	18	4	15		0.44	8.41	0.17	0.44	0.12
ISVIAME421	34	1	18	34	2	18	14	2	16	1	1	1	1	1		6.0	14	6.8	4.0	34	21.0	23.8	1.0	11.0	1.0	0.64	1.54	0.79	0.84	0.79
SVIGME421	14		10	34	1	10	14	-	14	1	1	1	-	1		-					24	22	11	28	11	0.45	1.01	0.04	0.48	0.34
SVIEME474	15	1	10	14	1		10	-	10	-	-	-	-	1		10	14	1.0	1.0	29	21.0	28.0	10.0	ma	10.0	0.64	1.10	6.32	0.64	0.12
SVIEMEATS	14		12	14	-	17	10	-	17	-	-		+		4.2	11	41				36.0	77.1	1 11 1	1 141	1111	0.77	2.67	0.00	0.77	0.32
TOTAL	-	344	1101		344	1100	-	344	1101	-	-	-	-	1	100	8.4	4.1	7.7	1.4	3510	26.3	27.4	1 111	1100	61.4	47.07	and a	114.00	47.47	14.00
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and a second second	1000		10.075	100.00		10.175	100.00	1000	100000000000000000000000000000000000000			1.1.1.1	1000	 A.B. 		10.000		10.000	10.00	A		 		1 10.0		• • • • • • • • • • • • • • • • • • •	1.000.000	1 10 1 10 10	A 100 B	A 100 100 100

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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Mander Commyster PRINCIPAL SIET. TUMAKURU.



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBIECT	COMPUTER INTEGRATED	SUBJECT CODE	
SUBJECT	MANUFACTURING	SUBJECT CODE	15ME62

COURSE OUTCOME

CO1	Interpret various automation methods and to develop mathematical models in production system	
CO2	Analyse the design processes using computer graphics software and CAPP.	
CO3	Develop an algorithm for line balancing to improve the productivity by adopting flexible manufacturing system.	
CO4	Apply different computer applications in manufacturing and prepare part programs for simple jobs on CNC machine tools and robot technology.	
CO5	Identify the modern trends in manufacturing process like additive manufacturing, Industry 4.0 and applications of IOT leading to smart manufacturing	-

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- P011 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.

P012 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

Dept. of Mechanical

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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Wenne langet PRINCIPAL SIET., TUMAKURU.

SENE-T1	M	TEST HO	chest.	1	A TENT 20	3654)	10	TEST NO	8540		ASSIGN	EMENT / C	UIZ(IP M)	Compo	Ner hategra	SE	E MARKS	1640	- netur	Com.	- 108	Total C	OF ATTAIN	MENT	10000			of Individual	CO
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SV14ME011	11	1	34	11	1	14	11	3	34	1	1	1	1	1	10.2	30.2	10.2	10.3	10.7	55	222.2	35.2	34.2	22.2	34.2	0.45	0.87	6.42	0.65
SV14ME016	12	2	34	12	1	34	12	2	34	1	L	1	1	1		7	7	1	1	35	28	11	10	20	10	8.59	0.54	8.29	0.58
SV14ME018	11	4	15	-11	4	15	23		35	1	1	1	1	1	7.6	7.6	7.8	7.6	7.8	10	10.8	25.8	12.6	19.4	12.4	0.58	0.54	8.37	0.58
SV14ME026	11		15	17	1.1	15	M	1	18	1	1.1	1	1	1	5.6	5.6	5.6	5.6	5.4	26	18.6	21.6	9.6	18.6	5.6	8.55	0.49	0.18	0.35
SV14MEDH4	U		15	12	1	15	11	1	18	1	1	1	1	1	8.4	8.4	8.4	8.4	8.4	43	21.4	24.4	32.4	21.4	32.4	0.63	0.55	0.36	6.63
EV14MER55	11	4	17	11		17	13		17	1	8	1	1	1	10	10	30	10	10	50	32	28	17	22	17	0.45	0.64	6.53	0.45
EV14MH064	13		18	12		18	11		38	1	1	1	1	1	7	7	7	7	7	38	29	34	14	30	3.6	0.59	0.58	0.41	0.55
W14ME083	11		17	12	5	17	12	3	17	1	1	1	1	1	11.4	11.4	11.4	11.4	11.4	57	24.4	29.4	17.4	24.4	17.4	8.72	0.67	0.51	0.72
SV14MEIRA	32		14	13	1	14	11		34	1	L	1	1	1	1.4	5.6	1.8	5.6	3.6	28	17.8	30.4	16	17.6	9.6	0.52	0.47	8.78	0.53
EV15ME001	- 12	4	10	13	4	15	12	4	36	1	I	1	1	1	8.6	8.6	8.0		8.6	43	21.6	25.6	13.4	31.6	18.4	0.84	0.58	0.40	0.84
IVI5ME003	12		20	17	1	30	LI I		28	1	1	1	1	1	11	11	11	11	11	55	34	82	29	24	20	8.71	0.78	0.59	0.71
V15ME007	15	1	18	15	1	18	18	1	3.0	1	1	1	1	1	304	10.6	10.4	10.6	30.4	5.8	16.4	29.8	14.4	26.4	14.6	0.78	0.47	0.43	0.76
V15M2008	11	7	19	12	2	30	11	7	18	1	1	1	1	1	12	U.	12	11	11	60	25	10	20	25	30	8.74	0.73	0.29	0.74
IV15M0010	12		18	12	6	18	13	6	18	1	1	1	1	1	11.7	11.2	11.7	11.7	11.7	56	24.7	30.7	18.7	24.2	18.7	8.71	0.69	0.54	0.71
V15ME011	15	3	17	15	2	17	15	2	17.	1	1	1	1	1			1			40	24	24	11	34	11	0.71	6.58	0.37	6.71
V15ME017	12	3	18	13	1	1.9	11	1	19	1	1	1	1	1	11				11	44	21.8	16.6	16.4	21.8	16.8	2.64	0.65	0.48	0.64
V15ME018	12	4	18	11	4	16	12		- 14	1	1	1	1	1	10.4	10.4	10.4	10.4	10.4		11.4	17.4	25.4	12.4	25.4	0.09	0.62	0.45	0.6%
WISMED19	11	1	14	13	1	14	32	1	14		1	1			2.4		24			10	37.4	24.8	12.4	27.0	12.4	0.67	0.54	0.78	DET
V15MERG3	1	17	18	1	17	10	1	12	10			1	-		11.2	11.1	11.1	12.5	11.0	14	12.4	10.2	28.2	12.2	20.0	0.00	0.44	0.85	
WISMER25	11	4	24	12	1	14	22		14			1	-	-	11.4	11.4	11.4	11.4	11.0	10	14.4	36.4	15.4	14.4	36.4	8.79	0.65	0.44	0.00
VISMINTY	21		74	11	1	10	22		10		-	-	-	-				14.4	11.4	44	24.4	20.4	17.4	24.4	10.4	0.14	0.40	0.45	D.F.S.
VIIMER	11		14	- 11	1	10		-	10			1	-			5.5		-			24.6	29.8	11.6	24.6	37,8	0.60	0.01	0.10	0.00
VISMOURT	15		11	- 14	1	10		-	10	-	-	1		-	10.0	10.0	8.8	10.0	0.0		31.4	16.5	10.0	21.8	16.8	0.64	0.61	0.46	0.04
VISMENNA	11		41	15	-	- 15	13		15	1	1	1	1	1	10.3	14.3	ma	10.7	101	51	16.1	16,1	11.1	16.1	11.1	8.77	0.60	0.11	0.77
VISMENSO	11	-			1	10	M	-	15	1	1	1		1	7.6	7.6	.7.8	7.8	7.6		20.6	21.8	11.4	20.6	11.6	0.01	0.54	0.34	5.45
VISMENUT	11		14	14		10			10	-	1	1	1	1		8				45	- 22	28	18	11	36	0.65	0.64	0.47	0.05
VISHENAL	10	-			1	47	H	-	11	1	1	1	1		11.1	L11	10.1	11.1	13.1	-	16.1	11.7	19.7	36.3	15.7	0.77	0.71	46.0	0.77
VISMENT	14	-	10	54	-	10		-	11	-	1	1	1	-	11.4	11.4	IL.A	11.4	11.4	57	24.4	HIL4	18.4	24.4	18.4	8.72	0.68	0.54	8.73
UTSMEDIE			Mr.	10	+ + +	M	- 15		11	-		1	1	1	30.8	10.8	30.8	10.8	38.8	54	25.8	28.8	15.8	28.8	11.4	0.79	6.65	8.41	0.78
VIIIAEDER	10	-	10	- 24	-	19	14		10	1	1	1	1	1	12.8	11.8	12.8	11.8	12.8	64	37.8	33.8	18.8	27.8	18.8	0.63	0.75	0.55	0.82
VI CARDON	- 14		19	11		15	u		15	1	1	1		1	36.8	10.0	10.8	10.8	30.8	54	21.4	26.8	14.8	23.8	14.8	6.70	6.61	0.44	0.70
VISABLESS	14	-	10	-14	1	16	14	1	14	1	1	1	1	1	10.1	10.2	10.3	10.2	30.2	53	25.7	27.2	11.1	25.3	11.7	8,74	0.62	0.39	0.74
VISABURA	- 11		18	12		18	11		18	1	1	1	1	1	11	11	13	11	13	45	25	30	1.8	26	14	0.76	0.68	0.53	0.76
UI SALDON	u u		15	12	1	13	- 13	3	- 11	- 1	1	1	1		10.0	10.6	30.4	30.6	30.6	55	15.4	36.4	14.8	13.6	34.8	0.09	0.6.0	0.43	0.69
VISHENDY	<u> 11</u>	1	- 10	- 11	-	13	U.		- 25	1	1	1	1	1	7	1.	7	.7	1	11	29	21	11	38	11	8.59	453	0.31	0.58
VIEWEINES	<u>u</u>		22	- U		10	ш	-	н	1	1	1	1	1	13.8	18.6	13.6	15.6	11.6	68	36.6	34.6	22.6	26.6	22,6	8.78	6.79	0.66	0.78
UTSAUDUST	- 10		10	14	-	19	34		28	1	1	1	1	1		,	,	9	9	45	24	29	15	24	15	8.71	0.68	2.44	0.71
VISARUS	- 10		- 10	- 10		34	м		34	1	1	1	1	1	- 14	4.8	5.8	6.8	6.8	34	38.8	21.8	3.8	19.8	3.8	0.58	0.50	0.29	0.58
VICLENTS	- 14	-	17	11		17	11	5	17	1	1	1	1	1	8.4	8.6	8.4	8.4	8.4	42	21.4	26.4	34.4	21.4	14.4	0.63	0.60	0.42	0.43
VISAEUTI	14		10	34		10	24		18	1	1	1	1	1	10.6	10.6	30.8	38.6	10.6	58	25.6	29.5	35.6	25.6	15.6	8,75	0.67	0.48	0.75
VI VALUTA	- 10		10	- 11		18	12		18	1	1	1	1	1	8.2	8.2	8.2	8.2	8.2	45	11.2	17.2	15.2	21.2	15.2	8.62	8.62	8.45	0.62
VIENNER	- 11		10	12		10	11		18	1	-		1	1	8.6	84	8.6	8.6	8.0	-41	23,6	27.A	35.6	21.6	15.6	0.64	0.63	0.46	0.64
VIILAGIN	- 10		20	- 14		10	11	-	10	1	1	1	1	1	5.8	6.8	6.8	6.8	6.8	34	19.8	27.8	25.8	19.8	15.8	0.58	0.63	0.46	0.5#
CLERCOUTE	12		18	14		38	11		18	1	-	1	1	1	11.4	33.4	11.4	11.4	11.4	57.	24.4	30.4	18.4	24.4	38.4	0.72	6.69	8.54	0.72
VI SKALSTA	24	- 1	38	- 24	1	36	14	1	16	1	1	1	1	1						-40	23	n	- 11	11	13	0.68	8.57	8.32	0.68
CITAL	10	.0	13	13		15	15	.0	15		1	K.	1	1	30.8	10.3	30.8	30.3	10.8	54	36.8	26.3	11.3	26.3	11.1	8.79	0,60	8.00	0.77
VIII AND NO.	13		15	-14	1	15	N.		18	1	1	1	1	- 1	6.3	8.3	4.2	6.2	4.2	41	11.1	24.2	17.1	31.3	12.3	0.62	6.58	6.36	0.42
CIGLICITI	1	12	18	1	u	0	1	u	18	1	1	1	1	1	3.6	. 9.6	9.6	9,6	9,6	48	31.6	23,4	22.4	11.6	22.4	0.34	0.54	2.66	0.34
CONTRACTOR OF	- 11		33	10	1	15	17	1	15	1	1	1	1	1	10.3	10.2	201	10.3	10.1	35	33.3	36.3	14.7	23.2	LAL	0.68	0.60	0.42	0.68
A120451000	u	1	34	37	1	- 54	12	1	14	1	1	1	1	1						80	19	21		18	. 9	0.54	0.48	0.26	0.56
V16ME402	11		38	12		26	11	4	38	1	1	1	1	1	8.4	8.4	8.4	8.4	8.4	41	31.4	35.4	18.4	21.4	13.4	0.83	0.58	0.39	0.63
V16ME403	LL LL	1	17	-12	1	17	11	. 3	IJ	1	1	1	1	1	6.8	6.8	6.8	6.8	6.8	34	35.8	34.8	32.8	19.8	32.8	0.58	0.56	0.38	0.58
V36ME404	11	. 8	18	12	6	3.8	11		38	1	1	1	1	1	11.8	13.0	11.8	11.8	11.8	55	26.8	30.8	38.8	24.8	18.8	0.75	0.70	0.55	0.73
V16ME405	u		28	11	4	26	12	4	38	1	1	1	1	1						30	19	13	11	19	85	0.54	6,52	8.32	0.56
VIEME407	34	1		34	3	3.8	14	1	18	1	1	1	1	1						-40	23	15	15	23	- 85	0.68	0.57	0.37	0.68
PEME408	u		15	12		35	LU .	3	15	1	1	1	1	1			. 6		6	80	1.9	22	10	13	5.8	8.56	0.50	0.29	6.56
V16ME409	34		17	34	3	17	14	1	17	1	3	1	3	1	30.8	38.8	38.8	10.8	10.8	54	25.8	28.8	34.8	23.8	14.8	0.78	0.45	8.44	6.76
VI-6ME410	11	. 8	17	12	5	17	12	8	17	1	1	1	1	1	2.4	9.4	8.4	9.4	8.4	47	23.4	37.A	15.4	22.4	15.4	0.66	0.63	0.45	0.66
V16ME412	1	15	16	1	15	16	1	15	36	1	1	1	1	1	4.8	8.8	8.8	8.8	8.8	44	10.8	25.8	24.8	10.6	24.8	0.32	0.59	0.75	0.33
V16ME413	32	3	17	12	5	17	13	8	27	1	1	1	1	1	5.6	3.6	5.6	5.6	5.6	28	38.6	23.5	11.6	18.6	11.6	0.55	0.54	8.54	0.55
716ME416	\$3	1	34	3.2	2	34	12	2	2.4	L	1	1	- 1	1	3.4	5.4	3.4	8.4	8.4	47	22.4	34.4	32.4	22.4	12.4	0.66	0.55	8.36	0.66
16ME417	38		17	34		17	3.8	- 1	17			1	3	1	7.8	7.8	7.8	7.8	7.8	20	22.8	25.8	11.8	22.8	11.8	0.67	0.59	8.35	6.67
TIGMEALS	15		15	15		35	15	0	15	1		1	1	1	10.8	30.4	10.8	10.8	10.8	54	26.8	26.8	11.8	26.8	11.0	0.79	0.41	0.35	0.79
/16ME419	12	1	34	12	2	14	12	1	14	1	1	1	1	1	7.6	7.6	7.6	7.6	7.6	28	20.6	12.6	10.6	20.6	10.6	0.61	9.51	0.31	0.61
16ME420	14	ø	24	14		34	34	9	14	1	1	1	1	1	30.4	10.4	10.4	10.4	10.4	82	25.4	25.4	11.4	25.4	11.4	8.75	0.58	0.34	0.75
716ME421	15	1	26	15	1	36	15		36	1	1	1	1	1	30.1	10.2	10.2	10.2	10.7	51	36.1	17.1	12.2	26.2	12.2	8.77	0.42	0.36	8.77
/16ME423	117	3	24	12	1	34	TI I	1	34	1	1	1	1	1	11.0	31.8	11.6	11.8	11.8	59	34.8	26.4	16.8	24.8	14.8	0.73	0.41	0.44	0.73
(HiME426	13	. 7	19	12	7	19	11	7	3.9	- 1	. 1	1	1	1	13.2	13.2	11.1	11.2	11.1	34	24.2	81.7	19.7	24.2	19.2	8.71	8.71	0.56	6.71
716ME425	11		17	11		17	11		17	1	1	1	1	1	11.8	11.8	11.8	11.8	31.8	39	33.8	29.8	38.8	33.8	14.8	8.70	0.68	0.55	0.70
TOTAL	#16	200	1116	#25	300	1116	834	900	1118	64	42	68		68	640.8	640.5	640.1	640.1	640.1	8203	1524.6	3834.1	1006.1	1534.1	1008.1	44.85	41.46	29.45	44.83
OF STUDINTS	- 10	- 14	44	68	-	68	68	68	68	1		44	68	68		68	4.0	68	-	4	68	68	4.5	68	6.0	68	65	68	-
AVERAGE	12.75	4,6875	17,4375	12.75	4.6875	\$7.4875	11.75	4.6673	17,4375	4	1.1	1.1	11	3.5	10.00938	10.00156	10.00556	10.00156	10.0015	.4688	23.8	28.5	13.8	23.8	15.8	70.06	64.78	46.30	70.04

PRINCIPAL SIET., TUMAKURU,

Dept. of Mechanical



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT HEAT TRANSFER SUBJECT CODE 15ME63	SUBJECT HEAT	TRANSFER	SUBJECT CODE	15ME63
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COURSE OUTCOME

CO1	Comprehend the modes of heat transfer and apply basic laws of heat transfer to formulate and solve steady state heat transfer problems
CO2	study and evaluate critical thickness of insulation, steady and variable thermal conductivity of fins, and heat transfer in finite, semi infinita and finite solids
CO3	explain the principles of radiation heat transfer and predict the temperature distribution using numerical approach for heat conduction problems
CO4	Interpret and compute forced, free convection heat transfer.
CO5	design heat exchangers using LMTD and NTU methods and explain the concept of condensation and boiling of liquids.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science; and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve

H.O.D Dept. of Mechanical THAKLIR -

PRINCIPAL SIET. TUMAKURU.

