

COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by
NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956,
Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada
Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

#### DEPARTMENT OF S&H TEACHING PLAN

Code Differenti		Course Title		Branches	Contac t Period s/Wee ks	Academic Year	comn	ate of nencement semester	
		ial Equat tor Calcu		B.Tech / Common to All Branches	73/16	2024-25	20-01-2025		
	SE OUTCOMES and of the course, the	ne student	will be able to				6.25	W.	
	D1: Solve the diff	St. Harrier		l to verious en	aineerina	fields (K3	· ·		
2 C	D2: Identify solocesses.(K2)					49		physica	
3 CC di	O3: Interpret the vergence.(K2)	1.		200		a d			
4 CO	OutComes / Bloom'sLevel	work don Topics No.	re against a field	1 1 1150	T	ing vector of ext Book/ Reference	Contact Hour	Deliver	
	-11	Mark Village	Differential	Equations of			egree		
	49"	1.1	Introduction- D of first order an	그 아니아 () [1] 아이트 () [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	tions	T1& R1	1		
		1.2	Separation of V	ariables	No. of the	T1& R1	1		
			Solutions of Lin	ear differential	3- 72-4	T1& R1	1		
	GO1 mi	1.3	Practice probler	ns	7-1-2	T1& R1	1		
	CO1: The		Practice probler	ns	- CA	T1& R1	1		
	student will be	ERD	Solutions of Ber	moulli's equation	ons	T1& R1	1	Chalk &	
	able to solve the differential	1.4	Practice probler	ns	12.65	T1& R1	1		
I	equations	P' 2	Practice problem	Section of the property of the		T1& R1	1	Active	
100	related to	1.5		Solutions of Exact equations		T1& R1	1		
	various	1.3	Practice problem			T1& R1	1	Learning	
	engineering fields (K3)	1.6	Solutions of equexact forms.	ation s reducib	le to	T1& R1	1	PPT & Tutorial	
			Practice problem	ns		T1& R1	1		
			Practice problem			T1& R1	1	Art Just	
			Practice problem			T1& R1	1		
		1.7	Newton's Law	of cooling	6	T1& R1	1		
	and the Care of								
	and the second	1.8	Law of natural	growth and de	ecay	T1& R1	1		
		1.8	Law of natural Electrical circu			T1& R1 T1& R1	1		



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		Lir	ica	r differential equations of higher o	rder (Consta	nt Coe	fficients)	
		2.1	li e c	Definitions and Solution of nomogeneous and non-homogeneous equations of higher order with constant coefficients	ntion of T1& R1 non-homogeneous order with			
				Practice problems	T1& R1	1	1	
			F	Practice problems	T1& R1	1		
		2.2	P	P.l.of $f(D)y=e^{ax}$	T1& R1	1		
	Service State Stat	2.2	P	Practice problems	T1& R1	1	-	
	CO1: The student	2.3	P	P.I.of f(D)y= sin ax orcosax	T1& R1	1	Chalk &	
	will be able to	2.3		Practice problems	T1& R1	1	Talk,	
	solve the differential	2.4	P	P.I.of $f(D)y = polynomials in x^n$	T1& R1	1	Active	
II	equations related	2.4	P	Practice problems	T1& R1	1	Learning	
	to various engineering fields		1	P.I.of $f(D)y = e^{ax}v(x)$ and $f(D)y = x^kv(x)$	T1& R1	1	PPT	
	(K3)	2.5	P	Practice problems	T1& R1	1	& Tutorial	
			P	Practice problems	T1& R1	1	Tutoriai	
		2.6	N	Method of Variation of parameters.	T1& R1	(0.0	1	
				Practice problems	T1& R1	1	1	
			P	Practice problems T1& R1		1	-	
		2.7	S	solutions of Simultaneous linear quations	T1& R1	1	W.	
			P	Practice problems	T1& R1	1		
		2.8	L-C-R Circuit problems		T1& R1	1		
		2.0	P	ractice problems	T1& R1	1		
		1			Total	30 -	19	
				Partial Differential	Equations	1		
		3	.1	Formation of Partial Differential Equations by elimination of arbitrary constants	T1& R1	71		
			5.6	Practice problems	T1& R1	1	Chalk &	
III	CO2: The student will be able to identify solution methods for partial	be able to ify solution ods for partial 3.2		Formation of Partial Differential Equations by elimination of arbitrary functions	T1& R1	1	Talk, Active Learning	
	differential			Practice problems	T1& R1	1	PPT	
		odel physical		Solutions of first order linear equations using Lagrange's method by method of Grouping	T1& R1	1	& Tutorial	
				Practice problems	T1& R1	1		
		3	.4	Solutions of first order linear equations using Lagrange's	T1& R1	1		



