Ganpat University
॥ विद्यया समाजोत्कर्षः ॥

Faculty of Computer Applications

Programme	B.Sc. IT Honours (Artificial Intelligence & Machine Learning)	**Branch**	Computer Applications
Semester	II	**Version**	1.0.0.0
Effective from Academic Year	2026-27	**Effective for the batch Admitted in**	June 2026
Subject code	U82A2DA2	**Subject Name**	DATA ANALYSIS-II

Teaching scheme

(Per week)	Lecture (DT)		Practical (Lab.)		Total
	L	TU	P	TW	
Credit	2	-	2	-	4
Hours	2	-	4	-	6

Examination scheme(Marks)

	CCE	SEE	Total
Theory	50	50	100

Objective:

To learn, understand and practice data analysis using spreadsheet

Pre-requisites:

knowledge of computer basics

Learning Outcome:

Name of CO	Description
CO1	To Perform various Spreadsheet Functions
CO2	To Generate charts and graphics to visually represent information.
CO3	To Analyze data using various techniques.
CO4	Make dynamic worksheets with pivot tables for better data analysis.
CO5	Learn printing and protecting options of worksheets.

Mapping of CO and PO:

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	1	1	1	1	2	0	2	1
CO2	1	1	1	1	0	0	2	0	1	1	0	0
CO3	1	1	1	2	3	1	1	1	1	0	1	0
CO4	2	1	0	1	1	1	2	1	1	1	1	1
CO5	2	2	1	1	2	1	1	1	2	1	1	1

Content:

Unit	Content	Hrs.
1	**Spreadsheet Functions to Organize Data:** Statistical Functions: COUNT, COUNTA, COUNTBLANK, COUNTIFS, AVERAGE, MEDIAN, MODE, Standard Deviation, Quartiles, Correlation Mathematical Functions: SUM, SUMIF, PRODUCT, POWER, SQRT, ROUND, RAND, MOD, QUOTIENT, AGGREGATE, SUBTOTAL Financial Functions: FV, FVSCHEDULE, PV, NPV, XNPV, PMT, PPMT, RATE, EFFECT, NOMINAL Database Functions: DAVERAGE, DCOUNT, DCOUNTA, DGET, DMAX, DMIN, DPRODUCT, DSTDDEV,	06

	DSTDEVP, DSUM, DVAR, DVARP	
2	**Creating Charts and Graphics:** Creating Charts - Column Chart, Line Chart, Pie Chart, Doughnut Chart, Bar Chart, Area Chart, Bubble Chart, Surface Chart, Radar Chart Customizing the Appearance of Charts, Finding Trends in Your Data, Summarizing Your Data by Using Sparklines, Creating Dynamic Charts by Using PivotCharts, Creating Diagrams by Using SmartArt	06
3	**Combining Data from Multiple Sources:** Using Workbooks as Templates for Other Workbooks, Linking to Data in Other Worksheets and Workbooks, Consolidating Multiple Sets of Data into a Single Workbook, Grouping Multiple Sets of Data **Analyzing Alternative Data Sets:** Defining an Alternative Data Set, Defining Multiple Alternative Data Sets, Varying Your Data to Get a Desired Result by Using Goal Seek, Finding Optimal Solutions by Using Solver, Analyzing Data by Using Descriptive Statistics, Looking Up Information in a Worksheet using lookup	06
4	**Creating Dynamic Worksheets by Using PivotTables:** Analyzing Data Dynamically by Using PivotTables, Filtering, Showing, and Hiding PivotTable Data, Editing Pivot Tables, Formatting PivotTables, Creating PivotTables from External Data **Automating Repetitive Tasks by Using Macros:** Enabling and Examining Macros, Creating and Modifying Macros, Running Macros When a Button Is Clicked, Running Macros When a Workbook Is Opened	06
5	**Printing and Protecting Worksheets:** Adding Headers and Footers to Printed Pages, Previewing Worksheets Before Printing, Changing Page Breaks in a Worksheet, Changing the Page Printing Order for Worksheets, Protecting Workbooks and Worksheets, Including Documents in Workbooks, Storing Workbooks as Parts of Other Documents, Creating Hyperlinks, Pasting Charts into Other Documents	06

Practical Content:	
List of programs specify by subject teacher based on above mention topics.	
Reference Books:	
1	PC Software for windows made simple by R.K, Taxali -Tata McGraw-Hill Publishing Co LTD
2	Working with Personal Computer by RP Soni, Harshal Arolkar and Sonal Jain-Books India Publication
3	The Complete Reference Office 2000 by Stephen L. Nelson. Tata McGraw-Hill Publishing Co.LTD
Web Reference:	
1	https://www.datacamp.com/
MOOC/Certificate Course:	
1	https://www.coursera.org/specializations/excel
2	https://www.edx.org/course/excel-for-everyone-data-analysis-fundamentals
Question Paper Scheme:	
	End Semester Examination Duration: (2 Hours Theory Examination) Note for Examiner: - Q-1 Any Five out of Seven (25 Marks) Q-2 Any Two out of Three (06 Marks) Q-3 Mandatory question (05 Marks) Q-4 Any Two out of Three (08 Marks) Q-5 Any Two out of Three(06 Marks) *The question paper must comprehensively address all Course Outcomes (COs), align with Bloom's Taxonomy levels, and ensure complete syllabus coverage**.**