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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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LEV PANEEDIL	11	1	14	11		24	11	1.	24	1	1	1	1	1	4.8	4.8	4.8	4.8	4.8	24	16.8	19.8	4.1	16.8		0.48	0.45	0.74	8.40	0.16	15
15314800016	11	4	38	12	4	18	12	4	16	1	1	1	1	1	1.8	1.8	1.8	1.8	1.8		24.8	18.8	44	14.8		0.44	0.43	6.70	0.44	0.10	12 -4
TRY MEDIA	11	1	24	12	1	14	12	1	-14	1	1	1	1	1	5.6	5.4	5.6	3.6	1.6	28	18.6	20.8	11	18.6		0.95	0.47	0.15	4.55	0.15	18 . 72
15V14542025	11	1	17	12	5	17	12		17	1	1	1	1	1	5.6	3.4	5.4	1.6	3.6	18	18.6	12.4	11.4	18.6	11.6	0.55	0.14	0.14	0.45	0.14	A JE
ISV14ME0.14	11		38	13	4	16	12	4	38	1	1	1	1	1	1.6	1.4	3.6	1.8	1.0	16	16.6	20.4		10.0	110	0.00	0.54	4.14	0.35	0.34	1 23
TEV14ME055	IJ	6	38	12	6	1.8	12	6	18	1	1	1	1	1	9.6	9.8	84	8.6	9.6	45	12.6	18.4	26.6	27.6	10.0	0.49	0.40	0.45	0.49	0.15	P 53
15V14ME064	12	1	19	12	1	19	11	1	2.8	1	1	1	1	1	4	4	4	1	-	10	17	24	12.0	11	42	0.00	0.05	0.49	0.88	0.49	75
ISVI4ME083	- 12		18	12	6	10	11		38	I.	1	1	1	1	6.7	62	6.2	6.2	6.2	11	19.3	16.7	11.1	10.2		0.00	0.95	9.75	0.50	0.35	12 EF
TSV14ME084	13	1	28	13	1	18	12	3	15	1	1	1	1	1	6.2	4.2	4.2	4.5	4.7		10.2	44.0	10.0	10.4	10.7	0.99	8.57	0.75	0.26	0.35	3 61
18V15ME001	11	6	17	11		17	11	6	17	1	1	1	1	1	5.8	1.0	5.8	1.4	1.4		17.4	22.0	10.4	19.3	10.2	0.5%	0.50	0.30	0.56	0.30	3 -
18V15ME003	34		- 26	34		29	34		20	1	1	1	1	1	11.4	11.4	11.4	114	114	17	36.4	11.4	10.0	17.8	14.4	0.54	0.54	6.78	0.54	0.38	\$ 00
15V15ME007	15	1.	17	19	1	17	.15	1	17	1	1	1	1	1	8.6			14	1.1	43	24.4	24.4	10.4	20.4	10,4	0,78	0.74	0.54	0.78	0.54	2
15V15MED08	13	1	17	15	1	17	15	2	17	1	1	1	1	1	10.2	30.2	20.3	44.2	10.0		14.0	14.1	11.0	24.0	41.0	0.13	0.60	0.94	0.72	0.34	10
15V15MD010	34	1.1	36	14	1	18	34	1	36	1	1	1	1	1	1	1		100	30.4	- 24	28.2	28.3	11.1	28.2	15.2	9.17	0.64	9.39	0,77	0.39	6
18V15M0011	18		18	15	1	18	15	1	18	3	1	1	1	1	4.4			1 11	1	10			10	22	10	0.03	8.55	0.18	0.65	0.79	
15V15MEDIT	15	4	19	15		18	15	4	19	1	1	1	1	1	0.7						29.4	20.0	10.4	24.4	12.4	a.rs	6.62	0.36	0.72	0.96	6
15V13MED18	15	1	38	18	3	18	15	1	14	1	1	1	+ :-		10.1	10.0	10.2	10.1	9.2		111	24.2	34.2	25.2	14,2	0.74	0.66	0.42	0,74	0.42	12
LEV15ME019	13		38	12		10	IJ	4	10	1	1	1	1	1	44	8.4	2014	30.2	10.2	84	26.3	29.2	34.2	25.2	- 14.2	0.77	0.66	0.43	8,77	0.42	1 C
18V15MB023	1	17	10	1	17	38	1	17	18	1	1	1		1		-			38	40	22.8	28.6	15.5	11.6	16.6	0.88	0.45	0.45	0.68	0.49	£
13V13ME025	15	5	20	18	1	20	13	5	20	1	1		+ :	1 1			3,4		5.4	47	11.4	28.4	37,4	11.4	27,4	0.34	0.45	0.83	0.14	0.81	1
1SV15ME027	U.	4	1.6	12	4	1.6	11	4	16	1	1	1 1	+ :-	1	2.4					40	21.8	30.8	15.8	25.8	25.8	0.76	0.70	0.46	0,76	0.46	E
18V15MEG28	14	4	38	14	4	18	14	4	10	1	1	1 1	+ :-	1	-			1.4	8.4	42	21.4	23.4	12.4	13,4	13.4	0.63	0.54	0.39	0.63	0.35	
15V15ME032	11	7	18	11	7	19	12	2	24	1	1		1	-	11			-		40	23	0	13	33	10	0.4.8	0.43	0.38	0.48	0.38	£
LEVISMENN4	п	4	28	11	1	15	111		15		1 1		-	-	3.0	5.6	5.0	1.6	54	30	18.4	25.6	13.4	18.6	13.6	0.55	0.58	0.48	0.55	0.43	1
LSV15MI009	12	8	17	11	1	17	12	1	17	-	1		-		4.8		6.8	8.8	6.8	34	18.8	22,8	11.8	18.8	11.4	6.35	0.52	0.95	0.55	0.75	
18V13ME042	12	4	16	11	1 4	16	112	1	34		1	1	1			4.4	8.4	6.4	8.4	40	31.4	26.4	14.4	31.4	-14.4	0.63	0.60	0.42	0.43	0.42	S mar
15V15ME044	12	7	2.9	11	1 7	28	11	1 1			1		-							30	19	23	11	19	- 11	0.56	0.52	0.32	0.54	0.32	
15V15ME043	34	1	17	14	1 1	17	14	1		-	+ + +		1	1	12	12	7,1	7.2	14	34	10.7	22.2	15.3	10.1	15.8	0.59	0.43	0.45	0.59	0.45	
78V15ME048	12	1	15	11	1	11	17		10		+ + +		1	1	7,8	11	7.1	7,2	3.2	M	33.3	25.3	11.1	11.2	11.1	0.65	0.57	0.33	0.65	6.13	
LSV15ME1HR	15	1	36	15	1	14	10		10		1 1		1	1	7.8	7.6	7.8	7.6	7.0	н	30.6	23.6	15.8	20.6	11.6	0.61	0.54	0.34	0.61	8.94	C 1
15VISMERT	12	1	18	12	1	1.0	11		10		-	1	1	1	- 14	-1.1	8.8	1.0	1.1	44	34.8	25.8	10.8	36.8	10.8	0.73	0.39	6.32	6.73	0.32	6-
18V15ME836	11	1	10	11	1	11	10				-		1	1		4				30	19	25	13	19	13	0.56	0.57 -	0.38	0.56	0.38	ê Y
ISVISMINSS.	11		17	11	1	11			- 10	-	-	-	1	1	1A.	2.4	2.4	7.4	7.4	- 87	38.4	25.4	28.4	20.4	18.4	0.60	8.58	8.39	160	8.39	005
15V15ME059	11	1 7	19	17	1				10	-	1	1	1	1	1.4	3.6	3.6	3.6	3.6	18	15.6	21.6	10.4	15.6	30.6	0.46	0.49	6.31	0.46	0.81	- m <
15V15ME062	15	1 4	10		1		- 14	1			1	1	1		8.4	.4.	8.4	8.4	8.6	42	21.A	28.4.	36.4	21.4	36.4	0.63	0.65	0.48	6.63	0.48	CE-
15V15ME066	14	1	117	14	1 .	17	10		10	1	1	1	1	1	11	13	11	31	- 11	\$5	- 17	31	36	27	16	0.79	0.70	9,47	6.79	640	OSE
15V13ME067	112	1	14	11	1	14	10		17	-	1	1	1	1	10.8	10.8	30.8	30.8	30.8	54	25.8	38.8	14.8	25.8	14.8	0.76	9.45	1.8.66	£76	0.64	0.00
15VI3ME070	14	1 1	14	14	1	14	- 14		- 14		1	1	1	- 1	4.4	4.4	4.4	4.4	4,4	32	17.4	19.4	7.4	17.4	7.4	8.53	6.44	8.22	0.51	0.11	TE
18V13ME072	12	1 2	10	11	1	10	34		19	-	1	1	1	1	4.0	- 14	4.4		8.8	- 44	28.4	25.4	11.8	23.8	11.0	8.70	0.58	0.35	6.70	0.15	The
18V15ME071	14			14	1		M	1	39		1	1	1	1				. 9		45	11	29	17	22	17	0.45	6.66	8.50	0.45	0.50	20.
15V13ME074	14	1	1 10	- 14					19	1	1	1	1	1	8.2	8.2	8.2	8.2	8.2	45	19.2	26.2	34.3	28.2	34.2	10.68	0.64	0.42	6.68	0.41 =	
15V15ME073	15	1	14	15	1 .		- 24		20	- 1	1	1	1	1	7,4	7.4	7,4	7,4	7.4	37	73.4	28.4	34.4	22.4	34.4	3.66	0.65	0.42	0.68	0.42	
INVESMENTS	111	1	10	12	1				38		1	- 1	1	1	7,4	7,4	7.4	7.4	7.4	37	23.4	-26.A	11.4	23.4	11.4	0.69	0.60	0.34	0.69	0.34	
15V15ME077	14	1	18	14					20	1	1	-	1	1	T.A.	7.4	7.4	2.A	7,4	37	30.4	28.4	36.4	20.A	38.4	0.80	0.61	0.48	0.60	0.48	00
ISVISME079	12		17	12	1	44			10	-	1	1	1	1	4.4	4.4	4.4	4.4	4.4	22	18.4	23.A	84	19.4	8.4	0.57	0.53	0.38	0.57	0.36	
15V15ME082	12	1	3.8	12	1	10	- 10		10	-	1	1	1	1	8.2	6.2	1.1	8.2	1.1	41	11.1	- 26.2	14.2	21.3	14.2	0.63	0.60	0.43	0.62	0.43	
ISVISMEDIS	12		14	11					10	-	8	1	1	1	2.8	2.8	2.8	1.8	-18	14	35.8	22.8	38.4	15.8	38.8	0.46	0.52	0.12	0.46	0.12	1. C
15V13ME087	14	1	15	14	1		- 14	-	10	-	1	1	1	1	7.1	7.2	7.1	7.2	7.1	36	30.2	24.3	14.2	10.1	14.1	0.59	0.60	0.43	0.59	0.43	6
18V13ME400	15		15	15					10			1	1	1		0	0		0		15	38	1	15	1	0.44	0.36	0.06	0.44	0.06	
15V16ME402	1	13	14			10	- 0	.0	10	1	1	1	1	1	4.7	6.2	4.2	6.2	6.2	- 71	11.1	22.3	13	11.1	2.2	0.45	0.50	0.21	0.65	0.21	12
15V16AED403	1	15	17	2	10	- 12				-	1	1	- 1	-1	3.2	7.2	14	7.3	7.2	36	8.2	22.3	21.2	9.2	11.2	8.17	0.50	0.67	0.27	0.63	
15V16ME404	12	7	7.0	12	-	10				-	1	1	1				. 6		. 4	36		34	11		32	0.36	0.55	0.65	0.28	0.85	1
INVIGMENTS	12		14	17	-	10			10	-	1	1	1	1	8.4	8.4	8.4	8.4	8.4	42	71.4	28.4	18.4	21.4	16.4	0.63	0.65	0.48	0.63	D.48	2
15V16ME402	p		14	12	-	14	- 14	-		1	1	1	1	1	8.4	8	- 6			<u>R</u>	19.4	25	13	19	2.9	0.57	0.57	0.38	0.58	85.0	1
ISV16ME408	14	1		14	-				10	1	1	1	1	1	6.4	6.4	6.4	6.4	8.4	32	19.4	25.4	18.4	18.4	18.4	0.97	9.58	0.39	9.57	0.39	
15V16ME409	11	-	10	11	-		14		10	1	1	1	1	1	4.2	6.2	6.2	6.2	6.2	81	31.3	28.2	9.2	71.3	9.2	0.62	0.59	9,27	0.62	8.27	0
19VIoME410	15		10	- 14			11		20	1	1	1	1	1	7.8	7.8	7.8	7.8	7,8	29	30.8	38.8	16.8	20.8	16.8	D.61	8.65	0.49	0.61	0.49	13
ISV16ME412	12		10	- 20	1	- 18	13	1	18	1	1	1	1	1	1.1	7,2	7.2	7.2	7.3	36	23.2	242	8.2	11.1	8.2	0.68	0.51	0.27	0.68	0.27	B
ISVIAME ALL				- 14		28	11	4	16	-	1	1	1	1	7.6	7.6	7.6	7.6	7.6	38	30.8	34.6	12.6	30.6	12.6	0.61	8.54	0.37	0.61	0.17	1
15V16ME416						17	34	-	17	1	1	1	1	1	1.6	5.6	5.6	5.6	5.8	38	20.4	23.6	9.8	20.6	9.6	0.61	6.54	0.28	0.61	0.28	
INVIGNEAL?	12			12	15	3.0	1	15	38	1	1	1	1		8.3	8.3	8.2	8.3	8.2	41	10.2	25.3	24.2	10.2	34.3	0.30	8.57	0.71	6.80	0.71	
INVIGNE ALS	12	-	10	10		10	u		38	1	1	1	1	1		0	0	0	Ð	- 6	13	19	7	13.	,	8.38	2.43	0.23	0.38	0.21	1
15VIoMENTS	1	12	10	H	1	19	14	1	29	1	1	1	1	1	7.4	7.4	7,4	7,4	7.4	87	38.4	27.A	13.4	28.4	13.4	6.60	0.62	0.45	9,60	0.45	
SVIAME 220	17			- 1	17	38	1	17	34	1	1	1	1	1	7.8	7.8	7.8	7.8	7.8	39	8.8	26.8	25.8	8.8	25.8	6.29	0.61	8.75	8.29	0.76	-
ISVIGNE 411	10	-	10	14	-	13	12	1	13	1	1	1	1	1	3.6	3.6	3.6	2.6	2.8	13	\$5.8	16.6	4.6	15.6	4.6	0.44	6.38	0.14	0.44	0.34	
ISVIGNE 473	12	-	10	15		11	15	1	17		1	1	1	1	3.4	7.4	3.4	7.A	7.4	3.9	23.4	25.4	10.4	23.4	30.4	0.69	0.58	0.81	0.63	0.31	
SVIAME 454	17	1	10	11		16	H	4	16	4	- 3	1	1	1	8.8	8.8	4.8	8.8	8.8	44	21.8	25.8	33.8	21.8	13.8	6.64	8.58	0.41	0.64	0.41	
SV16ME424	15		10			10	H		10	1	1	1	1	1	7.8	7.8	7.4	7.8	7.8	39	20.8	24.8	12.8	20.8	12.8	0.61	0.54	0.38	0.61	0.38	
TOTAL	825	201	1175	10	-	1122	15	-	30	1	1	1	1	1	4.2	6.2	4.2	6.2	8.2	31	22.3	37.2	12.2	12.2	12.2	0.85	0.61	0.36	0.65	0.36	
NO OF STUDENTS	68	62	68		44	67		101	4174			44	-	44	478.6	474.2	474.2	474.2	476.2	11/1	1363.6	1714.2	#13.2	1868.2	893.2	40.11	36.96	36.37	40.09	26.37	
AVERAGE	12.81	5.44	38.91	12.65	3.64	18.71	11.01	1.47	14.11	-3		-	-	68		64	-			1	48	68	68	68	48	68	48	48	- 88	68	
and the second se			and the second second		-		and the second s						1.1	1.	7.47	7.41	2.41		7.41 1	104	33.3	20.0	14.00	10.0	14.0	1000 1000	10.00 (0.00)	ALC: NOT	10.00	100 Mar.	6



SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT DESIGN OF MACHINE ELEMENTS -II SUBJECT CODE 15ME
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COURSE OUTCOME

CO1	Understand & Analyze the stresses in curved beams, cylinders, and cylinder heads
CO2	Decide flexible drives (belts, ropes, and chains) required for power transmission and springs.
CO3	Analyze and design different types of gears for static and dynamic loads and apply in real life application
CO4	Design clutches and brakes for static and dynamic loads
CO5	Carry out the design of journal bearing by choosing the lubricant and choice of ball and roller bearings

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide
 - valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

Dept. of Mechanical S.L.E.T., TUMKUR -6

PRINCIPAL SIET. TUMAKURU.

COLLEGE		SHR	IDEVI	INSTI	TUTE	OFE	NGIN	EERIN	G & T	ECHNO	DLOGY	t
FACULTY	NAM	IE I	BHVA	SUDE	VAM	URTH	Y					
BRAN	СН		1	ME		A	CAD	EMIC Y	EAR		2017	-18
COURSE	B.	E	SEM	ESTE	R	VI	1	SECTIO	N			
SUBJECT	DES	IGN C	F MA	CHINE	ELEN	IENTS	-11	SUBJE	ст со	DDE	15M	E64
CO & PO M	APPI	NG										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	POIL	PO12
COI	3	2			36	1	1					
CO2	2	3	2			1				1		1
CO3	3	1	3			2				1300		1
CO4	3	3	3			2		1000				1
CO5	3	3	2	and the second		2	1	in the second	1000	-15-5		1
AVERAGE	2.20	2.75	2.50			1.60	1		1.00			1
	-	28 E		1112		OVE	RAL	L MAPI	PING	OF SUB	JECT	1.84

-	C0%	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
COI	54.56	1.63	1.09		No.	12 CO	0.54			1.20			
CO2	47.91	0.95	1.43	0.95	1200		0.47				and the second	Col-In	0.47
CO3	25.51	0.76	- wei	0.76		1228	0.51		2		13110		0.25
CO4	54.56	1.63	1.63	1.63		1	1.09				E		0.54
CO5	25.51	0.76	0.76	0.51			0.51		100				0.25
AVERAGE	41.61	1.14	1.22	0.96		1	0.62						0.37
	22 64		Here a	See Str.		-		FINA	LAT	TAINN	IENT L	EVEL	0.86

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Kamen Ismuel PRINCIPAL SIET., TUMAKURU.

