	Mahatma Gandhi University **Kottayam**
Programme	**Bachelor in Business Administration (Honours)**
Course Name	Management Information Systems and Applied Data Analysis
Type of Course	VAC
Course Code	MG4VACBBA200
Course Level	NA
Course Summary	This course introduces the fundamentals of Management Information Systems (MIS) and their role in business decision-making, with a focus on data analysis using JAMOVI and spreadsheets. Students will learn key statistical techniques and apply them to real-world business problems, gaining practical skills in data-driven decision-making and business analytics.

Semester	4	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical	Others	
		3		1		75
Pre-requisites, if any						

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome	Learning Domains *	PO No
1	Explain the basics of MIS and its role in digital business infrastructure.	U	1
2	Analyse the applications of MIS, DSS, and knowledge-based systems in e-business.	An	2
3	Describe statistical analyses (descriptive/inferential) and regression modelling using JAMOVI.	U	2
4	Use JAMOVI and Excel for hypothesis testing, visualization, and advanced analytics.	A	2

**Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)*

COURSE CONTENT

Content for Classroom transactions (Units)

Module	Units	Course description	Hrs.	CO No.
1. Introduction to MIS				**15Hrs**
1.1		Fundamental concepts of MIS: Basics concepts of MIS/ Types of MIS, Dimension and components of Information Systems.	5	1
1.2		Benefits of MIS, IT infrastructure, and IT infrastructure evolution.	5	1
1.3		Components of IT infrastructure, new approaches for system building in the digital firm era.	5	1
2. E-Commerce				**15 Hrs**
2.1		Information system applications: MIS applications, DSS – GDSS - DSS applications in E enterprise.	5	2
2.2		Knowledge Management System and Knowledge-Based Expert System - Enterprise Model System.	5	2
2.3		E-Business, E-Commerce, E-communication, Business Process Reengineering.	5	2
3. Introduction to Data Analysis				**15 Hrs**
3.1		Data analysis using JAMOVI: Types of Data-Ordinal Interval, ratio, measures of central tendency – mean, median, mode.	5	3
3.2		Measures of dispersion – Quartile Deviation, variance, standard deviation. Introduction to correlation and regression- simple and multiple.	5	3
3.3		Verifying the assumptions of Linear Regression. Logistic Regression and Interpreting Results. Non-parametric analogues of the t-test, one-sample ANOVA.	5	3
4. Practical				**30 Hrs**

4.1	**Jamovi and spreadsheet for Research & Academic Work:** Statistical Functions: Descriptive Statistics(MEAN, MEDIAN, MODE, STDEV, VAR, MIN, MAX, QUARTILE), Distribution And Shape(SKEW, KURT, FREQUENCY) , Hypothesis Testing (T.TEST, F.TEST, CHISQ.TEST), Correlation And Regression(CORREL, SLOPE, LINEST), Probability And Distributions(NORM.DIST, NORM.INV, BINOM.DIST), Advanced Analysis With Data Analysis Toolpak (Descriptive Statistics, Histogram, Correlation, Regression, T-Test And Anova**)** Jamovi- Entering data, importing data from other formats, introduction to various charts- histogram, Bar chart, line chart, bar chart, pie chart , generating frequency table and cross tables and summary measures, scatter diagram and correlation – Pearson and Spearman's Correlation in Regression Analysis , t-test (one sample, paired sample t-test, independent sample t-test) – Interpreting results, one way and two way ANOVA , Assumptions of t-test and verifying the assumptions, Chi-square test for independence, Non-parametric analogues of t-test, one sample ANOVA, Logistic Regression.	30	4

REFERENCES

1. Laudon K. C. & Laudon, J. P. Management information systems: managing the digital firm. Fifteenth Edition. Pearson.
2. Olson D., Information systems project management (First;1; ed.). US: Business Expert Press.
3. Stair, R., & Reynolds, G. Fundamentals of information systems. Cengage Learning.
4. Microsoft Excel Formulas and Functions (Office 2021 and Microsoft 365),1st Edition by Paul McFedries.
5. Statistical Analysis: Microsoft Excel 2016 by Conrad Carlberg, Addison-Wesley Professional
6. Navarro DJ and Foxcroft DR (2022). learning statistics with jamovi: a tutorial for psychology students and other beginners. (Version 0.75).

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** • Lecture • Demonstration • Lab Sessions
Assessment Types	**MODE OF ASSESSMENT** **A. Continuous Comprehensive Assessment (CCA)** **CCA for Theory: 25 Marks** • Written test • MCQ • Assignments etc. **CCA for Practical: 15 Marks** • Practical assignments • Observation of practical skills • Viva etc.
	B. Semester End Examination **ESE for Theory: Written Test (50 Marks, 1.5 Hrs)** Part A: Multiple Choice Questions (Answer all) - (20*1=20 Marks) Part B: Short Answer Questions (6 out of 8 Questions) - (6*5=30 Marks) **ESE for Practical: 35 Marks (1.5 Hrs)** • Two practical questions from module 4: 2 * 15 = 30 Marks • Viva - 5 Marks