



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B.Tech. : Electronics & Communication Engineering 2nd Year - III Semester

THEORY											
SN	Categ ory	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	BSC	3EC2-01	Advanced Engineering Mathematics-I	3	0	0	3	30	120	150	3
2	HSMC	3EC1-02/ 3EC1-03	Technical Communication/Managerial Economics and Financial Accounting	2	0	0	2	20	80	100	2
3	PCC	3EC4-04	Digital System Design	3	0	0	3	30	120	150	3
4		3EC4-05	Signal & Systems	3	0	0	3	30	120	150	3
5		3EC4-06	Network Theory	3	1	0	3	40	160	200	4
6		3EC4-07	Electronics Devices	3	1	0	3	40	160	200	4
			Sub Total	17	2	0		190	760	950	19
PRACTICAL & SESSIONAL											
8	PCC	3EC4-21	Electronics Devices Lab	0	0	2		30	20	50	1
9		3EC4-22	Digital System Design Lab	0	0	2		30	20	50	1
10		3EC4-23	Signal Processing Lab	0	0	2		30	20	50	1
11	ESC	3EC3-24	Computer Programming Lab-I	0	0	2		30	20	50	1
13	PSIT	3EC7-30	Industrial Training	0	0	1				50	1
14	SODE CA	3EC8-00	Social Outreach, Discipline & Extra Curricular Activities							25	0.5
			Sub- Total	0	0	9		120	80	275	5.5
			TOTAL OF III SEMESTER	17	2	9		310	840	1225	24.5

L: Lecture, **T:** Tutorial, **P:** Practical, **Cr:** Credits

ETE: End Term Exam, **IA:** Internal Assessment

Office of Dean Academic Affairs
Rajasthan Technical University, Kota



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

SYLLABUS

II Year - III Semester: B.Tech. (Electronics & Communication Engineering)

3EC2-01: Advance Engineering Mathematics-I

3 Credits

Max. Marks: 150 (IA:30, ETE:120)

3L:0T:0P

End Term Exam: 3 Hours

SN	Contents	Hours
1	Numerical Methods – 1: Finite differences, Relation between operators, Interpolation using Newton's forward and backward difference formulae. Gauss's forward and backward interpolation formulae. Stirling's Formulae. Interpolation with unequal intervals: Newton's divided difference and Lagrange's formulae. Numerical Differentiation, Numerical integration: Trapezoidal rule and Simpson's 1/3rd and 3/8 rules.	10
2	Numerical Methods – 2: Numerical solution of ordinary differential equations: Taylor's series, Euler and modified Euler's methods. Runge- Kutta method of fourth order for solving first and second order equations. Milne's and Adam's predictor-corrector methods. Solution of polynomial and transcendental equations-Bisection method, Newton-Raphson method and Regula-Falsi method.	8
3	Laplace Transform: Definition and existence of Laplace transform, Properties of Laplace Transform and formulae, Unit Step function, Dirac Delta function, Heaviside function, Laplace transform of periodic functions. Finding inverse Laplace transform by different methods, convolution theorem. Evaluation of integrals by Laplace transform, solving ODEs by Laplace transforms method.	10
4	Fourier Transform: Fourier Complex, Sine and Cosine transform, properties and formulae, inverse Fourier transforms, Convolution theorem, application of Fourier transforms to partial ordinary differential equation (One dimensional heat and wave equations only).	7
5	Z-Transform: Definition, properties and formulae, Convolution theorem, inverse Z-transform, application of Z-transform to difference equation.	5
Total		40

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