BEMONS	IA	TEST	1(2056	1 14	TEST	F 2(201	MQ	14 78	ST 3	(2010)	A	SIGN	YT!	QUIZ	10.50	1	164	EMARKS	1000	-	L		Total (· 1	INMENT				of individu	e CO	-
EISN	C01	C00	TOT	AL CO	0 00	U TOT	TAL	C04 4	COA	TOTAL	001	CL	104	004	COS	CO1=0	0 002	COJ	-C04	606	TOTAL	C01=34	C03+44	64	C04+34	C08+34	001	C00	6.003	004	COS
V14ME011	11	1	14	33	1	1	4	11	3	14	-1	1	1	1	1	13.8	12.8	12.8	12.8	12.8	64	24.8	37.8	36.8	24.8	16.8	0.73	0.63	0.49	0.73	6.45
V14MER16	11	1	13	11	1	1	3	12	1	13	1	1		1	1	4.1	4.2	4.1	4.1	4.1	21	17.3	18.3	6.2	17.2	6.2	0.51	0.41	0.18	6.51	0.16
14MEDIA	- 12	1.3	15	11	1.1	1	5	13		15	1	1	1	1	1	5.6	1.4	3.4	3.6	5.6	28	18.6	11.6	5.6	18.8	3.6	0.55	0.49	0.78	0.35	0.78
14MEIQ6	12	4	3.6	17	4	4	6	12	4	58	1	1	1	1	1 1	5.6	5.6	5.4	5.0	3.5	10	18.6	22.6	10.6	15.6	10.6	0.85	0.51	0.51	0.55	0.11
4ME034	12		1.0	11	0	1	3	12	0	12	1	1	1	1	1	5.6	3.0	5.4	5.6	5.6	28	18.4	18.6	8.6	18.6	6.6	0.55	0.47	0.10	0.55	0.15
4ME033	10	1	15	11	1	1	8	12	1	15	1	1		1	1	34	14	14	14	1.4	17	16.4	18.4	2.4	10.4	14	0.00	0.44	0.17	0.45	
4MEDIA	112	1 0	1.1	12	1 0	1	1	11	-	12		1		1	1.	1.4	1.14		1 11	1 1 4		10.0	10.4	14	10.4	1 10	0.48	0.04	0.11	0.48	0.22
4MEORT	112	tř	11	1 10			-	12	÷			1		1	+ + +		1 1		3.4	3.8		10.0	10.0		18.8		0,00	6,42	0.19	0,55	0.38
AMEGINA	1 12	÷	1 10	1.1	+ :	1	-	**	÷		++		-	1	+ +			3		1 2	- 10	- 18	19	1	38	1	0.52	0.43	0.21	0.53	0.21
ULLEVELT		t÷.	1 11	1 11	1.1	1.5	-	**	44	-	÷.	1	-	-	-	41	4.5	4.1	4.1	41	- 11	17.1	19.3	7,2	17,2	7.1	0.51	0.44	8.31	0.51	0.21
CARDING		1.	1 14		-	-	-		-	14	1	1	-	1	1	5.8	5.8	3.8	5.8	3.8	- 29	17.8	14.8	7.8	17.8	7.8	6.52	6.43	8.38	0,62	0.21
2045003	14	1	15	14	1	1	5	14	1	15	1	1	1	1	1	1	3	2	1	2	10	17	18	. 4	17	. 4	8.50	6,41	8.12	0.50	0.12
SME007	15	1	18	15	1	1	-	15	1	38	1	1	1	1	1	6.6	6.6	6.6	6.6	6.6	88	22.6	25.6	10.6	33.4	10.6	0.66	0.54	8.31	0.66	0.31
ME008	11	1	24	11	1	1	4	33	3	34	1	1	-1	1	1	5.6	5.6	5.6	5.6	5.6	28	17.6	10.6	9.6	17.4	9.6	8.52	6.47	6.26	0.52	0,2
SWEELE	34	. 0	14	18	0	1	4	14	0	34	1	1	1	1	1	5.4	5.8	3.6	5.8	5.6	36	20.6	30.6	6.6	20.6	6.6	8.61	0.47	6.19	6.61	0.11
5ME011	12		1.2	1 13	8	1	2	12	0	34	1	1	1	1	1	1.4	1.8	1.6	1.8	3.6		14.6	34.6	2.6	34.6	1.6	8.43	6.23	6.08	0.43	0.00
3ME017	35	1	36	15	1	10	6	15	1	38	1	1	1	1	1	0	0	D	0	0	0	34	17	1	16	2	8.47	0.19	8.06	8.47	0.0
SMEDIX	11	1	1.4	11	1	1	4	11	8	34	1	1	1	1	1	7.8	7.8	7.8	7.6	2.4	30	19.8	22.0	11.4	15.0	11.0	0.58	0.53	0.25	8.18	0.8
SMED19	32		1.1	17	10	1	1	12	D	12	1	1		1	1	1.0	2.8	2.8	2.4	2.0	14	15.0	15.0	14.4	11.0	110	0.00	4.44	0.07	0.00	0.0
SME 23	1	35	10	11	11	1		1	13	10	1	1	1	1	1	1 10	1.14	2.0	1 34	1 34	1.1	1.1	10.0	10.0		1.0	0.00	0.00	0.11	0,40	0.11
MIND'S	44	1	1 10	1 12	1 1	1		15	-	10	-	1	-	1	1	1	1 11		1.00	1.0		100	10.0	20.0		19.6	6.16	0.0	0.58	8.16	0.54
Shipping	1 11	1	1 10	1 10		1 1	-	11	÷		-	1	-		1	1 10	1.00	5.6	1.0.0	3.4		11.6	22.6	7.6	23.6	3.8	0.64	0.11	0.11	8.64	0.71
SARVIN		1	1 11	1	+ *	1 1	-		-	-	-		-	1	-	3.6	3.8	3.8	3.6	5.8	- 28	18.4	19.6	1.6	18.0	7.4	0.55	0.45	0.31	8.55	0.2
SALENS	- 11	14		- 11	+ 1		-		4	11	1	1	1	1	1	2.6	3.4	2.8	3.6	2.6	11	14.6	16.6	3.6	14.6	3.6	0.43	0.38	0.38	8.43	0,10
SALESON A	11	0	11	- 11	0	1 11			0	u	1	1	1	1	1	3.4	3.4	3.4	3.4	3.4	17	16.4	36.4	4.4	36.4	4.4	0.48	6.37	0.13	8.48	0.11
>31E.034	u	1	11	ц	1	11	1	11	1	11	1	1	1	1	1	2.2	2.2	2.2	1.2	2.2	33	34.2	35,2	4.2	34.Z	4.2	0.43	0.35	0.13	0.43	0,13
204E036	u	0	11	11	0	11	1	12	0	ш	1	1	1	1	1	3.6	5.6	5.8	5.6	5.8	28	38.6	38.6	6.6	18.6	6.6	0.55	0.42	0.19	8.55	0.15
3ME042	11	0	11	11	0	11		12		11	1	1	1	1	1	3.2	3.2	3.3	8.2	14	38	38.2	18.2	4.2	18.7	4.2	8.48	0.37	0.12	0.48	0.1
1ME044	12	1	3.8	12	1	11	5	12	1	13	1	1	1	1	1	5.8	3.4	5.6	5.6	5.8	28	38.6	15.6	7.6	18.6	7.6	0.35	0.45	0.22	0.55	0.21
MEDIS	31	1	12	11	1	11	2	33	1	13	1	1	1	1	1	7	7	7	7	7	25	15	30		19		0.56	0.45	0.26	0.54	0.26
MEDIA	12	0	12	12	0	11	1	12	0	12	1	1	1	1	1	5.6	5.6	5.6	5.6	3.6	28	18.6	18.6	6.6	18.6	6.6	0.55	0.43	0.12	0.55	0.10
MED49	13	1	12	13	1	11	2	11	1	12	1	1	1	1	1	5.8	5.8	5.8	1.4	3.8	29	17.6	18.0	2.6	12.8	1 24	0.57	0.43	0.07	0.07	0.1
MERST	12		12	1 12	0	11		12	a t	12		1	-	1	1	1.4.6	1.00		1.4	1.6		11.4	10.0		10.0	1 11	0.90	0.45	0.45	0.54	
ME036	12	17	15	1 11	t î	1.16		12	÷+	10		1.1		1		1.00	1.10		1.00			10.0	10.0	0.0	10.0	8.8	0.55	0.42	0.19	0.55	
CLEFICIAN	111	1	11	1	t÷.	1	-		-+				-				1 11		1.00		10	18.6	20.6	8.6	16.5	8.6	0.49	0.47	0.25	0.49	0.25
CARDING.	1 11	-		1.3	÷	+ **	-	**	<u>+</u> +			1.1				7,8	1.0	2.4	7.4	1.4	- 29	13.8	20.8	5.8	19.8	3.8	0.54	0,47	6.29	0.58	6.31
CLIENCY		-		1 10	÷	+ *	4	14	*+			* 1			1	3.4	3.6	5.6	3.6	5.8	28	LL.S.	28.8	8.6	18.6	6.6	0.55	0.42	0.18	0.55	0.19
AND AND A	15		15	10	0	11	-	15	0	15	1	1	1	1	1	0.2	4.3	4.3	4.3	6.2	- 11	22.3	22.2	7.2	22,2	7,2	8.45	0.50	0.21	0.65	0.21
WELLING T	14	1	15	14	1	15	-	14	4	- 25	1	1		1	1	8.8	8.8	1.1	1.1	8.8	64	21.8	34.8	10.8	25.8	30.8	6.70	0.16	0.38	0.70	0.13
SWIELDS /	11	1	- 15	11	1	15	-	13	4	35	1	1	1.	1	1	7.8	7.8	7.8	7.8	7.8	39	20.8	25.4	11.8	30.8	- 11.8	13.0	6.54	0.35	0.61	0.35
SME070	2.6	1	16	14	1	18		14	2	28	-1	1	1	1	1	3.8	3.6	5.8	5.6	.3.4	28	30.6	32.6	8.6	30.8	8.6	0.61	8.51	6.25	0.61	0.25
9ME072	11	5	12	11	5	\$7		12 3	3	17	1	1	1	- 1	1	7.8	7.4	7.8	7.6	7.8	38	20.6	25.4	13.8	30.6	11.6	0.61	0.58	0.40	0.61	0.40
MD073	24	1	17	14	1	17		14	3	17	1	1	1	1	1	1.4	3.4	3.4	3.4	3.4	17	18.4	21.4	7.4	18.4	7,4	6.54	3.49	6.33	0.54	0.73
ME074	34	1	17	34	1	17		14	1	17	1	1	1	- 1	1		7	17	7	2		22	25	н	23	31	0.65	6.57	0.32	0.45	0.32
ME075	15	.0	15	13	0	15	1.0	55	0	15	1	1	1	1	1	1.6	1.6	1.6	1.6	1.6		17.6	17.4	2.6	17.6	2.6	0.52	0.40	0.08	0.52	0.0
ME070	11	4	3.6	11		1.0		11 1	4	18	1	5	1	1	1	4.2	4.2	4.2	47	4.2	11	17.2	21.2	5.2	17.1	8.2	4.51	1.48	0.27	0.51	0.27
ME977	14	0	- 14	34	0	14		14 1	0	14	1	1	1	1	1	1.4	1.6	3.6	3.6	3.6	10	16.6	18.6	44	18.0	44	0.65	0.41	0.14	0.64	0.14
ME079	12		16	112	4	10		17		10	1	1	1	1	1	2.4	3.6	2.4	2.4	1.4	24	38.6	22.6	10.6	18.0	10.0	0.55	0.51	0.14	6.30	0.54
MEILE?	11	1	1.8	1.17	1	11		11	1	19	1	1	1	1	1				0			11	34		22		0.10	0.41	0.00	0.00	0.0
MEDICI	11		28	112	1	1 10		11		10	-		1		-	1.0	3.4	3.4	1.4	1.1		10.0	344			111	0.36	0.32	0.06	8.34	0.06
MEGRY	11	2	74	1 11		1 10		11		11	-	1	-	-	-	2.0	3.0		1.1	8.5		10.0	24.5	52.6	18.6	17.6	0.55	0.56	0.17	6.55	0.37
MEAN	312	- 0	11	1 17	0	1 11	-		-		-		-	-	-	4.4	1.0	1.0	1.0	1.5		11.0	13.0	0.8	13.8	4.0	0.60	0.25	0.54	6.40	0.14
ARTIST		-		1 1		1 10	-	-	-				-	-	-	4.4	44	4.2	43	4.3	11	17.1	11.1	5.2	17.3	3.1	0.51	0.39	0.15	855	8.15
AU1402	-	41	64	1	H.	1 M	-	- 1	4	H	1	1		-	1	4.8	4.8	4.8	4.8	4.3	24	6.4	17.8	14.6	6.6	16.8	0.29	8.40	0.49	1.30	6.43
MD403	1	10	11	2	30	11	-	1 1	10	u		1	1	1	1	3.6	3.6	3.6	3.6	3.6	18	6,6	16.6	14.6	6.6	14.6	0.19	0.38	0.43	0.19	0.43
945404	12	0	12	13	0	11	1	12 0	0	11	1	1	1	1	1	6.2	6.2	6.2	6.2	6.2	31	19.2	19.2	7.2	19.2	7.3	0.56	0.44	0.21	0.56	0.23
ME405	12	1	13	12	1	11	1	11 1	1	13	1	- 1	1	1	1	1	1	1	3	1	10	35	38		15		0.44	0.36	0.13	0.44	0.13
M80407	13	1	13	12	1	1.8	1	12 1	1	13	1	1	1	1	1	3.2	3.3	3.3	8.3	3.2	38	16.3	17.2	5.2	16.2	8.3	0.48	0.39	8.15	0.44	0.15
ME-408	14	0	14	14		14	1	14 1	0	34	1	1	1	1	1	0	0	0		0	.0	15	15	1	15	1	0.44	0.34	0.01	0.44	0.00
ME409	12	2	14	12	3	14	1	12 2		34	1		1	1	1	5.8	5.6	5.6	3.6	3.6	28	18.6	20.8	8.0	18.8	8.8	0.55	0.47	0.75	8.55	0.25
ME410	15	3	17	15	2	17	1	15 7	1	17	1	1	1	1	1	7.6	7.6	7.6	7.6	7.8	38	23.6	25.6	10.4	33.6	10.4	0.69	0.14	0.11	0.00	0.22
ME412	12	3	17	11	8	1.17		U I		17	1	1	1	1	1	3.4	3.6	3.6	5.6	3.6	38	18.4	22.4	11.4	18.6	12.6	0.11	614	0.14	0.35	0.14
M8413	34	3	26	14	2	38	1	14 7		18	1	1	1	1	1	34	3.6	3.4	3.6	14	10	18.6	20.6	6.0	16.4	6.5	0.15	6.47	0.10	0.55	1 0.10
ME416	1	12	11	1	11	18	1	1 1	1	10	1	1	1	1			1	*		2	75		24	10	-	10	0.10	0.44	0.10	0.00	0.08
46417	LI.	1	25	11		15		1		15	1	1	1	1		2.4	3.0	14	2.4	1.		16.0	10.0	2.0	36.5	24	0.40	0.10	0.00	0.00	0.59
STATE .	11	1	14	13		1 11	+3		-	15	-	1	-	-	-			63	1.1			10.0	18.4	1.8	16.8	14	0.49	0,45	0.21	0.69	0.23
distant.		12	12	1	11	1 11	+		-		-		-	-	4				4.4	6.1	11	19,1	11.1	10.2	10.1	10.3	0.58	11.50	6.30	8.56	0.30
ARCANG.	-		11	-		1	1		-		-	-			-		-	-	1		13	1	D.	18		36	6.15	0.39	0.47	0.15	0.47
10.420	H	-	11	11	0	- 11	+ 1	- 0	-	-	1	1	1	1	1	0	0	0	0	0	0	19	u	1	U.	1	0.38	0.30	0.08	0.16	0.03
WE:#23	15	0	15	15		15	13	0 0	-	10	1	1	1	1	1	43	4.2	- 12	4.2	4.2	21	30,2	20.3	5.2	20.1	5.2	0.58	0.46	0.25	0.89	0.15
ME423	u	1	14	12	. 1	14	11	1 1		14	1	1	1	1	1	4.1	6.2	8.2	8.2	8.2	41	31.2	29.3	31.3	21.3	11.3	0.42	0.53	0.33	0.62	0.88
ME424	11	4	36	12	4	18	1	2 4		18	1	. 8	1	1	1	4	4	.4.	4	4	30	17	21		.17	9	0.58	0.48	0.26	0.50	0.26
MII425	15	1	36	15	1	38	1	3 1		36	1	1	1	1	1	3.6	5.6	5.6	5.6	3.6	28	21.6	22.6	7.6	71.6	7.6	0.64	0.51	0.21	0.64	6.22
TAL	794	182	956	294	107	956	7	94 36	2	956	68	44	54	68	68	\$25.3	325.2	825.2	825.2	325.2	3626	1167.2	1849.2	\$55.2	1187.2	555.2	34.92	30.66	26.82	34.92	16.33
TUDINTS	48	68	68	68	62	68		8 67		68	48	68	68	68	68	- 64	68	68	-	68	6.8	68	58	68	58	68	68	64	68	68	68
ARC IN CO.			74.04		2.5.8	1 34 34	1 12	41 1.5	10.0	1.4.1			AL 10.		1 10 10	a see	ALC: NO.	1.000		A	last div		100.0	the second second					the second se	and the second sec	No. of Concession, name

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H.O.D pt. of Mechanica .E.T., TUMKUR -



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	AUTOMOTIVE ENGINEERING	SUBJECT CODE	15ME655]

COURSE OUTCOME

CO1	Apply the knowledge of engineering fundamental related to automobile engines to solve the complex engineering problems
CO2	Analyze the design of engine, transmission and controlling system to draw the conclusion on the basis of engineering sciences to address the performance parameters of the engines
CO3	Apply the knowledge of transmission, controlling, auxiliary systems and other support systems employed in automobile to find solution to complex engineering problems
CO4	To incorporate the contextual knowledge of standards and norms to address the safety and legal issues related to automobiles in ones professional engineering practice
CO5	demonstrate the knowledge of standards and norms towards automobile pollution and respective control system to address environment and sustainability issues

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend,
- analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in to resolve PRINCIPAL SIET. TUMAKURU.

Dept. of Mechanical

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PRINCIPAL SIET., TUMAKURU.

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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15V14ME011	11	1	34	23		24	13	1	34	1	1	T.	1	1	7	3	7	7	1	85	10	33	11	19	11	0.56	0.55	6.12	0.56	0.11	
15V14ME016	11	1.1	1.5	14	1	25	112	1.1	18	1	1	1	1	1	4.4	4.4	4.4	4.4	4.4		17.6	22.4	14	17.4	11	2.51	0.44	0.10	0.00		£1.
18V14ME018	11	5	16	11	1.1	18	11	1 1	16	1	1	1	1	1	1.4	1.0	4.4	4.8			22.0	11.0	1 11 1	11.4	-	0.01	0.40	0.42	0.51	0.15	4
15V14ME826	11	4	26	12	4	18	117	4	16	1	1	1	1	1	6.4	6.4	1.4				110	20.0	10.4	41.0	15.8	0.04	0.41	0.46	0.64	0.46	411
15VIAMED34	11	1 2	14	12	1.1	14	112	1.1	14	1	1	1		1 .							13.4	25.4	11.4	19.4	11.4	0.57	0.55	0.04	0.57	8.34	4
ISV14MENSE	1 11	1	18	1 11	11	78	1	+ + + + + + + + + + + + + + + + + + + +	1 10						-		-	-		10	19	n		19		6.56	0,48	8.26	8.56	0.26	4
18V14MEDIA	1.1		1.10	+	12		+	+ 0	10		-	-	- A	1	6.7	11	11	4.1	- 14	41	30.3	26.2	17.2	20,2	17.2	0.55	0.64	0.51	0.59	0.51	
TEVIANEURS		1	1 10	1.00	1.1		1 14	14	10			-	1	1	2.8	2.8	2.4	7.8	7.8	20	20.8	27.8	15.6	20.8	15.8	6.63	0.62	0.46	0.63	0.46	
LAVIALESSA.	1.11	4	10	1 11		16	1 11		16	1	1	1	1	1	6.8	6.8	6.8	6.8	6.8	34	19.8	23.8	11.8	19.8	11.8	0.58	0.54	0.25	0.54	0.25	
LAV SAMEOR4	11		15	111	1.	35	11		15	1	1	1	1	3	7.6	7.6	7.6	7.6	7.8	38	19.6	23.6	12.6	19.6	12.6	810	0.54	0.17	2.54	0.12	1
15Y13MED01	11		18	13		38	12	4	10	1	1	1	1	1	7.6	7.6	2.8	7.8	7.8	36	20.6	28.6	32.6	20.6	12.6	0.61	416	6.17	0.61	0.47	
15V13ME003	11	- 5	17	11	5	17	112	1	1.7	1	1	1	1	3	7.4	7.4	7.4	7.4	7.4	37	30.4	25.4	11.4	20.4	15.4	0.60	1.14	0.25	0.60	0.00	
18V13ME007	11	3	30	15	. 5	29	13		20	1	1	1	1	1	5.7	6.2	6.2	6.2	6.7	85	33.7	17.2	12.2	32.5	45.5	0.00		0.15	0.00	0.25	
15V15MEDOR	u	17	19	3.2	1	29	12	7	1.9	1	1	1	1	1	6.8	6.6	6.0	1.1	1.1	1 10	10.0	100		22.0	14.4	0.65	0.64	0.8	.0.45	0.90	
15V15ME010	1.12	5	17	11	3	17	111	1.5	17	1 1	1	1	1	1	2.5	2.2		1.1			10.0	10.0	14.8	11.0	14.8	0.38	0.61	0.44	0.58	0.44	
ISVISMENTI	113	0	15	15	1.0	15	1 11	1.0	15	1	1			1.1	1.4	14	1.4	1.4	14		10.1	15.1	10.1	20.3	11.1	0.59	-0.57	0.19	0.19	0.39	
ISVIENES 7	18	t÷		1 11	1.	10	1.0	12	17				-		6.8	6.8	6.8	6.8	6.6	34	22.8	22.8	1.4	22.8	7.8	0.67	6.52	0.23	0.67	8.23	
TEVIELENDE.	1.2	+÷		1 10	1.5		1 14	1.5	10		1	1	1	1	1	1	1	7	1	- 25	20	37	15	20	15	0.59	0.61	0.44	8.58	0.44	
LEWISSENIE	14	14	18	1 14	1	19	14	11	19	1	1	1	1	1				6		90	19	26	. 34	19	14	0.56	6.59	0.41	0.56	8.41	
13412960010	14	1.4	38	11	4	38	11	4	36	1	1	1	1	1	6.6	6.6	64	6.6	6.6	10	19.4	21.4	11.8	19.6	11.0	6.58	0.54	0.34	0.58	0.34	
15V11ME023	1	- 29	. 20	1	19	39	1	19	30	1	1	1	1	1	12.8	11.8	12.4	32.4	12.8		34.8	33.8	12.8	14.8	32.4	0.44	0.77	0.94	0.44	0.00	
15V15ME025	12	1	29	11	7	19	12	1 7	19	1	1	1	1	1	11.4	11.4	11.8	11.4	11.4	87	24.4	11.4	19.4	34.4	18.4	8.73	0.75	0.57	0.71	0.07	
15V15ME427	12	4	-36	LI I	4	16	12	4	16	1	1	1	1	1	8.4	6.4	1.4	1.4		1 10	75.4	1 214	11.4	10.4	17.4	0.00	0.11	6.57	0.72	0.67	
ISVESME028	11	6	17	11	6	17	11		17	I	1	1	1	1	7.8	2.8	1.70	24	1 20	1 10	10.0	100	14.4	10.4	34.4	0.37	0.14	0.34	0.57	0.34	1
18VIIME012	15	1.2	17	15	1	17	15	1 2	11	1	1		1	1	1 11	1.4	1 11	1 10	1.0		13.8	23.8	14.8	10.0	34.8	0.56	0.59	0.44	0.54	8.44	1
ISVISMENDA	112	1	14	112	1	14	1.0	11	14		1		-	1		1.0	3.8	3.6	3.8	18	11.8	114	8.8	21.6	8.6	6.64	0.54	0.25	0.64	0.15	1
INVISIONE ON	1.7	÷	14	1 11	1.1		1.00	1.	1 10			-	1	1	3.0	3.6	3.6	3.6	5.8		38.6	204	8.6	38.6	4.6	8.55	0.47	0.25	0.55	0.25	1
INCOMPANY.	1.0	1		M		10	H	1.	10	1	1	1	1	1	3.6	3.6	8.6	9.6	3.6	48	32.6	26.6	16.6	22.6	38.6	0.66	0.65	0.49	0.66	8.49	
10VIII.	14	++	- 18	1 11		18	111	1.	18	1	1		1	1	10.4	3.0.4	10.6	30.6	10.6	53	73.6	25.6	17.6	-33.6	17.6	9.85	8.67	8.52	0.69	0.52	1
12412060044	10	4	3.6	11	4	. 10	11	4	16	- 1	1	1	1.	1	8.8	8.8	8.8	8.8	8.8	44	25.8	25.8	15.8	21.8	11.8	0.64	0.58	0.41	0.64	0.41	1
18V13ME045	-15	4	- 25	15	4	19	13	4	- 19		1	1	1	1	11	11	11	11	. 11	55	27	31	16	12	15	0.75	0.20	0.47	0.74	0.47	i -
15V25ME048	14		-18	24	4	3.8	.14	4	3.8	1	1	1	1	1	3.6	9.6	9.6	9.6	9.6	48	24.6	28.6	14.0	24.6	24.6	0.71	0.48	0.45	4.75	1.41	1
15V15ME049	11	5	17	12	5	17	12	5	17	1	1	1	1	1						45	22		15	11	10	0.00			6.74		i
15V15ME051	14	1	37	14		17	14	1	17	1	1	1	1	1			1 .	1		45			10		45	0.65	0.01	0.44	6.63	0.44	1
15V13ME056	T II	1	19	12	21	19	W.	17	1.0						1 11			1.1				11	10	- 28	11	0.71	6.61	0.14	6.73	0.38	ŧ.
15VI SMEDSE	111	1	17	117		17	17	1÷	11								8.4	8.4	8,4	42	21.4	38.4	18.4	21.4	16.4	0.63	0.65	8.48	5.63	0.48	ŧ.
ISVISMENSS	10	1.	10	1 11	121			+÷			-				1.4	3.6	3.6	5.6	5.6	28	18.6	23.6	11.6	18.6	11.4	0.55	0.54	0.34	0.35	0.34	Ε.
ISVISMENC?	15	t÷.	10	1 11			- 11	÷			1		1		12	7,2	7.2	7,2	7.1	34	20.2	26.2	14.3	20.3	14.2	0.59	0.60	0.43	0.5#	8.47	11
ICUITARIUM.	- #	1	10	1.12	11	19	11	1	19	- 1	1	1	1	1	11.3	11.3	11.3	11.7	11.7	34	34.2	81.2	18.2	24.2	19.2	0.71	4.71	8.56	6.71	0.34	1
ISVISALUES	1.0		16	14		- 14	34		3.8	1	1	1	1	.1	10.6	10.4	10.4	10.6	10.4	53	25.4	29.6	15.6	25.6	15.6	0.75	0.67	0.46	0.75	0.46	1.2
18 Y 15 ME067	112	1	34	37	1	34	12	2	24	1	1	1	1	1	5.6	9.6	5.6	5.6	3.8	28	18.0	29.6	8.6	18.6	8.6	0.55	0.47	0.25	0.15	8.25	1
18V15ME070	13	1.1	15	12	3	15	32	1	15	- 1	1	1	1	- 1	10	30	10	10	10	50	20	36	34	23	14	0.64	0.58	8.41	0.64	8.41	
15V15ME072	14	6	29	34	4	29	34	6	30	1	1	1	1	1	1.2	12	12	11	13	60	27	11	11	13	14	0.70	0.75	0.14	0.00	-	
ISVISME073	12	8	17	12	5	17	12	5	37	1	1	1	1	1	8.4	8.4	8.4	8.4	8.4	47	71.4	26.4	14.4	11.4	14.4	0.00	0.00	0.45	0.78	8.90	ŧ.
15V13ME074	12	7	29	13	7	10	12	7	1.0	1	1	1	1	-	1.4	5.6	1.6	1.4		10	10.0		10.0	41.4			0.00	8.44	0.69	6.42	í.
ISV13ME075	12	5	17	13		17	11	5	17	1	1										10.0	15.0	13.4	18.8	13.6	0.55	0.58	8.40	0.33	8.40	1
ISVISMENTS	17	1	1.0	43		-	11	1	10								-				n	27	13	- 12	15	0.65	0.61	0.44	0.45	11.44	1
INVISIONT	1.4		14	14	1								-	-	5.0	9.8	8.8	5.6		4.9	22.8	38.8	16.8	11.8	16.6	0.86	0.63	12.49	0.66	0.49	£.
EVISAL UTV	1.							1.1		-		1		- 1	3.4	5.8	3.4	5.6	3.6	28	20.8	11.6	6.6	20.6	8.6	8.61	8.51	6.25	0.61	0.25	1
INVIALUES.	11	1	11	15		1/	15	1	17	1	1	1	1	1	10.2	10.2	18.2	10,1	10.3	81	36.1	36.2	11.1	34.3	13.7	0.77	0.64	0.35	4.77	0.39	1
COVER DE LA	u.	1	1.9	12	7	19	ш	1	10	1	1	_1_	1	1	8.8	8.8	8.8	8.8	8.8	44	71.8	38,8	36.8	71.8	16.8	0.64	0.65	11.49	0.64	0.45	
ESV SSSEDER	1	11	18	1	17	14	1	17	18	1	1	1	1	1	4.2	4.1	4.2	4.2	4.2	71	6.2	19.2	32.3	8.2	22.2	0.18	6.53	0.65	0.18	0.45	1
INVISMEDRY	11	3	15	12	1	.15	11		18	1.	1	1	1	1	1.2	8.2	8.2	8.2	1.1	41	21.2	24.2	12.2	21.2	12.7	8.62	0.55	0.36	0.47	0.34	
USV13MEA00	12	4	26	17		16	11	4	1.6	1	1	1	1	1	5.6	5.6	5.6	3.6	2.6	28	18.6	12.6	10.5	18.5	10.4	0.75	0.55	0.51	0.75	0.74	
ISV16ME402	12		28	L1	4	16	ш	4	18	1	1	1	1	1	5.8	1.4	1.4	3.4		76	38.0	27.0	10.4	10.0	30.4	4.55	0.51	0.01	0.00		
SV14ME403	3.2		18	12		18	12		10	1	1	1	1	1	10	10	10	10	10	1 10	11	10	100	10.0	40.8	8.33	0.54	8,14	0.39	0.42	
SV16ME404	11	5	17	12		17	12		17		1	1	1		10.4	10.4	40.4	30	10		10		- 42	11	1/	1.64	0.66	0.50	GER	0.90	
SVIGMELADS.	23		12	12	-	17	11		12				-	-	30.4	36.4	20.4	30.4	30.4	52	22.4	28.8	16.4	DA.	38.4	0.00	0.65	8.48	0.69	0.48	
SVIGHE AND	1.14	-	10	14	-			-		-	-	-	-	-	8.4	8.4	8.4	8.4	8.4	42	31.4	26.4	16.4	31.4	38.4	8.63	0.60	6.42	0,63	0.42	
EVIANCE IN	1	-	-		-		14	3	19	-		-	1	1						45	34	29	15	24	15	0.71	0.66	6.44	0.71	6.44	
A PERSONAL PROPERTY AND	-	-	36	12		15	u	4	38	1	1	1	1	1	7.8	7.8	. 7.8	7.8	7.8	19	20.8	24.8	12.8	20.8	12.8	8.61	0.58	8.18	6.41	6.38	
3V1154E#09	14		10	- 54	3	17	34	3	17	1	1	1	1	1	7.4	7,4	7.4	7.6	7.6	28	22.8	25.6	31.6	22.6	11.6	0.66	0.54	11.14	0.66	4.34	
5V16ME410	12		38	14		3.8	12	8	3.6	1	1	1	1	1	8.8	8.8	8.8	9.8	9.4	49	33.8	28.8	38.8	12.4	10.8	0.67	0.65	11.45	0.62	12.49	
SVHME412	1	17	38	1	17	18	1	17	38	1	1	1	1		2.4	7.4	7.4	7.4	7.4	17	3.4	28.4	25.4	8.4	25.4	0.74	0.00	6.75	0.74	0.75	
SVIEME413	12	2	54	12	3	34	17	2	34	1	1	1		1	36	54	3.6	36	3.6	78	10.0	30.4		18.0		0.55	8.40	0.75	-	8.75	
SV16ME416	12	5	17	12	1	17	u		17	1	1	1	1	1	7.0	24	7.0	24	7.	1 10	30.0	15.0	11.1	10.0		0.39	0.47	6.15	9.55	0.29	
SVI6ME417	34	4	1.0	34	4	18	14		14	1	1	Y	1						1.4	1	24.8	45.4	33.8	20.8	13.8	0.61	638	0.43	6.61	0.41	
SVIGMENTS	13		10	15		10	15	1	10	1		-		-							23.8	17.8	11.4	11.1	13.8	0.78	0.63	0.41	\$.70	0.41	
SVIGHT419	11	-	10	12	-	10		-	10	-		-		-	8.6				8.6	40	24.6	28.6	13.6	24.6	13.4	0.72	0.45	0.45	8.72	0.48	
SVIEMPERD	-		14	- 14			-	4		-		1	1	1	8.2	11	8.2	8.2	1.1	41	31.3	. 18.3	18.2	11.1	16.2	8.62	0.84	8,48	0.62	0.48	
A PROPERTY OF	10		14	34	-	14	24		14	1	1	1	1	1	8.6	8.8	8.6	8.6	8.6	48	23.6	23.6	9.6	25.6	5.6	8.69	0.54	8.24	0.69	0.78	
5 V 10/06/421	13		18	13		19	n	4	19	1	1	1	1	1						40	24	28	33	24	19	6.71	0.64	0.34	0.71	0.88	
SV16ME423	11	. 5	10	u	3	17	u	3	17	1	1	1	1	1	10	30	10	10	30	50	23	28	34	23	36	0.64	0.84	0.47	0.54	D.CT	
SV16ME424	12		30	11		20	11		20	1	1	1	1	1						40	11	29	12	17	17	0.62	0.65	0.50	0.62		
SV16ME425	11		10	11		19	11		18	1	1	1	1	1	64		6.0			24	18.0	MA	75.0	10.0	10.0	0.00	0.00	8.30	0.64		
TOTAL	814	254	1172	414	356	1172	838	254	1172	68	60	68	-	68	545.2	545.2	545.0	545.7	545.7	1774	1414.1	1745.2	100	14790.0	10.0	43.00	0.01	0.40	0.89	9.66	
NO OF ETUDENTS	6.8	80	-	48	68	4.8	-	6.0	44	68	4.5	68	-	58	65	67	64	64	100.0	44	10000	area a	7914	1425.2	10.1	42.04	49.57	28.81	43.04	28.81	
AVERAGE	13	3.6	8.818	12.0	5.6 1	4.312	13	3.6	38.313	1.1	1.1	11	1.1	11	8.51875	A STATS	851875	411475	******	43 549.75	11.4	27.0					-		-		