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			method by method of multipliers			
		3	Practice problems  Solutions of Homogeneous Linear Partial differential equations with constant coefficients.	T1& R1 T1& R1	1	
			Practice problems	T1& R1	1	1
	TOTAL ST. IN	11/2	Practice problems	T1& R1	1	
		CI	Non-linear Partial Differential Equations	T1& R1 T1& R1	1	
		_		Total		13
	1 - 30		Vector Differen			417
		4.1	Scalar and Vector point functions and vector operator Del	T1& R1	1	
			Practice Problems	T1& R1	- 1	7.40
IV	CO3: The student will be able to interpret the physical meaning of different operators such as gradient, curl and divergence.	1 4 2	Del applies to scalar point	T1& R1	1	
		1	Practice Problems	T1& R1	1	Chalk &
		43	Directional derivative	T1& R1	1	Talk,
			Practice Problems	T1& R1	1	Active
			Del applied to vector point	T1& R1	1	Learning PPT
			practice problems	T1& R1	1	& Tutorial
		4.5	Del applied to vector point functions- Curl-Irrotational and Scalar Potential Function	T1& R1	1	Tutona
- 36	dats.		practice problems	T1& R1	1	
	v. //= 22	4.6	vector identities- Properties	T1& R1	1	
1	112	4.0		T1& R1	1	
277	a contract of			Total		12
			Vector Integra	ition	. 5	Y
CO4: The will be a		5.1	Line intetegral-circulation-work done, Surface integral	T1& R1	1	Chalk &
	estimate the work done against a field,	3.1	practice problems	T1& R1	1	Talk,
circ				T1& R1	1	Active
	circulation and flux using vector	5.2	Green's theorem in the plane (without proof)	T1& R1	1	Learning PPT
	calculus.	5.2	practice problems	T1& R1	-1	8
-	T. Willet, I.			T1& R1	1	Tutorial
	686	5.3	Stokes's theorem (without proof)	T1& R1	1	



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	E.		practice problems	T1& R1	1		
				T1& R1	1		
			Divergence theore(without proof)	T1& R1	1		
		5.4	practice problems	T1& R1	1		
	3 1			T1& R1	1		
	N			Total		12	
T . D			CUMULATIVE PROPOSE	D PERIODS		73	
Text B							
S.No.	AUTHORS, BOOK TIT	LE, I	EDITION, PUBLISHER, YEAR OF PUB	LICATION			
1	T1: B. S. Grewal, Higher Engineering Mathematics, 44th Edition, Khanna Publishers, 2017						
Refere	ence Books:					-10, =017	
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION						
1	R1: Erwin Kreyszig, Advanced Engineering Mathematics, 10 <sup>th</sup> Edition, John Wiley &2018.						
Web D	Petails		Edition , .	onn whey &201	δ.		
1	https://youtu.be/6r5jfT8xr2	XM?	si=YaGI4d-xFZnOvFrW				
2	https://theengineeringmath	s.cor	n/wp-content/uploads/2017/11/chapter11dif	f an alf			
_			m/wp-content/uploads/2016/02/Partial-differ	1-eq.pa1	N.		
3	https://theengineeringmath	is.cor	11/ WD*COMCHI/HDIOXGS//HTN/H//Partial Aitta-	ontin aquations	10		
	https://theengineeringmath https://youtu.be/FfJtVvQtq	TM?	esi=i52YhHk0nIDfJsBi	ential-equations.p	odf		

S.No.		Name	Signature with Date
i.	Faculty I	P. V. NARAYANA	P.Y. Nazayen
ii.	Faculty II	V V S MADHAVACHARYULU	weedvaces
iii.	Faculty III	P.VENKATA RAO	Pucon
iv.	Faculty IV	D. SAILAJA KUMARI	Ab _
v.	Faculty V	P.SIRISHA	0
vi.	Faculty VI	P.ESTER RANI	<u>a</u>
vii.	Faculty VII	G.MADHAVI	dA.
viii.	Faculty VIII	P.JNANA PRASUNA	***
ix.	Faculty IX	3 1 25	1 73
x.	Course Coordinator	D. SAILAJA KUMARI	8 -
xi.	Module Coordinator	P. V. NARAYANA	12.V. Naraya
xii.	HOD	Dr. SWAMINADHAM	Who is

Principal