

SATYUG DARSHAN INSTITUTE OF ENGINEERING & TECHNOLOGY, FARIDABAD				
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING				
Lesson Plan / Teaching Plan / Lecture Plan with Progress : B CA-DS(4th).... Semester : 2025-26				
Course Name (Code):		Data Science Using R/ BCD-204-V	Faculty :	Ms Rachana Srivastava
Topics / lectures are arranged in sequence - same - as to be taught in the class. Maintain data related to "Date" in its hard copy				
S. No.	Lecture No	Topic Description	Teaching Pedagogy	Reference Material
1	1	definition of data,	TC-1	R1,R2
2	2	data types	TC-1	R1,R2
3	3	meaning of variables,	TC-1	R1,R2
4	4	wholeness of data analytics	TC-1	R1,R2
5	5	data processing chain	TC-1	R1,R2
6	6	data distributions, Paths to data science	TC-1	R1,R2
7	7	data mining,	TC-1	R1,R2
8	8	data warehousing, difference between database and data	TC-1	R1,R2
9	9	advice for new data scientists, introduction to cloud	TC-1	R1,R2
10	10	artificial intelligence	TC-1	R1,R2
11	11	Machine learning	TC-1	R1,R2
12	12	applications in real world	TC-1	R1,R2
13	13	learning approaches: supervised, unsupervised	TC-1	R1,R2
14	14	What is R, History of R	TC-1	R1,R2
15	15	Installing R, Package installation	TC-1	R1,R2
16	16	choosing IDE, first program	TC-1	R1,R2
17	17	help in R, Some information about R commands	TC-1	R1,R2
18	18	special values	TC-1	R1,R2
19	19	Objects, Functions, Simple Manipulations	TC-1	R1,R2
20	20	Vectors and numbers	TC-1	R1,R2
21	21	Matrices and arrays	TC-1	R1,R2
22	22	Factors	TC-1	R1,R2
23	23	List, data Frames	TC-1	R1,R2
24	24	Revision	TC-1	R1,R2
25	25	Function Creation	TC-1	R1,R2
26	26	scripts, Logical operators	TC-1	R1,R2
27	27	Conditional Statements, Loops in R	TC-1	R1,R2
28	28	switch Statement	TC-1	R1,R2
29	29	List and Data Frames: Creating a list, Common List operations, R functions	TC-1	R1,R2
30	30	creating a datagram, common data frame operation	TC-1	R1,R2
31	31	using lapply () and sapply () functions	TC-1	R1,R2
32	32	Object oriented programming with R	TC-1	R1,R2
33	33	S3 Classes, S4 Classes	TC-1	R1,R2
34	34	Reference Classes	TC-1	R1,R2
35	35	Revision	TC-1	R1,R2
36	36	Saving and loading R data	TC-1	R1,R2

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37	37	import and export to CSV files	TC-1	R1,R2
38	38	import and export via ODBC	TC-1	R1,R2
39	39	Debugging Techniques in R	TC-1	R1,R2
40	40	Statistical Graphics: Base Graphics	TC-1	R1,R2
41	41	ggplot2, Maximum, Minimum, Frequency distribution	TC-1	R1,R2
42	42	Measures of central tendency	TC-1	R1,R2
43	43	Hypothesis testing	TC-1	R1,R2
44	44	Correlation	TC-1	R1,R2
45	45	Different statistical distribution.	TC-1	R1,R2
46	46	Revision	TC-1	R1,R2
47	47	Revision	TC-1	R1,R2

Study Material / Books / Web-resources / Online Courses Links etc.

S. No.	
1	Sandeep Rakshit, R for Beginners, McGraw-Hill Education
2	Tilman M. Davies, The Book of R:A first course in Programming and Statistics.
3	Hadley Wickham, Garrett G. Grolemund, Hands-On Programming with R: Write Your Own Functions and Simulations.