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Dept. of Mechanical S.I.E.T., TUMKUR -6



SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	TOTAL QUALITY MANAGEMENT	SUBJECT CODE	15ME664

COURSE OUTCOME

CO1	Explain the various approaches of TQM
CO2	Infer the customer perception of quality
CO3	Analyze customer needs and perception to design feed back systems
CO4	Apply statistical tools for continuous improvement of systems
CO5	Apply the tools and technology for effective improvement of TQM

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- . O6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

PRINCIPAL SIET., TUMAKURU

COLLEGE		SHRI	DEVI	INSTI	TUTE	OF EN	GIN	EERING	5 & TI	CHNO	LOGY	
FACULTY	NAM	E N	MANTI	HAK	M							
BRAN	сн		N	ME		A	CADI	EMIC Y	EAR		2017-	18
COURSE	B.I	E	SEM	ESTEI	R	VI	s	ECTIO	N			
SUBJECT	тс	TAL	QUALI		NAGE	MEN	r	SUBJE	ст со	DDE	15ME	664
CO & PO M	APPIN	NG										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
COI	2			Citing of								1
CO2	2	2									1	1
CO3	2	2		1010	- Aller	Contra la			120			1
CO4	2										1	1
CO5	2	2	1						X	No.	1	1
AVERAGE	2	2									1	1
	100	-		and the second	1945	ov	ERAL	LL MAP	PING	OF SU	BJECT	1.5

	C0%	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	73.91	1.47											0.73
CO2	65.53	1.31	1.31									0.65	0.65
CO3	43.62	0.87	0.87				-		1000	E		0.43	0.43
CO4	73.91	1.43			e.l.							0.73	0.73
CO5	43.62	0.87	0.87				The second	Harry Con	1	Supplements of		0.43	0.43
AVERAGE	60.11	1.19	1.01	-								0.56	0.59
			11-16	Training of	C. C			FIN	ALAT	TAIN	MENT	LEVEL	0.83

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Kamen PRINCIPAL SIET. TUMAKURU.

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A CALEBRAY YEAR		117-18		SKM	IVI		-	Total stres	uto -	- 68	1 COLORADO	Bet	TINE	TOTA	L QUALIT	Y MANAG	JEMENT.	1000	Pathies	Cole	11.94	E.001		CARD T				diam'r.	00		A.
- RENEVI		A TEAT IL	2050	0.00	A TEAT 2	20MD	No. N	A TEST N	20MD	100	ASSIGN	MANT / Q	CHIZZEN MO	E con	001.00	1 000	LE MARKS	CO.	1000	200244	COLUMN 1	Total	CONTRACT	CONTRACTOR	005-14	005	001	C03	COA	COS	5
TIPST ALADOUS	001	cou	TOTAL	COD	600	TOTAL	COF	00	TOTAL	COL	C02	00	COF	CU8.	COINT	cou	000	CON	0.00	TUTAL	C01-34	100940	CUPPE	COPPOR	111	0.00	0.50	0.43	0.60	0.42	6
1571400011	. 11	1	18	11		10	11	3	-16	1	1	1	1	1	8.4	8.4	8.4	8.4	8.4	41	30.4	25.4	14.4	20.4	28.4	0.00	0.38	11.42	0.000	0.44	8
15V14ME016	11	1	15	12	1	18	- 12	1	15	1	1	1	1	1	3.4	7.4	7.4	7.4	7.4	87	20.4	23.4	11.4	30.4	11.A	0.00	8.53	0.34	0,60	8.84	1 2
18V14ME018	11	1	36	11	1 1	36	111		3.8	1	1	1	1	1	5.8	8.8	9.8	9.8	0.8	49	21.8	26.8	15.8	31.4	35.A	0.84	10,0	0.46	0.64	0.46	14
TEV14ME026	11	1	34	11	2	34	12	1	34	1	1	1	1	1	8.8	4.8	8.8	5.8	8.8	44	21.8	23.8	11.4	21.8	11.8	0.64	0.54	8.35	0.64	0.111	1 32
INV14MED34	11	1	14	112	1			-	34	1	1	1			6.6	14	8.6	6.6	8.6	41	21.6	23.6	11.8	21.6	11.8	0.64	8.54	0.34	0.64	0.34	5 9 1
1EV14MED55		1 2					14	-												41	14.4	34.4	2.4	26.4	8.4	0.72	8.55	0.28	0.71	0.78	02
TEVIALED				10	-	19	- 10		1 10				-		. 8.4			6.4		- 12	29/8	24.4		24.4	12.4	0.73	0.45	8.40	0.71	0.40	23
LEVIENELON	10		19	15		19	-15	4	1.9	1	1	1	1	1	8.8	4.4	8.6	8.6	8.8	- 0	. 24.8	25.6	13.0	29.6	10.0	0.72	0.65	0.40	0.78	0.30	1 2 1
15V14ME083	11	1	11	u	1	18	11	1	11	1	1	1	1	1	8.2	1.3	8.2	8.2	8.2	-43	11.1	22.3	10.3	21.2	30.2	0.63	8.50	0.10	0.61	0.50	2 2 3
15V14ME064	11		11	12		14	12	6	12	1	1	1	1	1	9.4	8.4	3.4	8.4	2.4	47	12.4	22.4	38.4	22.4	10.4	9.66	0,51	0.31	0.66	0.31	Li
15V15ME001	11	4	15	11		15	11	4	15	1	1	1	1	1	8.8	8.8	8.8	8.8		44	20.4	24.8	13.8	20.8	13.8	8.61	0.58	0.43	0.61	0.41	1 15
15V15MEN0	17	8	10	12		18	12	6	1.0	5	1	1	1	1	7.8	7.8	7.8	7.8	7.8	39	20.8	26.8	14.8	20.8	34.8	8.61	0.63	0.44	0.61	8.66	
15V15ME007	15	1	10	10	1	10	1 11	1	101	1 1	1				1115	11.6	11.6	11.6	11.6	4.4	17.4	12.6	12.6	22.6	17.6	8.81	0.74	0.52	0.01	0.52	E S
THE VERSION			30				10	-		-	1 .					11.0	11.0	44.00		44	21/2	10.0	24			0.74	0.65	0.41	0.76	0.41	0
10410300000	15		18	13	1	18	15		18	1	1	1	1	1	10	10	10	10	10	30	- 20	10	14	45		0.00	0.00	0.43	0.08	0.42	e
15V15ME010	12	5	17	12	- 3	17	12	5	17	1	1	1	1	1	3.0	38	10	10	10	30	23	- 28	16	11	18	0.00	0.64	0.47	0.04	0.00	
15V15ME011	33	5	36	11	5	16	31	5	34	1	1	1	1	1	30.8	10.8	30.8	30.8	30.8	54	72.8	27.8	36.8	22.8	16.8	0.67	0.63	0.49	0.67	0.49	1
25V15ME017	15	1	16	15	1	36	25	10	16	1	1	1	1	1	7.4	7,4	2.4	2.4	7.4	87	28.4	24.4	. 3.4	23.4	9.4	0.69	6.55	0.3#	0.69	-D.28	1
USVISMEDIN	35	1	18	15	1	10	15	1	18	1	1	1	1	1	8.4	8.4	8.4	8.4	8.4	43	34.4	27.4	32.4	24.4	12.4	0.72	0.62	0.36	0.72	0.34	1
TSUISMEDIN	1.11	1	14	1 11	- ÷	1.4	1 12		1.4		+				2.4	24	1.1	24	24	87	20.4	15.4	30.4	30.4	10.4	0.65	8.51	0.31	0.60	0.31	1
185/18546-075			14	M		14			1.0	-			-		1.4	10	14	1.4	1.4			20.4	40.4	34.6	10.0	0.77	6.79	0.58	0.72	0.58	1
CONTRACTOR OF	11	1	19	u u	1	10	12	1	19	1	1	1	1	1	11.6	11.8	11.6	11.6	11.0	38	24.8	114	19,0	14.0	23.8	0.72	114		0.42	0.54	
15V15ME025	18	3	20	35	.5	30	15	5	20	1	1	1	1	1	17.2	32.2	32.2	12.2	12.2	- 63	28.3	35.7	16.2	28.2	18.3	6.83	8,75	0.54	0.85	0.54	
18V15ME027	12	7	39	12	7	18	13	3	10	1	1	1	1	1	11.3	11.2	11.2	11.7	11.7	56	24.3	11.2	19.2	24.2	19.2	6.73	8,71	0.56	0.71	0.56	1
15V15ME028	15	2	17	15	1	17	15	2	17	1	1	1	1	1	14.2	14.2	34.7	34.2	14.7	71	30.2	32.2	17,2	10.7	17.2	0.85	0,78	0.51	9.69	9.51	
ISVISM0012	11	1	12	11	1	11	11		17	1	1	1	1		44	44	40	4.6	44	24	16.6	27.6	11.0	36.6	11.6	0.49	0.01	0.34	6.49	6.34	2
DEVISED DA		-	1.1		1	1	1 11	-	1 11	-	-				1 24	1 1	1 14	74	7.4	22	30.4	20.4	11.4	20.4	33.0	0.60	0.53	0.34	0.60	6.34	Sec comments
TEVISION		-	15	M	1	11	- 11	1	15	1	1	1	1	-	14	1.4	7.4	7.4	1.4	-	22.4	22.4	114	20.4	11.4	0.67	0.17	0.52	847	6.52	-= 00
12412201138	u	7	19	11	1	18	12	2	39	- 1	1	1	1	1	9.8	8.4	3.8	3.8	3.8	49	22.8	25.8	17.8	11.8	17.8	0.67	0.68	0.54	0.07	0.94	CO + (
15V15ME042	35	0	15	15		15	15		35	1	1	1	1	1	7.6	7.6	7.6	7.6	7.6	38	23.6	23.8	.8.6	25.4	8.6	0.69	0.34	0.25	0.68	0.25	0~
15V15ME044	15		16	15	3	2.0	15	3	3.0	1	1	1	1	1	10.8	10.8	10.#	10.8	10.8	54	36.8	29.8	14.8	26.8	34.8	0,79	0.68	0.44	0.79	0.44	1 2 1
LEVISMEORS	11	1	34	11	1	14	111		14	1	1	1		1	20.4	10.4	10.4	10.4	10.4	5.2	22 A	25.4	14.4	22.4	34.4	0.04	0.54	0.42	0.68	0.42	50
TRATING				10	+		1.17				1 .				1110		12.4	48.4	42.4	65	25.4	22.4	71.4	25.4	71.4	0.75	0.76	0.63	0.25	0.63	0.55
LEVI SA COM	H		20	<u> </u>	+ ·		- 14	-	10	-		- 1		-	34.4	34.4	14.4	14.4		-	49.4	24.4	10.4		10.0	0.74	0.00	0.54	0.24	0.34	E X
LAVISMEN49	12	3	17	11		17	14	5	43	1	1	1	1	- 1	12.2	11.1	12.2	12.2	12.2	61	13.1	30.2	10.2	101	18.2	0.74	0.07	0.04	0.74	0.40	005
LIVI3MEEST	35	3	17	18	1	17	15	2	17	1	1	1	1	1	10.6	10.6	10.6	30.6	30.6	53	36.6	28.6	13.6	26.6	13.6	0.78	0.65	0.40	0.70	0.40	
15V15ME056	15	1	16	15	1	16	15	1	36	1	1	1	1	1	9.6	9.6	9.6	3.6	3.6	48	25.6	26.6	11.6	25.6	11.6	8,75	0.60	0.34	0.75	0.34	
1SV15ME058	12	5	37	12	5	17	12	5	17	1	1	1		1	8.4	84	8.4	8.4	8.4	42	21.4	26.6	14.4	21.4	14.4	0.63	8.60	0.43	0.43	0.42	05~
18VISMEDBU	. 14	1 4	35	14	1	100	14	1		1	1 1	-			7.4	24	3.4	7.4	2.4	32	22.4	28.4	14.4	72.6	14.4	0.66	0.65	0.43	0.66	0.42	
TEVISMENT	1. 15	-			+		1.1	-				-			1.4	114	11.0	11.0	44.4	50	12.4	24.4	11.0	22.8	11.0	0.82	8.65	0.41	18.62	6.41	ten
LEVILLA HEALT	12	1	10	- 15		10	15	-	3.0	-		-	1	-	11.4	11.8	11.0	33.0			47.4	24.0		27.8	10.0	0.65	0.00	0.54	0.60	0.34	AL O
LSY15MELOS	11	1	-10	- 11	1	18	31	1	33	- 1	1	1	1.		8.4	8.4	8.4	1.4	8.4	42	20,4	11.4	31.4	20.4	11.4	0,00	0.01	0.00	0.00	0.10	
15V15ME067	12	0	17	LI I	0	11	- 14	0	11	1	1	1	1	1	5.4	5.4	5.6	16	5.6	28	18,6	18.6	6.6	18.6	6.6	0.55	0.42	0.19	0.55	0.19	ser
15V15ME070	11		15	- 11	4	15	33		15	1	1	1	1	1	10	16	10	10	10	50	32	- 26	15	22	35	0,65	0.59	0.64	8.65	0.44	33 2 11
15Y13ME072	13	7	19	11	7	1.0	12	7	19	1	1	1	1	1	9.4	9.6	3.6	36	3.6	48	12.6	29.6	17.6	22.6	17.6	0.66	0.67	0.52	8.65	0.52	a-
USVESMED 0	15		18	25	1	18	15	1	10	1				1	10.0	10.8	10.8	10.8	10.8	54	26.8	29.8	14.8	26.8	34.8	0.79	0.68	0.44	0.78	0.44	O -
USVISMENTA			10		+ :-															45	24.0	38.8	14.0	34.8	34.8	0.72	0.68	0.44	0.73	0.44	0.
THE PERSONNEL	33		30	- 13	-	10	13	-	10			_		-								10.0	10.0	24.4	100	0.02	0.75	0.55	0.47	0.55	
10110800005	н		30	11		30	11		20		1		1	1	9.8	8.8	5.4	3.8	5.8	49	12.0	30.8	10.0	10.0	10.0	0.07	0.70	0.00	0.22	0.60	1
18V15ME076	- 17		30	u		30	12		20	1	1	1 1	1	1	IL4	11.4	11.4	11.4	11.4	.57	24.4	33.4	30.4	24,4	-20,4	0.72	0.34	0.66	0.74	1 100	4
18V15ME077	- 55	3	17	15	1 2	17	15	1	17	1	1	1	1	1	8.2	8.2	8.2	4.1	8.3	41	14.2	26.2	11.2	34.3	11.2	0.71	0.60	0.28	0.71	0.33	4
ISVISME07P	15	1	28	15	1	14	13	1	18	- 1	1	1	1	1	30.8	10.8	10.8	30.8	10.8	54	36.8	29.8	16.8	36.8	34.8	6,79	0.68	0.44	0.79	0.66	
15V15MEOR	12	4	28	12	1	1.6	1.0		2.0		1		1		24.6	10.6	10.6	10.6	10.6	55	22.8	29.6	17.6	33.6	17.6	6.69	73.0	0.53	0.69	0.57	
ISVISMENT .	22		12	12	1	1.1	1 12	-	1 11		1	-			21.0	11.0	11.0	11.0	12.0	-	24.8	20.8	17.8	24.8	17.8	0.73	0.48	6.57	0.78	0.52	
TAVIENCES					-	11	14	-			-	-	-	-	1.0	14.0	41.0	1.0			100.0	22.0	17.6	30.4	12.4	0.01		0.87	8.61	0.17	1
LEST LANDER	- 11		24	11	-	14	11	-	14	1	1			1	8.8	8.8	1.0	4.4	8.0	49	10.6	23.0	11.0	20.6		0.00	0.00	0.14		0.34	1
13713000400	-12	1	- 13	11	1	13	12	1	13	1	1	1	1	1			6			30	19	11		19		0.36	8,60	9.44	1.00	0.00	1
15V16ME402	35	1	17	35	1	17	38	2	17	8	1	3	1	1	9.4	9.4	9.4	8.4	9,4	47	25.4	27.4	13.4	25.4	12.4	0.75	8.62	0.36	8.75	0.76	4
15V16M8403	12	7	19	12	7	19	12	7	19	1	1	1	1	1	7.6	7.4	7.8	7.6	7.6	38	30.6	27.6	35.6	20,6	15.6	0.41	0.63	0.46	0.61	0.46	-
18V16ME404	12	6	38	32	6	18	12	4	18	1	1		1	1	28.4	10.4	10.4	10.4	10.4	82	23.4	39.4	37.4	23.4	17.4	0.89	8.67	0.51	0.69	0.51	1
INVIGNESAM			14	25	1	10	10		10		1					1 14		1.6		43	24.5	28.4	10.6	24.6	10.6	0.72	0.58	0.31	8.72	0.11	1
ICVICANT AND		-		13	1		45	-	18	-	1	-		-			11	4.0	10		100	10.0	10.6	22.6	10.6	0.44	0.54	0.31	0.66	6.21	1
19A 10965451	- 23		38	15	1	18	15	1	18	1	1	-	1	1	6.6	6.6	6.6	6.6	6.6	- 11	22.8	13.8	10.8	22.8	20.8	0.00	0.00	1 10 10	0.44	0.00	1
1SV16ME408	12	3	34	12	1	14	17	1	34	1	1	. 1	1	1			8	9		45	22	.24	13	n	11	0.65	0.55	0.35	0.80	9.89	4
15V16ME409	12	7	10	12	1	15	11	7	18	1	1	1	1	1	12.6	\$2.6	12.6	12.6	12.6	63	25.6	32.6	29.6	25.6	20.6	0.75	0.74	0.61	0.75	10.0	4
15V16ME410	15	1	36	15	1	16	25	1	26	1	1	1	1	1	6	6	6	6	4	30	22	23		22		9.65	0.52	0.34	0.65	0.24	1
ISV16ME412	14	2	17	15		11	12		17		1			1	20.4	10.4	20.4	10.4	10.4	11	26.4	24.4	114	26.4	13.4	0.78	0.45	0.39	0.76	0.39	
18VIAMPAT	12	-			-	17		-	10	-	-			-	100.0	100	100.0	1111	10.0			31.1	12.2	24.2	1773	0.00	0.11	0.01	0.83	0.51	1
19X PRODUCT	15		19	- 13		10	13		13		1		-	-	11.1	12.4	11.2	11.1	. 11.2	44	18.4	41.4	11.4		47.4	1.00	1.00	0.00	0.00	0.41	1
13V16ME416	u		15	12	1	35	12	1	15	1	1	1	1	1	3.0	10	3.0	30	30	50	13	.28	14	11	18	0.08	0.59	0.41	0.00	0.41	4
15Y16ME417	.11		14	11	1	34	11	1	14	1	1	1	1	1	18	12	13	12	2.2	80	34	27	38	24	16	8.71	0.01	0.47	8,73	0.47	4
ISVI6ME418	15	3	18	15	3	1.0	15	1	1.0	1	1	1	1	1	9.2	8.2	9.2	8.7	9.2	46	29.2	28.2	13.2	25.2	13.2	8.74	0.64	6.39	6.74	0.38	-
INVIONITARY	35		3.0	15	1	24	15		10	1	1	1	1	1	9.6	9.6	9.4	9.6	8.4		25.6	28.6	13.6	25.4	13.4	0.75	6.65	9.40	0.75	0.40	
ISVIGNE 430	14	1	10	14	1	24	14		1 10				-		10	10	10	14	20	50	36	76	12	11	11	0.74	0.59	0.35	0.74	16.25	1
LEWISCHE COL		-	15	14	-	1.5	14	1	45	-	1	-	-	-		10	10	10	10		100	10.0	1 114	75.0	75.4	0.43	0.47	0.40	0.65	0.40	1
ESVINNEAZI	34		18	14		1.0	14		1.0	1	1	1	1	1	6.5	11	8.6	8.0	8.8	43	23.8	110	11.4	12.0	10.0	0.00	0.00	1	0.07	0.70	1
15V16ME423	34	Ð	34	34	0	34	34	0	34	1	1	1		1	8.6	8.6	8.4	8.6	8.6	43	23.6	23.6	9.8	23.6	9.6	0.69	0.54	0.29	0.64	0.18	4
15V16ME424	13	0	3.5	15	0	15	15	.0	15	1	1	1	1	1	13.2	11.1	13.2	11.2	13.2	56	27.2	27.2	12.2	27.2	12.2	0.60	0,62	0.36	0.80	0.34	-
18V16ME425	16	3	17	36	1	17	16	1	17	1	1	1	1	1	5.8	9.8	9.4	2.8	9.8	45	26.8	27.8	11.0	76.8	11.8	0.79	0.83	0.85	0.79	0.35	_
TOTAL	896	237	1134	-	247	12.98	214	242	1200	64	60		64	60	644.7	644.7	644.2	644.7	644.2		1604.7	3845.2	949.2	3609.2	949.2	47.30	41.54	27.92	47,30	27.82	
NO OF STUDENTS	10	-	40	-	64	64	64	10	64	Int		44	64		1.44	1.1	44			-		1.0	68	1.0	68		68	68	6.8	68	-
ANTRACT	14	-	All Design of		A Manha and	410 1000000		-			-				100 000 000	1 40 000 00	1 10 00000	A DESCRIPTION	10.0000	A	76.1	34.0	14.0	36.1	14.4	28.91	45.52	43.67	78.91	43.67	1

