RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme
B.Tech. : Computer Science & Engineering
2nd Year - III Semester

SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
THEORY											
1	BSC	3CS2-01	Advanced Engineering Mathematics	3	0	0	3	30	120	**150**	**3**
2	HSMC	3CS1-02/ 3CS1-03	Technical Communication/ Managerial Economics and Financial Accounting	2	0	0	2	20	80	**100**	**2**
3	ESC	3CS3-04	Digital Electronics	3	0	0	3	30	120	**150**	**3**
4	PCC	3CS4-05	Data Structures and Algorithms	3	0	0	3	30	120	**150**	**3**
5		3CS4-06	Object Oriented Programming	3	0	0	3	30	120	**150**	**3**
6		3CS4-07	Software Engineering	3	0	0	3	30	120	**150**	**3**
			Sub Total	**17**	**0**	**0**		**170**	**680**	**850**	**17**
PRACTICAL & SESSIONAL											
7	PCC	3CS4-21	Data Structures and Algorithms Lab	0	0	3		45	30	**75**	**1.5**
8		3CS4-22	Object Oriented Programming Lab	0	0	3		45	30	**75**	**1.5**
9		3CS4-23	Software Engineering Lab	0	0	3		45	30	**75**	**1.5**
10		3CS4-24	Digital Electronics Lab	0	0	3		45	30	**75**	**1.5**
11	PSIT	3CS7-30	Industrial Training	0	0	1		0	0	**50**	**1**
12	SODECA	3CS8-00	Social Outreach, Discipline & Extra Curricular Activities							**25**	**0.5**
			Sub- Total	**0**	**0**	**13**		**180**	**120**	**375**	**7.5**
			TOTAL OF III SEMESTER	**17**	**0**	**13**		**350**	**800**	**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

3CS2-01: Advanced Engineering Mathematics

Credit-3 **Max. Marks : 150 (IA:30,ETE:120)**

3L+0T+0P **End Term Exam: 3 Hours**

SN	CONTENTS	Hours
1	**Random Variables:** Discrete and Continuous random variables, Joint distribution, Probability distribution function, conditional distribution.Mathematical Expectations: Moments, Moment Generating Functions, variance and correlation coefficients, Chebyshev's Inequality, Skewness and Kurtosis.	7
2	**Binomial distribution**, Normal Distribution, Poisson Distribution and their relations, Uniform Distribution, Exponential Distribution. Correlation: Karl Pearson's coefficient, Rank correlation. Curve fitting. Line of Regression.	5
3	**Historical development**, Engineering Applications of Optimization, Formulation of Design Problems as a Mathematical Programming Problems, Classification of Optimization Problems	8
4	**Classical Optimization using Differential Calculus:** Single Variable and Multivariable Optimization with & without Constraints, Langrangian theory, Kuhn Tucker conditions	6
5	**Linear Programming:** Simplex method, Two Phase Method and Duality in Linear Programming. Application of Linear Programming: Transportation and Assignment Problems.	14
	TOTAL	40