

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN
Session-2022-2023

Discipline: Comp. sc. and engg. Engg. Semester: 6th (DSA)

Name of the Teaching Faculty: Sunita Mahapatra (Asst. Lect. in Comp. sc. and Engg.)

Subject: DSA No. of Days/per week class allotted 04

Semester From Date: 14.01.23 To Date: 23.05.23 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
<u>1st</u>	1	Introduction to data science
	2	Data science, convergence of various knowledge domains
	3	Related terminologies
	4	Methods of data repository
<u>2nd</u>	1	Personnel involved in data science
	2	Types of data
	3	Data science process
	4	Popular data science toolkits
<u>3rd</u>	1	Data science projects life cycle
	2	Extending Applications
	3	Introduction to data management using IBM SPSS.
	4	Data management planning

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Subject: DSA No. of Days/per week class allotted 04

Semester From Date: 14.02.23 To Date: 23.05.23 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
<u>4th</u>	1	Data management plan
	2	Data collection and management
	3	Methods, documentation
	4	Application of programming interface
<u>5th</u>	1	Exploring data and building models
	2	Storage management
	3	Importing data, IBM SPSS
	4	Examples of IBM SPSS
<u>6th</u>	1	Introduction to data analysis using R programming language
	2	Applied statistical techniques, Types of statistical data
	3	Types of big data analytics
	4	Collecting data for sampling and distribution

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Week	Class Day	Theory / Practical Topics
<u>7th</u>	1	probability, Frequency Distribution
	2	population and parameters, central tendency
	3	central value, measures of central Tendency
	4	Different types of statistical means
<u>8th</u>	1	Estimation problem
	2	Normal distribution curve
	3	Introduction to data visualization
	4	Importance of data visualization
<u>9th</u>	1	Types of variables
	2	data visualization methods
	3	Visual perception and data visualization
	4	Mapping of data visualization

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DSA

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Week	Class Day	Theory / Practical Topics
<u>10th</u>	1	Variables and Encoding
	2	choosing appropriate encodings
	3	Application of data science, technologies for visualisation
	4	python programming
<u>11th</u>	1	development environment of python
	2	Data types, operations
	3	modules
	4	Library
<u>12th</u>	1	Loops in python
	2	The pythonpath variable
	3	Different functions in python
	4	pycharm, matplotlib

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Week	Class Day	Theory/Practical Topics
<u>13th</u>	1	Histograms, Scatter plots
	2	Introduction to Bokeh
	3	Introduction to Recent trends in data science
	4	Data collection and Analysis techniques
<u>14th</u>	1	Internet of Things
	2	Big data visualization tools and visualizing
	3	Edge computing, cloud computing
	4	Importance of Big data visualization
<u>15th</u>	1	visualizing Big data
	2	challenges of Big data visualization
	3	potential solution
	4	Future progress of Big data visualization

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