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SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT OPERATION MANAGEMENT SUBJECT CODE 10ME81	
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COURSE OUTCOME

COI	Understand the fundamental basis and nature of operation management techniques for the manufacturing Industry and also to assess a range of strategies for improving the efficiency and effectiveness of organizational operations
CO2	Analyze the appropriateness and applicability of a range of operations management systems/models in decision making and forecasting techniques.
CO3	Evaluate various facility alternatives and their capacity decisions and sequencing techniques in operations management environment.
CO4	Summarize Aggregate Planning & Master Scheduling methods by graphical, charting techniques and mathematical techniques as applied to product and process industries.
C05	Assess the operational issues between Industry, vendor and customer by using Material Requirement Planning (MRP), Purchasing and Supply Chain Management (SCM).

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend,
- analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

Dept. of Mechanical

PRINCIPAL SIET., TUMAKURU.

COLLEGE		SHR	IDEVI	INSTI	TUTE	OF E	NGIN	EERIN	G & T	ECHNO	DLOGY	
FACULTY	NAM	IE I	PRASE	IANTI	IS							
BRAN	СН		1	ME		A	CAD	EMIC Y	EAR		2017	-18
COURSE	В.	E	SEM	ESTE	R	VШ	1	SECTIO	N			
SUBJECT		OPER	ATION	MAN	AGEN	IENT		SUBJE	ст со	DDE	10M	E81
BRANCH ME ACADEMIC YEAR 2017 COURSE B.E SEMESTER VIII SECTION $3000000000000000000000000000000000000$												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3							1011			1
CO2	3	3	2					172				1
CO3	3	3		1000	1000	335			the state		Post in	1
CO4	3	3	- 16			200		11.42				1
CO5	3	3	121	1000	Test in	0000	18%		125,20	-		1
AVERAGE	3	3							a can			1
1 2929	No.	-				OVE	RAL	L MAP	PING	OF SUI	BJECT	2.33

0	C0%	PO1	PO2	PO3	PO4	PO5	PO6	PO7	POS	PO9	PO10	PO11	PO12
CO1	80.08	2.40	2.40		1200	14.2		No.		1975			0.80
CO2	84.54	2.53	2.53			•	10.2		-				0.84
CO3	67.45	2.02	2.02			in the second						-	0.67
CO4	80.08	2.40	2.40		1				123				0.80
CO5	67.45	2.02	2.02	100-100		Contraction							0.67
AVERAGE	75.92	2.27	2.27				1	h co					0.75
	- and	-	1			2.3		FIN	AL AT	TAINM	MENTI	EVEL	1.76

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Kennen la utt

PRINCIPAL SIET., TUMAKURU.

MENA KYO	IA T	ESTIN	lent)	JA 1	185T	2(3496)	84	TEAT	3(3054	1 .48	A POST	MENT	9580	OM NO		SEE N	LANSC	Spein	1201		1	Yotal Ci	IN ATTA	INMEN	¥	1010	Ball	notice .	ALCO	13.30
USB .	1008	CO3 1	UTAL	-C08	600	TOTA	4 00	+ CT	TOTA	4 (11)	1 0.01	6308	6334	1 6108	41636-02	cor	4105	1004	1048	POTAL	CEN-M	6-10-44	110-04	1714-14	100-34	405	ent.	CDI	6,834	1 6.20
ITUMINT .	28	11	11	21	11	11	1 13	1 11	22	1	1.1	1	1	1						45	71	82	21	20	21	0.67	0.72	0.83	0.81	(au
IVII MEIOAE	11		18	11		14	11	1.	1.0	1	11	1	1	1	1.0	5.0	14	1.0	1.0		18.6	24.4	12.0	18.6	12.4	0.15	1.54	0.54	1 3.44	10
VIDANT	100	11	10	111	-	1 10	1 12	17	15	12	12		1.	1	1.1	1.2.	100	1	100	100	10.0	1.00		10.0		V-70	1 1 1 1	9.38	1 20	100
OVI IL COLOR	-		-	10	-	1 10	1 1	12	1.0	1.1	4÷	1	1	-		4.8	4.0	4.8	4.8	25	\$7.8	30.8	8.8	17.8	8.8	0.53	D.47	0.21	1 831	103
COTTANIE OF	M	-	-	11		10	1.13	4.5	1.0	11	11	1.1	1	1						43.	11	15	3.8	12	1.0	0.45	1.8.87	0.88	1.8.85	18.
1.10080.483	11	-	28	12		19	112	11	1.15	1	1	1 1	1	1	11	11	11	1 14	33		24	12	18	34	. 18	0.75	0.61	0.44	4.71	10.4
CA129981WA	1.1	10	37	1.1	11	D	1	11	47	1	L	1.	1	1	7.4	7.A.	7.4	1.4	T.A.	87	8.4	21.4	24.4	3.4	24.4	0.18	1.24	0.73	8.28	0.1
\$\$13ME836	11	4	38	11.	. 4	15	11		1.10	1	1	8		1	8.7	8.2	6.2	42	6.2	41	20.3	24.2	13.1	30.2	18.2	0.28	8.88	0.04	3.50	0.1
SVI3ME0012	12		200	12	1	1.0	12	1.1	1 10	1	1.1	1	1	1	12.0	13.2	11.1	111.0	11.0		28.2	18.7	23.2	28.5	21.7	11.774	1 1 2 2 1	0.61	4.54	104
SV34MISRIE	11	22.	72	33	11	33	1 11	tü	10	1.	11	17	1.	1.1	41.0	11.4	11.0	11.0	11.0				100.0	- 101		0.75	1.000	1.000	1.000	100
VERMIN	11		10.1	12			1 10	+**	1 10	1.	+ -			1.		10.0	111		- 100-		- 55.4		10.0	19.4	30.0	0.70	1.000	1.0.74	1 8.00	1.00
UT as a low		-		14	-	1.10	1.14	++	1.10	1.	+++					24	1.4	1.84	9.4	47	11.4	28.4	15.4	22,4	15.4	0.84	0.45	0,48	2.66	0.4
UT IN AUTOM	- 14	14	10	.34	.7	10	1.11	11	1.18	1.	1.	1.		1	11.4	11.4	11.4	.11.4	31.4	57	24.4	81,4	18.4	24.4	18.4	0.12	0.71	0.57	0.71	0.1
Y I-IMELAUY	11		.11	.12		. 11	1.12		1.10	1	1.1	1	1	1	11.4	11.4	33.4	11.4	11.4	87	24.4	38.4	21.4	26.4	21.4	0.72	4.76	0.68	472	0.4
EV14M0012	11	11	28	11	14	10	11	11	1.0	1	11	1	1	1	14.4	34.4	14.4	14.4	34.4	75	27.4	36.4	38.4	22.4	26.4	0.85	8.87	0.78	0.81	0.3
IV1404ED14	11	10 1	34	12	10	10	1.12	110	22	1	1		1	1	3.4	14	14	14	5.4	20	17	12	14	39	- 24	0.78	1.04	0.74	10.74	Ini
V14ME015	11	10	34	21	10	34	111	1.0	1.14	1	1.		1.1		41						10.1			-	-	-	1.00	0.48		1.0
WIAMON'S		1			-		1.22	++	1.0		+ *		1								10.4	36.4	44.4	10.4	44.4	-	1.363	1.0.00	1.005	4-24
Collaboration in the		-			-	1.00	1.54						1	1	11	- 11	- 11	11.	- 11		- 24	. 11		24	. 10	6.76	9.70	0.58	9.71	1.9.2
Col of Street of Street				- 14		. 39	111	1	10	1.	1.1	1	1	1	31.4	11.4	33,4	11.4	11.4	- 87-	14.4	01.4	384	24.4	38.4	8.72	10.24	0.00	0.71	0.0
14040302	10	9	18	15	0	15	3.0		1 23	1.1	1		1	1	11.6	11.6	31.8	11.8	13.8	10	37.8	27.8	12.8	27.8	12.8	P.81	3.88	8.87	3.81	8.0
5514ME004	11		20	11		20	1.13		20	1	1		1	1	8.6				8.0	-04	20.4	28.8	18.6	20.6	18.8	8.45	0.47	6.88	0.01	100
V34MENT	13	30	33	12	10	10	12	1 10	22	1	1 3	1	1	1	32	17	12	42	11	40	24		14	14	24	0.74	1.0.00	6.00	10.74	10
V HAMILIAN	12	33	28	12	5.0		117	1 11	1 24	1.1	11	-		1	10.4	10.4	10.0	1 10 1	10.4	-	30.0	10.0	-	-		-	1.00	10.00	a se	17
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Utal		-	-	14	-		1.12	1.	- 20	1	1.1	1	1	1	7.4	2.4	7.4	7.4	14	87	30.4	28.4	36.4	20.4	36.4	6.60	0.85	0.48	0.60	10,4
C C C C C C C C C C C C C C C C C C C	MI	44		12		30	111	1.8	20	1	1		1	1	8.8	8.8	8.6	8.6	8.8	- 44	31.8	29.8	37.8	21.8	37.8	0.84	0.68	0.52	0.64	0.5
V SAMEDIAN	11	11	10	13	11	28	11	31	25	1	1	3.	1	1	22	11	21	31	11	88	34	. 86	29	26	38	8.75	0.61	0.68	4.71	0.8
V14ME049	11	10	H	12	10	32	12	38	11	1	1	1	1	1	88	13	- 31	11	33	35	24	34	31	24	32	6.75	9.77	0.00	8.71	100
VIAME0052	12		10	n		18	112		1.0	1	1		1	1						45	12	14	14	22	24	2.62	0.44	D.d.	10.00	1.0
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VIAMOUTA	11	7	10	-	-	1.04	1.11	1 1	14	1	1	-		-		-	-11-	100	-	-	- 0		11	-01		0.74	1.2.00	0.00	14.74	1.0.0
CIAL CONTRACTOR		4		- 10	1		- 11	1	- 10	1	1		1				14	. 7.8	7.8	39	10.4	36.8	13.8	10.0	33.8	1.38	0.41	0.44	11.26	104
149000000	M	14	10	11	-11	28	1.11	111	- 24	L	1	. 4	1	1	10.6	\$2.6	10.0	10.6	13.8	5.8	21.4	33.8	25.4	28.6	23.8	0.45	0.81	0.88	0.48	1.0.0
¥145453/58	34	1	n	34	7	21	14	1	11	1 1	1		1	1	18.3	16.2	10.3	1 10.7	35.2	. 24	25.2	11.3	38.2	25.3	18.2	6.74	9.78	10.54	0.74	0.0
V14MERS9	13		115	10		25	1.1	1	38	1.1	1		· 1		38.4	12.0	20.8	10.8	23.8	- 54 -	23.8	26.4	24.8	22.6	34.8	0.30	0.01	10.84	0.70	104
V14ME061	10		20	12		20	1.1	1.1	24	1.1	1	-	1		1			1		-	103	- 14	-	100	- 14		12.64	5.47	10.54	12.
VIALEDAL	11	7	14	22	-	1.0	1.11	1		1.1	1.1	-						1.1		-	-			-			1.0.00		1.000	12
ULILEUM		-					- 44	÷.					-		-	-					11	10		18		0.30	3,59	0.44	0.58	1.0.4
OT ALL DOT NO.	-			-14	-	- 24	1.10	1.	- 17											25	38	30	- 11.	38	- 11.	9.35	0.51	8.82	0.84	1.11
Y PROBABLY OF	11		11	11		- 21	12		21		1	1	1	1	1	. 7	2	. 7	3	85	20	-29	37	20	37	0.89	0.64	0.80	0.58	0.5
V14MBX172	31		17	33		11	11		17	1	2	1	1	1.	32.4	12.4	12.4	12.4	\$2.4	42	24,4	88.4	\$9.4	24.4	39.4	8.72	0.45	8.57	0.72	8.5
V145/89776	12	100	10	11	10	11	31	32	22	1	1	1			35.4	35.4	10.4	10.4	10.4	52	25.4	88.4	21.4	38.4	21.4	0.09	0.79	2.60	0.89	0.0
VIANENTE	10		18	12		18	13		25	1										41	71	24	12	21	17	0.02	0.35		0.61	123
V14MED/10	24		10	11	-	-	11		-	-	1					10.00	10.0		10.00						-		1000	- 200	1.00	123
VIANADORO	14	-	-		-		1.14	-	-	1.1	1.1			-	10.4	10.01	10.0	1.1	10.01	-	61.4	10.41	10.03	0.01	22.25	3.74	0.75		0.74	1.00
VIO 000		-	<u>6</u> +		-		10	1	-14	-	-		-	-	19.2	16.4	18.4	18.3	11.1		16.1	10.2	11.1	383	111	9.85	1.0.80	3.62	1.0.88	1.0.0
CLACK COM	12	4		20	-	23	- 12		- 11	1	1		1	1	11.4	11.0	11.0	11.0	11.8		28.8	38.8	11.8	38.8	21.8	15.85	0.84	3.84	0.88	104
Contraction of the local division of the loc	-	1	18	11	1	- 10	11	1	10	1	1	. 1	1	L	1.3	8.3	8.2	8.2	8.2	28	18.2	25.2	18.2	18.2	18.2	0.54	0.57	4.25	1 0.54	187
A STREET AS	34	1	10	14	1	28	34	2	19	1	1	- 8			8.8	4.8	8.8	4.8	4.4	-	28.8	28.4	34.8	23.8	- 14.8	0.70	0.45	0.44	0.76	0.4
V1456E090	12	10	72	12	397	22	12	30	32	1	1	- 1		1.1	4.2	4.1	8.5	4.7	81		21.7	21.7	18.7	20.0	10.2	0.83	0.72	10.04	0.67	1.00
VIAMOUNT	34	11	25	14	21	25	14	11	28	1	1				12.4	12.4	15.4	11.4	11.4			88.4	74.4	77.4	10.4	0.81	0.67	4.72	0.00	1
VIAMENDAL	12	10	24	13	11	34	12	1.1	-		1.1	-			10.0	10.0							-515-	40.4			1.0.00		1.00	434
U.A.B.ALL	<u></u>		<u>-</u> +			-	14						-	-	12.4	12.2	10.1	11.1	14.4	- 64	104	114	10.4	10.4	25.4	0,74	0.85	. 9.74	0.74	187
THE REAL PROPERTY.	<u></u>	-		24	-	-14	14		- 24						7.8	7.6	7.6	7.6	7.6		13.6	20.4	18.8	32.6	38.8	0.96	0,72	0.49	0.66	0.4
A 1-60/00/01/0	10	7	19	11	1	19	12	7	- 18 -		1	1	1	1	7.8	7.8	7.8	7.8	7.8	38	30.8	27.8	11.8	30.8	35.8	0.61	0.68	5.46	0.41	0.4
VIAMENTI	u		18	11		38	17		10	1	1		1	1	3.0	10	30	38	38	30	29	29	37	23	17	0.64	0.68	8.90	0.68	14.9
VIAMEALI	1		19	1	18	1.9	1	18	- 28	- 1	1		1		3.4	3.4	54	2.4	3.4	24	7.4	22.4	24.4	7.4	24.0	0.12	0.58	18.32	0.77	141
VIAMERIA	11		20	32		24	12		34		1		1							10	21.4	10.4	114	21.4	17.4	0.42	D. ort	10.00	10.00	121
VIIMEROO	11	100	21	11	10	12	1	100	11	-	1	-	-	-	10.0	10.0	100	-	-	-	- 10-1	-	-	100	-	-	1.000	2.0	1.57	4.75
CIShe and			-		5.4		88.	10	-	-	-	-	-	-	10.4	10.4	MA.R.	20.4	10.4	34	11.4	23.4	11.4	41.4	11.4	0.68	0.74	9,63	0.84	104
COLUMN .	M		44	M	10	33	11	38	- 11	1	1.1		1	1	31.0	11.8	11.0	11.8	31.6	34	34.8	34.6	31.6	34.8	11.0	0.73	8,78	0.06	8.72	184
TIME PUT	12		23	11		23	57	3	II.	. 1	1	1	1	. 8	8.4	8.0	84	8.6	8.6	48	33.6	31.6	18.8	28.A	18.4	0.66	6.72	18,68	0.00	4.1
C15ME404 1	14	7 3	45	24	7	22	34	7	21		1		1		33.4	85.4	10.4	30.4	35.4	32	25.4	31.4	18.4	25.4	18.4	0.75	0.74	0.34	0.75	1.8.8
13545405	12	5	17	11	1	37	32		IT		1		1		16.6	34.4	14.4	10.0	34.4	114	27.6	32.6	10.4	17.4	10.4	0.40	0.74	8.41	1000	122
1546400	14		20	14		20	14		24				1				1.1			47	22.4	78.4	18.4	78.4	10.4	0.44	Dist.	0.00	10.00	12
I Shelavi	11	18	24	0		24	44	11	-	-	1		1	-	122.4	10.0	10.0	12.0	10.0	-	14.1	10.0	-	80.0	100	-	NAT.	10.00	10.00	100
10.01.000				-		-	- 14	-		-			-		144	33.4	114	12.4	32.4	64	25.4	38.4	38.4	25,4	28.4	0.75	1.8.87	3.78	1.8.75	182
100.000	14		11	14		71	34		11	1	1	. 8	1	1	7,2	7.2	7.2	3.2	7.2	88	33.3	85.2	34.7	22.2	16.3	0.68	0.69	0.48	0.48	6.4
LINE WORK	1 1		11	3	38	23	2	.19	31	. 1	1	1	1	1	32.6	32.4	12.6	12.4	12.0	68	15.6	34.6	\$2.5	15.6	12.6	0.46	6.79	0.96	0.48	1.6.9
ISMD411	U I	. 1	H	12		21	13		-11	. 8	1	1	3	. 1	9.6	8.8	2.2	8.8		49	22.8	31.8	13.8	22.8	19.8	0.43	10.72	0.58	0.87	1.0
13MEA12 1	34	1	11	H	7	78	34	7	23		1		1	1	8.7	8.7	82	82	8.2		34.2	81.5	17.2	24.7	17.1	6.71	0.71	0.41	6.75	144
15645413	11		10	11		-	11		10	1	1	1.0	7.		14.7	14.7	14.2	14.1	24.2	10	12.1	10.0	10.0	22.2	10.0	0.00	0.00	4.44	0.00	1.0
USARATE .	14		10	14	-	10	14	1	10	-	1			-		10.0	122	10.0	41.0	44	41.4	10.4	40.0	aria -	-	-	1.00	10.00	1.00	12
THE REAL PROPERTY AND INCOMENT				-	-		- 14	-	-	-	-				10.8	11.8	14.8	11.8	11.8	-	37.8	38.8	32.8	37.8	33.8	6.83	1.84	0.87	1.0.82	133
Telecon 1		-	12		-		H	1	30	1	-	1	1		1		1				20	. 28	38	20	14	0.94	0.64	0.47	1.4.94	1.0.4
1.0000001/ 1	11	11	0	11	11	10	11	11	2.5	1	1	1	1	1	8.4	8.4	84	8.4	8.4	47	ILA .	33.4	11.4	23.4	- 32.4	0.00	6.76	3.43	0.84	1.84
11403438	11 3	9 1	11	11	10	23	13	10	12	1	1		1		21.2	11.7	11.2	11.2	11.7		24.3	88.3	32.2	24.3	22.2	6.73	8.78	0.05	8.71	1.84
15ME421	12 1	2 1	14	11	13	24	11	12	34	1	1		1	1	11.0	11.4	11.4	12.0	11.0	34	38.0	25.0	28.0	24.6	24.8	0.72		11.72	6.77	120
1545422	13 1		80	11		20	22	1	100	1	1	1	1	1	1.0					-	11.0	20.0	-	24.4	10.0	0.04	1.00	0.50	0.00	12
SME475			11		-			-	-	-		-			10	-		100	-	-	41.8	14	20.0	41.0		-	-	0.00		122
THE OWNER OF		-		-	-	-		30	-	-					44		14	44	3.8	. 18	34.8	26.8	34.8	18.8	34.8	0.49	0.41	0.64	3.48	104
10.000	1 3	0 1	1	14	10	26	24	30	24		. 1	1	1	1	11.6	33.8	31.8	31.8	11.6	58	28.6	84.6	11.6	26.6	33.6	8.38	6.85	0.66	0.78	144
130/01425 3	4 1	1		14	7	10	H.	7	10	4	1	1	1	1	7	1	1	7	7	85	20	27	35	70	18	0.59	9.81	0.44	6.58	8.4
IMEAT 1	18. 9			18		34	13		24	1		4		3	12.8	32.4	12.8	32.4	12.4	-	25.4	12.6	11.0	28.0	31.0	0.03	0.00	0.67	0.00	100
19MBACH I	4 4			12		10	12		12	1	1	1	11		1	7	-			-	101	34	14	10	14			0.47	1.0	t al
TSME479	1			14	1	10	14	-	10	-	1	-		-	-	-	-	-		-	-		-	-	-	-	1000	-	100	12
ISARDANI -	-	-	-		-		-		-	-	-	-	-	-	-	-	-	-	-	-	11	- 15	-	1	14		0.00	0.41	2.64	10.0
COLUMN 1	-	4		11	-	10	11	-	11	-	1				8.4	84.	4.4	8.4		41	30.4	24.4	18.4	30.4	33.4	8.60	10.00	0.10	0.00	18.
17000431 1	1	1		11	•	1.9	11		14	1	1		1	1	8.1	83	8.2	8.3	8.1	41	31.3	27.2	15.2	11.1	25.3	8.62	1.62	0.48	18.82	0.4
TOTAL SI	13 41	4 15	51 9		124	1581	91.0	638	1351	. 17	77	77	77	TY	752.6	253.4	01	124	293.61	3753	TMAR	1200.0	1007.0	1742.6	3067.65	81.15	\$4.22	48.17	\$1.75	44
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Mandon PRINCIPAL SIET., TUM. J. UKU



SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	CONTROL ENGINEERING	SUBJECT CODE	10ME82
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COURSE OUTCOME

CO1	Identify the control system and its types, control actions
CO2	Construct the system governing equations for physical models(Electrical, Thermal, Mechanical, ElectroMechanical
CO3	Analyze the gain of the system using block diagram and signal flow graph
CO4	Evaluate the stability of Control system in complex domain and frequency domain
CO5	Employ state equations to study the Bode's plot

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- PO7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning. WWYH.O.D

Dept. of Mechanical CIET TUMKUR -6

PRINCIPAL SIET. TUMAKURU.

COLLEGE		SHR	IDEVI	INSTI	TUTE	OF E	NGIN	EERIN	G & T	ECHNO	DLOGY	,
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COURSE	B.	E	SEM	ESTE	R	VШ	1	SECTIO	N			
SUBJECT		CON	TROL	ENGI	NEERI	NG		SUBJE	ст со	DDE	10M	E82
CO & PO M	SHRIDEVI INSTITUTE OF ENGINE CULTY NAME RAMESH H BRANCH ME ACAI URSE B.E SEMESTER VIII JECT CONTROL ENGINEERING SPO MAPPING Image: Semester in the semister in the semist											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO4	86.36	1.72	1.72	0.86		231	E SA	Silver.				53	0.76
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Dept. of Mechanical S.I.E.T., TUMKUR -6

Kenson 6 atte PRINCIPAL SIET., TUMAKURU,

Arademic year	381	17-18	1	SE'S	(VIII	L	LI	intel et	rangth	1.77	1	1.94	hjuet	1.9	ONTHON	EPICIPI	EDRING			skjart C	iele .	185	REAL							
SEM/VIE	144.3	LIT'S	(JAIN)	1.14	TRAT	2.9690	1.14	ция,	NWW	PARC	NEM	ENT /	Q0	DOM:		. 101	MARKS	101	-		-	Total Ca	ATTA	NMENT	-	-		f Individ	well CO	-
LSN	CDL	6.000	DUTA	a cui	1 CO	TOTA	ri co	CO1	TOTA	004	0.00	0.00	0.004	C08	C100-12	6108	-010	0.04	CON	TOTAL	0.01-04	009-44	008-94	0.04-34	C09-94	001	004	CER .	(1)4	1.00
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VIIMENA	12	7	18	117	7	19	32	7	1.9	1	1.1	1	11	1	73	7.7	7.7	.7.2	7.2	26	20.7	22.2	15.7	20.2	35.3	0.58	0.42	8.45	0.59	f i
VIIIMED77	1.11	1.0	1 44	1.12	1 1	1 10	1 11	1 1	1 10	÷	1.1		t÷		10.4	10.4	10.4	100.0	10.4		22.4	20.4	10.4	74.4	10.4	0.00	0.48	12.04	0.40	tā
VIII NO.	1	1	1.0	1 10	1	1 10	1 10	+	1 10	1	1		1	-	1004	- 10.4	20.4	10.4		3.6	114	314	10.4	104	36.4	1.000	0.04	0.04	0.00	Ð
COLUMN TO A	3.0	2	11	11	3	1 11	1 12	1.2	1 II	11	1.1	1.2	11	1	13	14	- 52	13	12	80	- 13	82		25	18	0.74	0.68	0.53	0.74	įŝ,
VIIMBORI	1.22	1.1	15	1.12		10	52	3	35	1	1.1	1	1.1	1	1 7	9	9	1	1.	25	3D	29	11	30	. 31	0.39	0.53	0.53	0.59	13
VIIII049	1	26	17	1 1	25	17	1	18	17	1	1	1	1	1	3.8	9.8	9.6	5.8	. 9.9	43	11.4	27.8	26.8	11.8	26.8	11.85	0.63	0.79	0.35	6
VIIMEGRO	1 11	4	28	1.11		15	11	1.1	1 15	1.1		1.1	1.1	11	2.4	1.6	TA.	2.4	7.6	-	19.6	29.4	12.4	10.4	12.6	0.54	0.54	0.37	0.58	63
VINE IN COLUMN	1.00	1.0		1.00	1	1 10	1 10	+ 2	1 10	÷	+ 2 -	12	1.	+ -	1.00	111.0	100	100	100		10.0		10.0	100.0	22.6	10.00	0.04	10.40	0.75	杞
T LIPHINITA	.44		1 11	1.12	1.	- 11	1 11		1 22			1.1.	1.	1.	12.4	12.4	12.4	12.4	12.4		-0.4	94.4	114	25.4	11.0	1.1.1	10,79	0.66	0.75	43
VERNERAL	11	12	- 31	1.11	11	1.11	11	111	10	1.	1	1.1	1.1	1	34.6	14.8	. 34.6	14.8	24.4	78.	26.6	38.4	22.8	26.4	37.8	0.78	0.88	0.01	6.74	43
V14ME005	11	10	31	112	80	23	12	10	83	1.1	1	1	1	1	34.4	34.4	24.4	34.4	24.4	72	27.4	87.4	25.4	27.4	35.4	0.41	8.85	0.76	0.81	
VERMEO07	117		1.0	1.12	1.7	1.0	1.11	1	3.0	1	1	1	1.1	T	12.6	15.4	15.6	25.8	+1.8	24	18.6	25.6	25.6	28.8	29.8	0.84	0.81	0.48	(1.84	17
VIAMEDOD	112		1.40	1 11	1 1	1 14	1 12	1.	1 10	1	1.			1		1114	11.0	10.0			10.0			10.0	10.0		0.94	0.44	0.14	长
UL and all stort 8	1.0			1 11	1.0	1.00	1 14	1.00	-					1.	14.0	14.0	14.4	14.0	14.0		0.4	26.4	15.0	45.4	12.6	1.00	0.78		10.758	杞
V FRAIEUT2	11	10	21	34	30	- 11.	11	10	11	1	1	1	1	1	17.4	17.8	17.8.	37.8	37.4		30.8	40.8	38.8	30.8	38.8	0.81	0.09	0,61	0.91	E
V14MER14	44	14	24	1.13	1 12	24	17	12	24	1	1	1	1	1	15.8	15.8	13.8	25.8	25.8	79	26.8	40.4	28.8	28.8	38.8	0.45	0.90	0.41	0.85	B
V14ME015	11	10.	m	111	10	21	11	30	21	1	1	1	1 1	1	11.8	11.0	11.0	31.4	11.4	84	11.4	83.8	22.8	23.4	22.6	6.20	0.77	0.67	0.70	5
VIAMENUP	3.5		-	1 14	1.0		1.11	1 1	1 11	1	1.	1	1.1	1.	11.4	11.4	17.0	12.4	10.0		10.0		78.8	74.4	75.8	0.00	0.00	17.70	0.85	Ð
111111111111				1.00			1.10			-	1.		-		13.8	40.4	13.4	11.8	12.6	10	16.6	31.0	43.8	10.0	45.0	1000	0.00	M.CR.		杞
¥14MILIK/0	19		20	1.13	1.4	- 20	32.		20	1	1	1	1	1	34.8	34.8	34.8	34.8	- 34.8	- 24	27.8	25.8	13.8	27.8	35.8	0.62	0.81	8.70	0.82	P
V14ME022	35		30	15	1.8	20	11	1.1	20	1	1	1	1	1	15.6	15.6	15.6	15.6	15.6	28	21.6	36.6	21.6	21.6	21.6	0.88	0.83	0.64	0.85	11
VIAMINIS	25		38	11		1.9	31	1 .	1.8	1	1	1	1	1	8.6	1.0	8.4	8.4	8.6	43	30.6	28.4	17.6	20.6	17.6	max.	0.65	0.52	0.41	17
VI ALEURA	1.1			1.77	1 11		1.00	1.0	1 11	1.	1.1	1.0	1.2							-			100	100	10.00		1000	10.00		杞
T DADALONE /	- 54	- 14	4.4	14	111	11	11	- 33	11	1	1	1	1	1	38	14	- 10	- 28	- 38	80	- 29 -	40	- 28 -	- 29	- 28	6.0	0.90	0.62	0.85	43
VERMEDRS.	22	12	38	1 17	1.11	28	117	112	24	1	1	1	1	1	12.6	12.6	12.6	12.6	12.4	- 43	25.6	87.6	35.6	25.6	25.6	6.75	0.65	0.78	0.75	13
V1-AMEDIA	11		30	11		30	22	8	20	1	1	1	1	1	14.2	14.2	34.2	34.7	34.2	71	77.2	85.2	25.2	27.2	28.2	0.61	0.80	0.68	0.80	Fi
VI-4MEDAS	1.22	11	23	1 12	1.11		1.11	1 11	1.04	1	1	1	1.		10.0	30.0	10.0	30.0	1.16.0	24	22.0		100.0	21.4	30.0	10.00	0.40	13.74	6.42	ţ,
Tableton	1.12	10	100	1	1 10	1 1	1 11			-	1	1		-	14.8	-		and the second		-	47.8		10.0	27.8		1.000		4.79	1.84	臣
T-ROTE STREET	11	10	41	1.11	1 10	1.11	1.11	1.10	1.11	1	1	1	1	1	14.2	34.2	14.1	14.1	24.2	71	101	37.2	35.3	27.1	35.3	0.83	0.05	0.74	9.80	μ
VIAMEDAV	11	11	- 34	11	1 12	24	17	11	24	1	1	1	1	1	14.2	34.3	34.7	54.7	34.7	71	87.3	39.2	27.2	27.3	37.3	0.00	0.89	0.00	0.80	ſ
VIAME012	17	1	10	1 12	1 7	1.0	1.22	1 7	1.0	1	1	1	1	1	15	25	15	25	25	76	24	25	29	24	29	0.62	0.00	0.68	0.82	fii
TANKING	1.12	10		1.44	1	1 11	1 10	1 14	1	1	1	1	121	1	10.4	100.0	10.4	100.0	100	100	10.4	20.0	100.0	10.1	30.4	0.00	0.00	0.00	10.00	f
TI DO LLOUD		10	-	H	1 24		111	10	1 11	1		1	1	1	15.4	13.4	13.4	15.4	15.4	11	38.4	20,4	16.4	25.4	26.4	10.84	0.07	9.78	1.84	μ
14441034	. 11.		30	11		. 38	1.11		1.80	1	1.1	1	1.1	1	3,0	38	10	10	10	30	11	11	38	22	38	D.45	0.70	12.58	0.65	P
(14ME937	12	13	21	1.12	1.11	1.18	11	1 II	38	1	1	1	I	1	11	12	11	12	32	- 90	26	34	34	25	34	6.78	0.42	0.21	0.34	fi
/1404E058	14	. 3		14			14	1 1	22				1.1	1	17.6	12.4	12.6	11.4	12.4	44	22.6	54.0	20.4	27.4	20.6	0.01	0.78	12.41	10.01	ti
A A A A A A A A A A A A A A A A A A A		-	-	1.5				1				-			14.10	34.0	10.0		14.0		47.4	-	20.0	11/1	20.9	10000	10.79	2.22		梧
14960033	14			11		11	11		11		1.1	1	1	1	- 13	3.0		13	38		- 28			- 24	13	5.78	11.00	1.68	9.76	12
14MED41	12	11	- 23	1.12	11	10	11	11	D	1	1	1	1	1	13.3	12.2	12.2	12.3	12.2	41	15.1	162	34.3	18.1	34.2	0.74	0.40	0.71	6.74	Ð
14MIDH3	11	7	2.5	1.11	1	28	11	2	18	1	1	1	1	1	2.6	7.6	7.8	7.8	TA		18.4	20.4	15.4	19.6	11.6	13.54	0.621	0.44	0.38	17
LANSING.			- 24	1 11	-	-	1.11		1.24		1.1			-						410	20.0	20.0	111	22.0		10.00	0.07	10.07		巳
C (LIPSON)	10	-		M			14			-						P.0	8.6				21.8	20.4	17.8	-21.0	17.0	10.04	0,07	0.54	2.44	43
14945070	11		30	132		10	11		. 30	1	1	1	1	1	4.4	6.8	8.8		11	44	31.4	29,4	37.8	13.4	37.8	0.64	0.68	6.53	0.84	ы
AME/072	111		17	11	4	17	11		17	1	1	1	1	1	12.8	13.8	13.8	13.8	11.4	44	25.8	11.0	21.6	25.8	30.8	0.76	0.72	0.41	0.75	1
1-4MERON	12		18	12	2	18	11	7	1.1.1			1	1	1	36.4	16.4	96.4	16.4	14.4	41	28.4	- 96.4	24.4	784	24.4	0.84	0.44	0.72	0.84	17
LAND VON	12	-	25	1.11	1	1 11		1		-	-	-			10.0	-		-	-		-	-		-		10.00	0.00	0.00	4.95	巳
The second second	14		10	- 14		- 11	14		- 11				1.1		11.1	11.7	11.1	182	10.2		14.2	35.3	11.3	28.2	111.	1.0.77	0.001	0.68	9.77	43
140458079	11		38	33		1.0	11		10	1	1	1	1	1	9.2	82	9.2	8.2	82	- 46	31.3	29.2	18.2	21.3	18.2	9.62	0.64	0.54	0.62	14
14MEERED	34	. 9	25	. 34		11	54		28	1	3	1	1	1	33.8	13.4	13.8	15.8	13.8	40	38.8	87.8	25.8	28.8	21.8	0.85	0.dm	0.70	0.85	1
AMERS2	18		18	15	1	18	15	1.1	1.8			1	11	1	12.4	12.4	12.4	124	12.4	41	38.4	21.4	16.4	24.4	16.4	0.64	0.71	0.48	0.84	17
COMPLEX.			-		1.11	1.11	1.00	1.1		-	-	-		-				10.0		-	-	24.0			-	-	0.74		-	长
a she was a second	14	- 14			1.44		1.0	1.14	- 24				1		31.4	10.2	11.4	M.C.	.414	- 14	24.2	Mr.d.	14.1	24.2	44.2	0.71	0.62	6.75	9.75	44
34040097	- 34		25	. 54		19	14		33	1	1	1	1	1	7.3	7.2	7.3	2.2	7.2	36	22.2	31.2	17.3	33.3	37.2	0.65	0,71	0.51	0.65	Р
14M00990	12		n	12		11	12		n	1	1	1	1	1	5.6	3.8	2.0	9.6	.9.8	48	33.6	31.6	39.8	11.6	29.8	0.68	0.72	0.58	0.86	
14ME091	34	10	34	14	10	24	14	10	24	1			1	1	13.6	13.6	12.8	12.6	12.6	-	38.0	54.6	24.4	78.0	34.8	12.84	11.00	6.22	0.64	17
LAMEORA	4.9	10.		4.0	100			10			-	-		-	10.0	10.0	10.0	10.0	10.0	-	10.0	24.4		100.0	34.4	0.00	0.00		0.05	ŧ:
Labor and	100	-	-	10	- 444		11	10		-	-		1		11.4	15.8	15.8	15.0	15.8	19	38.8	36.8	26.8	10.0	26.8	0.85	0.00	9.79	0.45	ŧł.
Levenaut	. 34	3	19	14	5	1.8	14	. 1	. 19	1	1	L	1	1	8.6	8.0	9.0	8.6		48	34.6	29.4	15.4	24.6	33.4	3,72	0.87	0.48	0.72	μ
14ME410	1.2		23	11		21	12		21	1	1	1.1	1	1	7.4	7.4	7.4	2.4	7.4	37	20.4	39.4	17.4	20.4	12.4	0.60	0.67	0.54	0.66	p
TAMERTI	1.2		12	12		21	12		75	1	1	1	1	1						40	21	30	18	21	28	0.67	0.00	12.53	0.63	F.
LANDALL .	-	10	-	-	14	1.00	14	10	100	-	-	-		-	-	-	-	-	-	-	45	-	-		10	1000	10.00	10.00	10.000	靜
10000000		18	10		10	10	1	18	- 18				1	4						18		75			- 24	0.11	0.57	0.71	11.0	μ
LeME414	12	1	38	17		10	11		30	1	1	1	1	1	3.4	3.4	TA.	7.4	7.4	37	30.4	28.4	35.4	20.4	36.4	0.03	0.45	6.48	0.60	p
15ME400	11		30	11		20	11		29	1	1	1	I	1	11.0	11.6	11.0	11.4	11.0	38	23.4	37.6	11.4	25.6	23.6	0.49	0.74	2.64	0.65	pi
12040407	12	12	34	13	7.8	24	+1	24	24		1	-	1							44	22.4	10.0	37.4	22.0	20.6	10.00	0.75	0.64	0.04	邗
1 Shell and	10	10	-			-	-		1	-		-		-	100			-	-	-	-			-	-	1.000	0.78	-	and and	f
CONTRACT OF	11	14	-24	H.	11	24	M.	14	34	A	1	1	1	1	10.2	10.2	10.3	30.3	16.2	54	23.2	14.2	.13.2	10.1	19.1	0.64	0.80	0.68	0.68	μ
15M8494	34	10	34	34	30	34	24	38	34	1	R.	1	1	1	13.3	13.2	13.2	13.2	13.2	68	28.2	16.2	24.2	38.3	24.3	0.88	0.47	6.71	0.89	P
17ME485	12	1	17	11	8	IT	12		17	1		1	1	1	76	7.4	2.4	2.6	7.4	34	21.6	25.6	15.0	20.4	33.6	0.65	0.54	6.40	0.65	Fi
SMEAN	10		22	14		12	14	-	100		1	1	1	1							10.1	84.1	12.1	10.7	17.2	0.00	0.71		0.04	ţ,
SHIE AND	10	-		-	-		1	-	-	-	-	-	-	-		-			-	-	-		11/18	44.4	30.4	10.00	wra.		1.44	靜
CONTRACTOR OF CONTRACT	34	14	28	u	12	24	11	12	24	1	1	1.		1	14,4	34.4	34.4	34.4	14.4	12	17.A	90.4	- 17 A	27,4	37.4	0.61	0.90	0.41	0.81	μ
ESMEA08	34	10	24	34	19	34	- 34	10	24	1	1	1	1	1	14.4	34.4	34.4	34.8	18.4	32	28.4	29.4	25.4	29.4	25.4	0.05	0.90	0.75	0.86	1
SMEans	3	32	34	2	22	34	2	22	24	1	1	1	2	1	10.8	30.4	10.8	30.8	30.8	54	13.8	35.0	23.0	13.8	33.6	0.41	0.01	0.99	0.45	F
SMEALL	12	12	24	12	45	24		110		1	1	1	1	-						10	22.4	14.4	177.4	22.4	22.0	10.00	0.00	0.04	644	靜
Chilling	-		-				-	-		-	-		100	-		-				-		-		66.4	10.0	1000	10.00	and the second		÷
TINTER	- 54	19	38	14	10	24	34	30	34	1	1	1	1	1	5.2	5.2	52	5.2	53	35	20.2	30.2	36.2	30.3	36.3	0.58	0.69	0,48	0.59	11
SME413	11	30	32	13	10	22	11	10	11	1	1	1	1	1	1.5	9.8	5.8	9.8	8.8	48	22.8	32.0	20.8	22.8	20.8	0.87	0.75	0.81	0.67	P
5ME415	34		10	34		73	14		12	2	1	1	2	2	15.4	16.4	16.4	16.4	28.4	82	32.4	10.4	25.4	21.4	26.4	10.00	0.92	0.78	0.92	Ti-
1045416	12	11	22	12	11	22	11	11	10	1		-	-		12.0	47.4	17.0	100.0	17.0	and in case	34.4	10.0	100.00	20.0	100.0	10.00	10.04		12.000	臣
Della	-		10-1	14	14		M	14	10		1	1	1	1	11.8	34.8	11.0	11.8	33.8	-	10.0	20.8	24.8	10.8	34.8	0.78	0.94	0,73	0.76	#
SWEAT .	11	11	10	14	11	23	11	- 11	.11	3	1	1	1.	1	10.2	38.2	30.2	30.2	30.2	. 54	312	14.2	32.2	35.2	32.2	0.88	0.78	3.45	D.M	11
3ME418	12	11	33	11	11	33	12	14	19	1	1	1	1	1	84	8.4	8.4	8.4	8.4	42	22.4	38.4	21.4	32.4	21.4	0.66	0.7%	0.68	0.66	1
SME431	17	13	25	12	13	25	12	11	15	1	1	1	1	1	12.2	15.2	15.2	18.7	18.2	70	28.2	42.2	22.2	18.7	28.2	0.82	0.04	10.00	0.00	P
TME 477	11	10	10	10	10	1	1	1	-	÷		-	-	-	100	10.1		10.0	100	11	20.0	10.0	100	100	100	1.000	0.00	and stated on	10.00	币
ALC: NO.	10-1-	11		.M.	10	- 11	11	10	- 45		1	1		1	9.4	8.4	8.4	9.6		47	11.4	33.4	23.4	23.4	284	10.68	0.71	0.00	0.63	41
3142423	11		20	12		30	12		20	1	1	1	T	1	4.4	4.8	4.8	4.0	4.6	28	37.4	25.6	13.4	17.4	33.6	0.52	0.58	0.40	0.53	Į.
5ME424	34	10	24	34	30	34	34	10	34	1	1	1	1	1	12.2	13.2	13.2	18.2	13.2	68	28.2	18.2	34.2	28.2	34.3	0.61	0.07	6.71	0.65	Ti
SMEAN!	12	1	10	10		11	11	-	22	1	-	-	-	1	and the second	-		-		100	24	100	110	100	7.0	10.00	0.00		0.44	臣
SLIP I'V			-	-	-	-	14	-			-	-	-	-	1	-	-	1	-		30	45	13	30	4.8	1.000	10.81	11.24	6,88	4
CONTRACT.	10		11	13		10	13		33	1	1	3	3	1	11.4	15.4	11.8	11.8	11.8	29	31.8	10.8	24.8	31.8	34.8	10.94	0.00	0.78	0.04	#
SME428	13		17	11		17	12	3	17	1	1	1	1	1	30.2	10.2	85.2	10.7	.65.2	51	23.2	29.2	. 16.2	33.3	36.3	0.64	0.44	0.48	90.0	F
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OF AVERAGE	77	77	77	77	TT	77	77	72	72	77		72	22	72	72	72	72	72	72	77	77	71	72	75	Sec. 17	22	77	72	77	T.
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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Venne Lamorate PRINCIPAL SIET., TUMAhorout



SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT	POWER PLANT ENGINEERING	SUBJECT CODE	10ME833
SUBJECT	POWER PLANT ENGINEERING	SUBJECT CODE	10ME833

COURSE OUTCOME

CO1	Know about the different energy sources and power generation.
CO2	Understand the concept of hydrology and details about the hydroelectric power plant.
CO3	Ability to analyze steam cycle and learn about different handling systems used in steam power generators.
CO4	Understand the environmental norms and standards in thermal power generation.
CO5	Learn about combined cycles for power generation and diesel engine power plants.

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- P011 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
 P012 Life least lea
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

Manuel mensel

PRINCIPAL SIET_TUMAKURU.

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Dept. of Mechanical S.I.E.T., TUMKUR -6

hans atte 5 PRINCIPAL SIET., TUMAKURU,

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SIRA ROAD, TUMKUR- 572 106.

DEPARTMENT OF MECHANICAL ENGINEERING

SUDIECT		1	
SUBJECT	FOUNDARY TECHNOLOGY	SUBJECT CODE	10ME944
			101112044

COURSE OUTCOME

CO1	Understand the conceptual knowledge of casting such as casting methods, pattern and pattern allowances.
CO2	Understand the concept of moulding, core making and comparison of different moulding and the
CO3	Understand the gating system and casting method to rise ring practices
CO4	Learn the casting defects their causes and remedies
CO5	Understand the conceptual and procedural knowledge to produce the economical and defect free castings

PROGRAM OUTCOMES

- PO1 Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems
- PO2 Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4 Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide
- .05 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities.
- PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- PO7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11 Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12 Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

PRINCIPAL SIET_TUMAKURU

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H.O.D Dept. of Mechanical S.I.E.T., TUMKUR -6

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Diversion Ja Ja <	15VI4MEED	12	33	3.8	34	21	0		24	33	13	34	1	1	1.2	17		1 10.0	14	-		14	- 14	70	27	-40	- 28	- 27	28	6.79	0.91	0.82	0.78	0.82	
Diversion Div Div <thdiv< th=""> Div <thdiv< th=""> <thdiv<< td=""><td>13VIAMENT</td><td>12</td><td>11</td><td></td><td>20</td><td>12</td><td></td><td>1</td><td>10</td><td>11</td><td></td><td>201</td><td>1</td><td>1</td><td>11</td><td>+ :</td><td>+ 1</td><td>10.0</td><td></td><td></td><td>15.4</td><td>15.4</td><td>15.4</td><td>. 77</td><td>27,4</td><td>45.4</td><td>29.4</td><td>27.4</td><td>29.4</td><td>DAS</td><td>0.90</td><td>0.86</td><td>0.00</td><td>0.86</td><td>1</td></thdiv<<></thdiv<></thdiv<>	13VIAMENT	12	11		20	12		1	10	11		201	1	1	11	+ :	+ 1	10.0			15.4	15.4	15.4	. 77	27,4	45.4	29.4	27.4	29.4	DAS	0.90	0.86	0.00	0.86	1
Diversion Di Di <thdi< th=""> Di Di <</thdi<>	ISV14MD02	20	23	40	22	12	10	1 1	18	17	10.1	24	-	1.1	1.2	+ 2	+ :	1 104	114	-	18.2	15.3	11.7	86	26.2	34.2	22.3	36.2	21.2	\$.77	0.76	0.45	6.77	1140	- C
UNIVERSIT 0 0 0	15VI4MEOC	11	29	8	20	15	1		10	14						+-		14.3	34.8	-	14.8	34.8	24.8	14	21.8	37.8	21.8	17.8	25.4	0.62	0.66	0.54	0.01	0.75	
UNIVERSIT D	ISVI-MM500	+	22	3	20	11	1.	+	-	-	-		-	1	1	1	1	12.4	12.8		12.4	.12.8	12.8	63	28.6	33.6	18.6	28.8	10.0	0.64	0.10	0.76	0.04	0.76	-
TUTYONERS 1	15V14M010	5	12	12	14	11	1	+	3+-	***				1	1	1	1	8.0	8.4	11	8.4	8.4	8.4	42	20.4	25.4	18.4	10.0	100	1.44		0.28	1.84	0.09	
TUTUELET <td>05W1450000</td> <td>15</td> <td>11</td> <td>01-</td> <td>-</td> <td>11</td> <td>- 24</td> <td>+ *</td> <td>-</td> <td>10</td> <td>14.1</td> <td>24</td> <td>4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>12</td> <td>12</td> <td></td> <td>11</td> <td>11</td> <td>12</td> <td></td> <td>14</td> <td>1 12</td> <td>100</td> <td>-</td> <td>10.0</td> <td>0.90</td> <td>6.87</td> <td>0.54</td> <td>9.90</td> <td>0.54</td> <td>-</td>	05W1450000	15	11	01-	-	11	- 24	+ *	-	10	14.1	24	4	1	1	1	1	12	12		11	11	12		14	1 12	100	-	10.0	0.90	6.87	0.54	9.90	0.54	-
TUTUELES D D D <thd< th=""></thd<>	LEVI AND	-		#+	-	м	11	13		12	13	24	1		1	1	1	14.7	34.2	1.11	14.2	14.0	14.2	21	100	1 11	10	B	- 25	8.74	0.84	0.74	0.74	0.74	-
Division	CONTRACTOR OF	-			28	н	11	1 3	4	17	32	24	8		1	1	1	11	11	-	11	11	24		41.5		17.1	111	37.2	D.AO	2.89	6.45	0.80	0.80	
Try Control 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	TEUT OLD	-	11	4	24	11	13	12		13	32	24	1	1	1	1	1	11.7	12.4	-	12.2	11.0		39	24		24	34	24	8.73	0.62	-0.71	0.71	8.71	
Diversion Li Li <thli< th=""> Li Li <</thli<>	TENT PARTY OF	-	11	11	25	11	13	1		11	13	25	3	1	1	Ti	17	124	1 111		7.0	14.4	11.1		111	31.3	25.3	25.1	25.2	8.74	0.85	0.74	0.74	8.74	
Difference Li 0 U 0 U 0 1 <th< td=""><td>CAN LAMEDA</td><td>7</td><td>11</td><td>17</td><td>34</td><td>12</td><td>11</td><td>1 2</td><td></td><td>12</td><td>12</td><td>34</td><td>1</td><td>1</td><td>1</td><td>11</td><td>1</td><td>1.11</td><td>11.4</td><td>-</td><td>1.4</td><td>17.8</td><td>17.0</td><td></td><td>80.8</td><td>41.6</td><td>31.6</td><td>30.4</td><td>11.4</td><td>0.90</td><td>0.99</td><td>0.89</td><td>0.90</td><td>11.95</td><td></td></th<>	CAN LAMEDA	7	11	17	34	12	11	1 2		12	12	34	1	1	1	11	1	1.11	11.4	-	1.4	17.8	17.0		80.8	41.6	31.6	30.4	11.4	0.90	0.99	0.89	0.90	11.95	
UNIVERSITY Di Di <thdi< th=""> Di Di <</thdi<>	LAW HAMERS	3	11	0	11	13	8	IB	1	12	0	12	1	1	1	t÷	1.2	1.11	15.6	-	8.6	13.4	12.8	18	10.0	41.4	28.6	38.4	28.0	0.84	0.92	0.84	0.84	11.64	10
UNIVERSITY 11	TAVIAMESS.	3	13	11	24	32	117	TR		11	11	10	-	-	-	11	1.1	8.6	14	-	1.4	8.8	8.8	49	23.8	21.8	10.8	22.8	10.4	8.47	0.42	0.85	1 0.00	10.00	1
UNVIAURON 10 10 10 10 10 100 <td>ESV14MERS</td> <td>4</td> <td>11</td> <td>11</td> <td>11</td> <td>11</td> <td>11</td> <td>1.0</td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>1</td> <td>1.</td> <td>1</td> <td>11.1</td> <td>28.2</td> <td>1</td> <td>3.2</td> <td>18.2</td> <td>13.3</td> <td></td> <td>36.2</td> <td>98.2</td> <td>36.3</td> <td>24.7</td> <td>36.3</td> <td>0.75</td> <td>0.00</td> <td>0.70</td> <td>1 4 11</td> <td>0.94</td> <td>1</td>	ESV14MERS	4	11	11	11	11	11	1.0		-	-	-	-	-	1	1.	1	11.1	28.2	1	3.2	18.2	13.3		36.2	98.2	36.3	24.7	36.3	0.75	0.00	0.70	1 4 11	0.94	1
TUVTURENTY LA PA A A PA A A PA A A PA A PA A PA A	HSVERMEOR	7	10	13	24	11	10			1		44		. 1	1	1.3	1	10.8	30.8	1	1.8	10.4	10.8	24	22.0	100.0	12.0	11.0	1.11.4	0.07	1.47	0.77	4.17	0.11	-
TEVTORENCY 11 15	INVIAMENTS.	-	14	-			- 10	+ *		24	11	20	1	. 8	1	1	1	37.7	12.2	1	2.2	12.2	U.I	#1	26.2	1 10.0	10.0	1 100	44.8	0.87	8.17	6.40	0,67	0.67	4
TUYLORDY 11 1	UNVIAND THE	0		-	<u>a</u> +	-		1.0		14		10	1	1	1	1.1	1 1	13.7	18.2	1	32	18.2	12.0	-	1 14.7	1 10.4		101	11.1	11.74	5.85	0.74	0.78	0.74	
TEVYLOPP 14 0 16 10 <t< td=""><td>15WILLING</td><td>-</td><td></td><td>-</td><td>-</td><td>11</td><td></td><td>1.3</td><td>1</td><td>12</td><td></td><td>30</td><td></td><td>1</td><td>1</td><td>1</td><td>1</td><td>3.8</td><td>1.8</td><td></td><td>13</td><td>12</td><td>11</td><td></td><td>1.00</td><td>1 11</td><td>10.1</td><td>18.3</td><td>ILI</td><td>0.89</td><td>6.83</td><td>0.68</td><td>0.83</td><td>0.48</td><td></td></t<>	15WILLING	-		-	-	11		1.3	1	12		30		1	1	1	1	3.8	1.8		13	12	11		1.00	1 11	10.1	18.3	ILI	0.89	6.83	0.68	0.83	0.48	
Text constraints 11 and 14 and 15 and 15 and 16 an	THUR AND INCOME.	-	14	1	B	11	11	1.21		11	11.	38	1	1		1	11	11.4	11.6	-			10		- 24	- 14	H.	24	- 11	8.75	0.77	6.40	6.76	8.40	1
UNVEXPONDE U U U U	13V14ME043	4	11	10	n	11	30	1 1	1	11	30	81	1	1	1	t÷	t÷.	11.4	1 11 1	-	10	11.8	71.4	58	24.6	11.4	23.6	24.8	25.4	6.32	0.01	6.69	0.73	0.48	1
Dividuality Di A B U A B U A B U A B U A B U A B U A B U A B D A B D A B D A B D A B D <t< td=""><td>18Y14MEMA</td><td></td><td>12 - 1</td><td>10</td><td>#1</td><td>12</td><td>30</td><td>1 11</td><td>1 1</td><td>0</td><td>38</td><td>11</td><td></td><td></td><td>-</td><td>÷</td><td>+ + + + + + + + + + + + + + + + + + + +</td><td>10.0</td><td>11.0</td><td>-</td><td>14</td><td>31.8</td><td>11.8</td><td>58</td><td>23.8</td><td>31.8</td><td>22.4</td><td>33.6</td><td>11.8</td><td>4.30</td><td>0.77</td><td>2.67</td><td>4.76</td><td>8.47</td><td>1</td></t<>	18Y14MEMA		12 - 1	10	#1	12	30	1 11	1 1	0	38	11			-	÷	+ + + + + + + + + + + + + + + + + + + +	10.0	11.0	-	14	31.8	11.8	58	23.8	31.8	22.4	33.6	11.8	4.30	0.77	2.67	4.76	8.47	1
Dividuality Di 0 0 0 0 Di Di 0 Di Di <th< td=""><td>15V1+ME070</td><td>9</td><td>12</td><td></td><td>20.</td><td>12</td><td></td><td>1.10</td><td></td><td></td><td>-</td><td>-</td><td></td><td></td><td>-</td><td>1.</td><td></td><td>1 44</td><td>- 44</td><td></td><td>1.0</td><td>8.8</td><td>4.8</td><td>- 44</td><td>21.8</td><td>31.8</td><td>35.8</td><td>21.8</td><td>19.4</td><td>12.64</td><td>0.72</td><td>3.54</td><td>0.04</td><td>0.24</td><td></td></th<>	15V1+ME070	9	12		20.	12		1.10			-	-			-	1.		1 44	- 44		1.0	8.8	4.8	- 44	21.8	31.8	35.8	21.8	19.4	12.64	0.72	3.54	0.04	0.24	
Dividuality 11 9 6 10	15V14MEE12		11		20	11		1 10			-	5+	-	-	-	1	1	11.4	11.4	1	1.4	11.4	11.4	.57	24.4	82.4	20.4	24.4	304	0.72	0.34	10.00		0.00	•
ITTYLE ITTYLE<	LSV14M0075		12		23	12	-	15	-	-	-	-	-	-		1.		14	8.8	1.01	MA	9.8	9.8	49	21.8	80.4	18.8	21.6	10.0	0.04	0.74	0.00	0.74	0.40	
USYLAMINE 10 <	ISV14ME078		12	1	-		-	+-2		-	-	8.4			1	1	1	34.8	14.8	1.1	4.8	34.8	38.8		27.8	16.8	24.4	22.0	1 100	0.00	0.79	0.58	0.84	6.5#	
TEVTOATES Die Die <thdie< th=""> Die <thdie< th=""> <thdie<< td=""><td>USV14ME079</td><td></td><td>11 1</td><td></td><td>-</td><td></td><td>-</td><td>1-2</td><td>-</td><td></td><td>-</td><td>n </td><td></td><td>1</td><td>1</td><td>14</td><td>1</td><td>11.4</td><td>11.4</td><td>1</td><td>1.4</td><td>11.4</td><td>11.4</td><td>6.0</td><td>14.4</td><td>11.4</td><td>21.0</td><td>24.4</td><td>-</td><td>11.004</td><td>0.84</td><td>0.79</td><td>0.82</td><td>0.78</td><td>4</td></thdie<<></thdie<></thdie<>	USV14ME079		11 1		-		-	1-2	-		-	n		1	1	14	1	11.4	11.4	1	1.4	11.4	11.4	6.0	14.4	11.4	21.0	24.4	-	11.004	0.84	0.79	0.82	0.78	4
TSVTARIAR T D	ISVIAMENED		-		5+		- 14	1.22	11		11	10	1		1	1	1	34.2	30.3	1	1.3	10.2	30.2		22.2		20.0	14.4	21.4	0.72	0.76	840	0.77	0.63	
TEVYLORUME 10 10 10 10 10 10 100 <td>TROUGHTERY.</td> <td></td> <td></td> <td>-</td> <td>-</td> <td>34</td> <td>10</td> <td>24</td> <td>1 3</td> <td>4</td> <td>10</td> <td>24</td> <td>A</td> <td>1.</td> <td>1</td> <td>. 8</td> <td>1</td> <td>34.4</td> <td>34.6</td> <td>1</td> <td>15</td> <td>14.4</td> <td>14.4</td> <td></td> <td>444</td> <td>1 111</td> <td>10.7</td> <td>22.2</td> <td>25.2</td> <td>0.65</td> <td>0.78</td> <td>0.68</td> <td>0.45</td> <td>0.68</td> <td>1</td>	TROUGHTERY.			-	-	34	10	24	1 3	4	10	24	A	1.	1	. 8	1	34.4	34.6	1	15	14.4	14.4		444	1 111	10.7	22.2	25.2	0.65	0.78	0.68	0.45	0.68	1
Display Display <t< td=""><td>TRUTANE AT</td><td></td><td>10</td><td>-</td><td>10</td><td>15</td><td>2</td><td>17</td><td>1</td><td>5</td><td>2</td><td>17</td><td>4</td><td>1</td><td>1</td><td>1</td><td>1</td><td>11.2</td><td>11.2</td><td>1</td><td></td><td>11.0</td><td>11.0</td><td></td><td>10.0</td><td>114</td><td>- 25.6</td><td>28.6</td><td>25.6</td><td>0.87</td><td>0.90</td><td>0.75</td><td>0.87</td><td>6.75</td><td>1</td></t<>	TRUTANE AT		10	-	10	15	2	17	1	5	2	17	4	1	1	1	1	11.2	11.2	1		11.0	11.0		10.0	114	- 25.6	28.6	25.6	0.87	0.90	0.75	0.87	6.75	1
TVTVENERSTP JA 4 M JA 5 M JA 5 M JA 6 JA 7 A JA 5 JA 1 A JA 7 JA 7 JA 7 JA 7 JA 7 JA 7 JA	Contraction of the local of the	-	8		10	11		20	1	7		80.		1	1	1	1	11	11	-	-	11.4	35.5		114	- 29.2	14.2	17.2	14.3	0.80	0.440	0.42	0.80	0.43	1
Division Di Di <thdi< th=""> Di Di <t< td=""><td>TBY24MEDIES</td><td></td><td>14 4</td><td></td><td>H .</td><td>14</td><td></td><td>38</td><td>1</td><td>4</td><td>8 1</td><td>18</td><td>1</td><td>1</td><td></td><td>1</td><td>1</td><td>11.5</td><td>11.1</td><td>-</td><td>-</td><td>11</td><td>-11</td><td></td><td>24</td><td>82</td><td>20</td><td>34</td><td>20</td><td>0.71</td><td>8.79</td><td>0.59</td><td>0.71</td><td>0.58</td><td>1</td></t<></thdi<>	TBY24MEDIES		14 4		H .	14		38	1	4	8 1	18	1	1		1	1	11.5	11.1	-	-	11	-11		24	82	20	34	20	0.71	8.79	0.59	0.71	0.58	1
UNVERSION 16 0 10 <	TRATING NO	1	1 1	1	n i	12	10	- 21	1.1	2 1	18	25	1	1			1	10.0	10.0		4	11.3	11.1		24.2	80.2	38.2	76.2	36.2	8.77	0.65	12.48	0.77	0.48	1
Distribution Ui Ui Di Di <thdi< th=""> Di Di</thdi<>	15VI+MERSI	1	4 9		0	14		10	1 M			10	1	1	-	-	-		10.3		1	30.3	30.3		11.1	14.3	14.3	22.2	34.3	0.68	8.62	8.71	0.64	0.71	1
UNIMARY I </td <td>15V14ME054</td> <td>1</td> <td>1 1</td> <td></td> <td>• T</td> <td>H</td> <td>1.0</td> <td>25</td> <td></td> <td>21.</td> <td></td> <td>-</td> <td>1</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>n</td> <td>11</td> <td>1</td> <td>1</td> <td>11</td> <td>11</td> <td>88</td> <td>24</td> <td></td> <td>21</td> <td>34</td> <td>21</td> <td>0.78</td> <td>8.80</td> <td>11.00</td> <td>0.00</td> <td>0.45</td> <td>1</td>	15V14ME054	1	1 1		• T	H	1.0	25		21.		-	1	-	-	-		n	11	1	1	11	11	88	24		21	34	21	0.78	8.80	11.00	0.00	0.45	1
USYMAND UI UIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	ESV34ME4III	1	4 1			24	7	21	1		1	-	-		-		-	10	18	1	2	38	13	71	14	41	20	28	29	11.00	10.00	0.00			1
UNVLAND 11 12 12 12 12 13 14	LEVI4ME43		1 1			11	12	-	1.0					++			1	15.8	23.8	13		11.8	11.0	89	36.8	25.4	21.4	28.8	71.0	6.00	11.01	0.00	-	0.05	1
STVIANDARY 1 1 1 3 3 3 3 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 4 3 4 4 3 4	INVERSE		2 1 1	1	7	17		1.0	1		4		1	1	1	1	-	14.2	34.3	24	3	34.2	14.2	71	27.2	34.2	24.2	39.2	10.0	1.00	0.41	1.04	0.45	0.64	1
SPV1ARE(14) - <th< td=""><td>INVIANE APT</td><td>1</td><td></td><td></td><td>-</td><td></td><td>-</td><td>- 10</td><td>- 11</td><td>4</td><td>2 3</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>8.2</td><td>8.2</td><td></td><td>3</td><td>22</td><td>8.2</td><td>.44</td><td>29.1</td><td>79.9</td><td>1 10.0</td><td>87.4</td><td>10.5</td><td>1.00</td><td>0.47</td><td>8.37</td><td>3.83</td><td>0.77</td><td>-</td></th<>	INVIANE APT	1			-		-	- 10	- 11	4	2 3	1	1	1	1	1	1	8.2	8.2		3	22	8.2	.44	29.1	79.9	1 10.0	87.4	10.5	1.00	0.47	8.37	3.83	0.77	-
TOPY TORNEY II III IIII IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	IS VID OF THE			+	-	4	17	- 11	1.1	13	8 3	11	1	1	1	1	3	35.3	30.7	10	12	10.2	10.3		10.0	87.8	154	44.4	18.7	0.68	24.0	0.45	0.45	0.45	De
TOPY 13 14 13 14 13 14 1	TROUGHLAND	-		-	-	12	ш	25	11	1	1 1	0	1		1	1	1	11.4	31.4	1 11	4	11.4	11.4	47	10.0	11.1	100	12.2	11.3	5.84	0.78	8.82	0.36	0.40	0
1/2 1/2 <td>ISUSSEE IN</td> <td>+ -</td> <td>11</td> <td>4.3</td> <td></td> <td>D</td> <td>11</td> <td>33</td> <td>II</td> <td>1</td> <td>1 1</td> <td>u l</td> <td>4</td> <td>1</td> <td>1</td> <td>1</td> <td></td> <td>104</td> <td>30.4</td> <td>1 10</td> <td></td> <td>10.4</td> <td>10.0</td> <td>44</td> <td>-</td> <td>15.4</td> <td>11.4</td> <td>26.4</td> <td>23.4</td> <td>0.72</td> <td>6.80</td> <td>0.88</td> <td>8.72</td> <td>12.68</td> <td>5.</td>	ISUSSEE IN	+ -	11	4.3		D	11	33	II	1	1 1	u l	4	1	1	1		104	30.4	1 10		10.4	10.0	44	-	15.4	11.4	26.4	23.4	0.72	6.80	0.88	8.72	12.68	5.
Control 11 11 18 11 18 11 18 11 10 11 <t< td=""><td>THURSDAY STREET</td><td>1 1</td><td>1 9</td><td>1</td><td></td><td>u I</td><td></td><td>21</td><td>12</td><td></td><td>1 1</td><td></td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>12.4</td><td>22.4</td><td>1 10</td><td></td><td></td><td>10.0</td><td>1.0</td><td>32.6</td><td>444</td><td>11.4</td><td>22.6</td><td>72,8</td><td>0.46</td><td>0.78</td><td>0.66</td><td>0.66</td><td>2.68</td><td></td></t<>	THURSDAY STREET	1 1	1 9	1		u I		21	12		1 1		1	1	1	1	1	12.4	22.4	1 10			10.0	1.0	32.6	444	11.4	22.6	72,8	0.46	0.78	0.66	0.66	2.68	
SYLMANCH 54 54 54 54 54 54 54 54 54 54 54 54 54 54 54 54 54 54 55 57 53 13 <	TRATES MEANS	1 1	1 11	1 2		CI I	11	.83	17	1	1 1	1	1	1	1	1	-	10		- 11	-	-1.4	53.4	6.7	26.4	81.4	21.4	26.4	21.4	0.78	0.80	0.69	0.78	0.48	
SYLYMEAU 12 19 10 11 10 <	12 VI.5ME404	34	1 1	2		4		11	34		1		1	1	-		-	10	-	1 31		13	13	#5	26	87	25	34.	25	0.76	0.84	0.74	0.76	12.74	
3NY19M6449 18 8 21 14 8 22 14 15 15 10 10 10 10 10 20 28 28 14 23 14 6.68 6.64 6.68 6.64 6.66 6.64 6.66 6.64 6.66 6.64 6.66 6.64 6.66 6.64 6.64 6.64 6.64 6.64 6.64 6.64 6.64	15Y15ME403	11	1 1	H	1	12		15	1 12		1	1	1	÷		-	-	15.0	13.0	11		15.6	13.6	68	36.6	37.6	29.6	38.6	23.4	0.84	0.85	0.68	2.84	1.40	1
AVESIMENT 12 13 28 13 28 13 28 13 13 14 13 14 13 14 14 14 14 14 14 15 16 16 16 16 16 13 14 13 14	USV13ME406	14		1		4		22	1 14			-		÷+		-	-	- 10	m	1 10		10	10	50	. 59	26	14	29	14	0.68	0.50	0.42	2.00	0.41	1
3V1:MERCENT 34 6 35 67 35 67 3 5 3 1 34.4 15.8 15.8 15.4 15.4 15.8 16.8 16.8 16.8	SVISME407	1 11	1 58	TP		2	18	24	1 10		1	-	-		1	-	1	_11	11	10		11	2.3	55	36	34	30	24	20	0.74	0.74	0.54		0.41	
DV15ME2400 1: <td>INVISIAL COM</td> <td>1 1</td> <td>1 1</td> <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>1 10</td> <td>+</td> <td>4</td> <td>-</td> <td>4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>36.8</td> <td>16.8</td> <td>16.</td> <td></td> <td>16.8</td> <td>16.0</td> <td>84</td> <td>29.0</td> <td>42.0</td> <td>87.0</td> <td>10.0</td> <td>10.0</td> <td>0.00</td> <td>0.07</td> <td>0.08</td> <td>- 2/3</td> <td>5.5#</td> <td></td>	INVISIAL COM	1 1	1 1			-	-	-	1 10	+	4	-	4	1	1	1	1	36.8	16.8	16.		16.8	16.0	84	29.0	42.0	87.0	10.0	10.0	0.00	0.07	0.08	- 2/3	5.5#	
SVTPMIERTI I	SVI SHEAVE		1 10	1 2	-	-	-	-	1 24	+	1	-		E.	1	1	1	12.8	12.8	11		12.8	12.4	-	77.4	20.0	11.4	-	-		1.97		0.88	0.01	
SVTISMELT In In <td>SVI20011</td> <td>1.0</td> <td>1</td> <td>1.0</td> <td>-</td> <td></td> <td></td> <td>40</td> <td>1</td> <td>1 11</td> <td>1 2</td> <td></td> <td>1</td> <td>1.1</td> <td>1</td> <td>1</td> <td>1</td> <td>14.2</td> <td>14.3</td> <td>34</td> <td>2</td> <td>14.2</td> <td>14.7</td> <td>10</td> <td>17.1</td> <td>10.0</td> <td>11.4</td> <td>21.8</td> <td>32.8</td> <td>G.KJ</td> <td>0.01</td> <td>3.64</td> <td>0.82</td> <td>0.64</td> <td></td>	SVI20011	1.0	1	1.0	-			40	1	1 11	1 2		1	1.1	1	1	1	14.2	14.3	34	2	14.2	14.7	10	17.1	10.0	11.4	21.8	32.8	G.KJ	0.01	3.64	0.82	0.64	
III. IIII. III. III. <thiii.< th=""> III. III. <th< td=""><td>SVIII AUTON</td><td>1 11</td><td>11</td><td>- 24</td><td>-</td><td>4</td><td>H I</td><td>24</td><td>132</td><td>1</td><td>1 1</td><td></td><td>4</td><td>1</td><td>1</td><td>1</td><td>1</td><td>11.4</td><td>11.4</td><td>111</td><td></td><td>11.4</td><td>11.4</td><td></td><td>14.4</td><td>10.4</td><td>33.2</td><td>10.3</td><td>10.1</td><td>0.54</td><td>0.80</td><td>0.94</td><td>0.51</td><td>51.58</td><td></td></th<></thiii.<>	SVIII AUTON	1 11	11	- 24	-	4	H I	24	132	1	1 1		4	1	1	1	1	11.4	11.4	111		11.4	11.4		14.4	10.4	33.2	10.3	10.1	0.54	0.80	0.94	0.51	51.58	
Alternation 13 12 12 13 12 1	CONTRACTOR OF THE	1 14	1	1.11	1	4		22	54	1	2	2	1	1	1	1	1	12.0	114	1 12		12.4	10.0	-	24.4	36.4	34.4	34.4	28.4	0.72	0.81	0.72	0.73	0.72	
International D MA Use Delt Delt <td>COLUMN ALS</td> <td>11</td> <td></td> <td></td> <td>1</td> <td>2</td> <td></td> <td>30</td> <td>12</td> <td></td> <td>1</td> <td></td> <td>1</td> <td>1</td> <td>1</td> <td>11</td> <td>1</td> <td>10</td> <td>12</td> <td>14</td> <td>-</td> <td></td> <td>12.6</td> <td>63</td> <td>27.6</td> <td>35.4</td> <td>21.6</td> <td>17.6</td> <td>31.6</td> <td>0.81</td> <td>2.81</td> <td>0.64</td> <td>0.83</td> <td>0.64</td> <td></td>	COLUMN ALS	11			1	2		30	12		1		1	1	1	11	1	10	12	14	-		12.6	63	27.6	35.4	21.6	17.6	31.6	0.81	2.81	0.64	0.83	0.64	
NV1/MER416 12 14 12 24 12 24 12 24 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	34	190	34	1	4	10	34	1.14	10	2 24	1	1	1	1	-	-	14.1	10	1 11	-	-0	11	63	36	34	21	38	22	0.76	6.77	0.45	0.76	0.45	-
NVISMURAIT 12 8 12 8 12 8 12 8 12 8 12 8 12 8 12 8 12 8 12 8 12 8 12 13 13 1 13 1 13 1 13 14 <td>SV13ME415</td> <td>37</td> <td>10</td> <td>34</td> <td>1</td> <td>1 1</td> <td>11</td> <td>24</td> <td>112</td> <td>11</td> <td></td> <td></td> <td>-</td> <td>-</td> <td>*</td> <td>44</td> <td>-</td> <td>24.8</td> <td>34.8</td> <td>10,</td> <td></td> <td>24.8</td> <td>14.8</td> <td>34</td> <td>29.8</td> <td>33.8</td> <td>25.8</td> <td>28.6</td> <td>25.4</td> <td>6.86</td> <td>0.80</td> <td>0.76</td> <td>0.88</td> <td>13.74</td> <td>F</td>	SV13ME415	37	10	34	1	1 1	11	24	112	11			-	-	*	44	-	24.8	34.8	10,		24.8	14.8	34	29.8	33.8	25.8	28.6	25.4	6.86	0.80	0.76	0.88	13.74	F
SVITSHELATIE Lil Lil <thlil< th=""> Lil <thlil< th=""> <thlil< th=""> <thl< td=""><td>SVISMEAT?</td><td>1.2</td><td></td><td>n</td><td>1</td><td>2</td><td></td><td>11</td><td>11</td><td>1.</td><td>1</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td>-</td><td>11.4</td><td>13.4</td><td>13.</td><td></td><td>13.4</td><td>13.4</td><td>67</td><td>26.4</td><td>86.4</td><td>26.4</td><td>38.4</td><td>26.4</td><td>6.74</td><td>0.67</td><td>0.75</td><td>-</td><td>0.75</td><td></td></thl<></thlil<></thlil<></thlil<>	SVISMEAT?	1.2		n	1	2		11	11	1.	1	-	-	-			-	11.4	13.4	13.		13.4	13.4	67	26.4	86.4	26.4	38.4	26.4	6.74	0.67	0.75	-	0.75	
SVIJMERZII 11 12 0.77 0.78 <th< td=""><td>SVI1941418</td><td>1 11</td><td>10</td><td>20</td><td></td><td>1</td><td>10</td><td>10</td><td>1.1</td><td>1.0</td><td>1</td><td>-</td><td>-</td><td>-</td><td>1</td><td>24</td><td></td><td>34</td><td>- 24</td><td>34</td><td></td><td>34</td><td>14</td><td>70</td><td>17</td><td>- 100</td><td>24</td><td>24</td><td>24</td><td>4.30</td><td>0.87</td><td>0.00</td><td>-</td><td></td><td></td></th<>	SVI1941418	1 11	10	20		1	10	10	1.1	1.0	1	-	-	-	1	24		34	- 24	34		34	14	70	17	- 100	24	24	24	4.30	0.87	0.00	-		
WUISHING22 11 6 20 40 <td>SVIIIMEATS</td> <td>117</td> <td>1 11</td> <td>1</td> <td>1</td> <td></td> <td>-</td> <td>-</td> <td>- 14</td> <td>1.0</td> <td>1</td> <td>-</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>11.7</td> <td>11.7</td> <td>38.3</td> <td>1</td> <td>11.2</td> <td>11.7</td> <td>54</td> <td>24.1</td> <td>14.2</td> <td>37.4</td> <td>74.7</td> <td>11.5</td> <td>0.76</td> <td>0.84</td> <td>0.71</td> <td>9.79</td> <td>0.71</td> <td></td>	SVIIIMEATS	117	1 11	1	1		-	-	- 14	1.0	1	-	1	1	1	1	1	11.7	11.7	38.3	1	11.2	11.7	54	24.1	14.2	37.4	74.7	11.5	0.76	0.84	0.71	9.79	0.71	
SVISME(22) 12 6 28 13 1 <	SVIIMEATZ	1.10	1 1	12	+	4	-	-	41	110		-	1	1	1	F	1	13.6	13.4	18.0		13.4	12.0	-	16.4	10.0	22.0	14.1	38.4	4.74	0.78	0.65	8.71	0.45	-
VVTSME4218 14 15 4 18 13 1 1 3 2 8.2	SVI SMEATS	1 10	11	-	1	-	-		11	1.	1 20	1	1	1	1	1	1	9.8	14			24	84	44	11.4	10.0		20.0	37.8	0.78	0.90	0.45	0.78	0.01	
10 10 14 15 14 10 14<	CUT SUPPORT	1.1	1.	- 28	1.5	4		1.0	. 11		1.0		1	1	1	1	2	82	82		-	83	43		41.8	30.8	10.0	- ELA	18.8	0.54	0.70	6.58	0.84	0.58	
NUTSMERGY 11 5 37 12 5 17 12 5 17 12 5 17 12 5 17 12 5 17 13 13	Contraction of the	1 34	10	34	P	4.1	1	24	34	10	34	1	4		1	1	1	14.7	24.2	14.0				-	m	28.2	36.1	n.	14.2	0.45	6.64	11.48	0.68	0.48	A
NY 15 MARGA27 15 3 15 3 18 15 3 18 15 3 18 15 3 18 15 3 18 15 3 18 15 3 18 15 3 18 11 1 1 1 14 34 14 21.4 28.0 18.8 21.4 18.8 0.04 0.0<	17111423	11	1.5	17	H		8	17	13	1	12		1		1	11	1			14.3	-		14.1	71	28.2	34.2	16.1	29.2	11.1	0.86	6.88	0.74	0.88	0.74	1
VV15MER428 12 11 12 13 13 13 13 14 34 19 18 30 18 30 18 30 18 30 18 30 13 <td>SV13ME427</td> <td>15</td> <td>1.3</td> <td>1.0</td> <td>1 11</td> <td></td> <td></td> <td>38</td> <td>13</td> <td>1.</td> <td>11</td> <td>-</td> <td>1</td> <td>-</td> <td>-</td> <td>4 </td> <td>-</td> <td>-</td> <td></td> <td></td> <td></td> <td>4.8</td> <td>8.8</td> <td>44</td> <td>21.8</td> <td>26.8</td> <td>34.8</td> <td>21.8</td> <td>14.8</td> <td>0.64</td> <td>6.61</td> <td>0.44</td> <td>0.04</td> <td>Det</td> <td>1</td>	SV13ME427	15	1.3	1.0	1 11			38	13	1.	11	-	1	-	-	4 	-	-				4.8	8.8	44	21.8	26.8	34.8	21.8	14.8	0.64	6.61	0.44	0.04	Det	1
VIISHEA29 14 1 15 14 1 15 14 1 15 14 1 15 14 15 14 15	SV15ME428	12	31	11	1 II	1	4	11	11	1 44	1 10	-		-		44	44	14	34	34	-	34	34	YO.	80	30	18	30	10	2.88	0.75	0.52	0.00	6.54	1.1
VISMEAD 11 4 13 14	SVESME429	34	1	15	1 14			11	14	17	1 1	-		-	4	4	1	11.1	11.1	12.2	1	141	12.3	41	25.2	26.2	34.2	25.2	34.2	6.34	0.87	0.77	0.12	4.75	
WTFMERATI 11 1 <th1< th=""> 1 1 1</th1<>	WISHEADO	1 11	1	- 11	15	+	-		-	11	11	-		-	1	1	1	33.3	11.3	11.7	1	11.2	15.2	54	26.2	17.1	19.1	20.0	11.1	0.11	0.81	0.71	0.34	0.71	
TOTAL FIL FIL </td <td>SVIII GUT</td> <td>1.11</td> <td>11</td> <td>-</td> <td>- 11</td> <td>+</td> <td>-</td> <td></td> <td>11</td> <td>1 4</td> <td>10</td> <td>_</td> <td>1 1</td> <td></td> <td>1</td> <td>1</td> <td>1</td> <td>81.4</td> <td>11.4</td> <td>11.4</td> <td></td> <td>12.4</td> <td>11.4</td> <td>41</td> <td>11.4</td> <td>22.4</td> <td>464</td> <td>104</td> <td>18.3</td> <td>977</td> <td>0.44</td> <td>0.28</td> <td>6.37</td> <td>0.39</td> <td></td>	SVIII GUT	1.11	11	-	- 11	+	-		11	1 4	10	_	1 1		1	1	1	81.4	11.4	11.4		12.4	11.4	41	11.4	22.4	464	104	18.3	977	0.44	0.28	6.37	0.39	
DC# ANERAGE 17 77 77 77 77 77 77 77 77 77 77 77 77	TOTAL	100	100	-	1.8	1	1	m	12	1.0	10	1			1	1	1	12.2	33.2	12.2		11.2	12.2	41	20.0	21.4	18.4	25.4	18.4	0.69	0.02	0.48	2.89	0.48	
ANTRAGIO 38.27 11.0 25.301 14.	ALL	112	172	14.M	1.81	4 19	1 1	1.54	962	721	363	1 7	7 6	1 1	17	n	77	817	1011	-	-	10	844		11.1	88.2	21.3	15.2	21.7	0.76	0.75	9.62	6.74	0.42	
1847 113 15501 143 1137 2550 1437 11.3 25301 12 13 13 13 14400 144000 144000 144000 14000 11 11 11 11 11 11 11 11 11 11 11 11	ALTRACE	11	m	11	177	1 8	2	17	17	1 77	11	1 2	7	17	77 1	11	11	77	77	11	-	10		-613	1962	14	1730	1952	1720	56.24	50.84	96.58	56.34	50.5#	
	ALC: NOTE THAT IS NOT	1 14(2)	111.1	12.21	1.14	111.	27 2	5.59	34.25	11.2	25.51	1 1	2 1	10	2 1 1	2	1.2	14.400	Manual I	34 400	-	ADALLAR CO.	11	11	11	-	. 77	11	77	77	77	77	77	17	

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H.O.D Dept. of Mechani S.I.E.T., TUMKUR

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