ST. ALOYSIUS COLLEGE(AUTONOMOUS), JABALPUR

Reaccredited 'A+ 'Grade by NAAC(CGPA:3.68/4.00)
College with Potential for Excellence by UGC
DST-FIST Supported & STAR College Scheme by DBT

Faculty of Arts

SUBJECT: ECONOMICS
M.A. I Semester
Paper-III
Quantitative Techniques
Course Outcomes

CO. No.	Course Outcomes	Cognitive Level
CO 1	Understand the measures of central tendency and dispersion and understand the calculation of Skewness and Kurtosis.	U and App
CO 2	To enable students to interpret the relationship between Simple Differentiation and Integration and make decisions to calculate Elasticity Coefficient, Cost, Revenue and Productivity, through Graphical and Diagrammatic Presentation	App
CO 3	To enable students to understand Linear and Simultaneous Equations up to Three Variables and its Application in Economics and calculate the procedure of Equilibrium Prices and Impact of Tax and Subsidy on Demand and Supply Application of Minima and Maxima in Economics.	U and App
CO 4	Understands Correlation Analysis of Karl Pearson Correlation, Spearman's Rank Correlation. Students will also be able to analyse the Regression lines, finding Regression Coefficients and identifies the significance and methods of Interpolation and Extrapolation.	U and App
CO 5	Understand the conceptual frame work, uses, types, and problems in construction of Index Numbers. They will also be able to apply the cost of Living Index Numbers.	An and App

Credit and Marking Scheme

	Credits	Marks		Total Marks
		Internal	External	
Theory	5	10	40	**50**
Practical	-	-	-	**-**
Total	**5**			

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Evaluation Scheme

	Marks	
	Internal	**External**
Theory	1 Internal Exams of 10 Marks (During the Semester)	1 External Exams (At the End of Semester)

Content of the Course

No. of Lectures (in hours per week): 4.5 Hrs. per week

Total No. of Lectures: 56.25 Hrs.   **Maximum Marks:** 40

Units	Topics	No. of Lectures
I	Measures of Central Tendency- Mean Median and Mode, Dispersion. Interquartile Deviation, Quartile Deviation, Mean Deviation, Standard Deviation, Skewness and Kurtosis.	15
II	Simple Differentiation and Integration and its Application in Economics i.e., Calculation of Elasticity Coefficient, Cost, Revenue and Productivity, Graphical and Diagrammatic Presentation	15
III	Linear and Simultaneous Equations up to Three Variables and its Application in Economics, Calculation of Equilibrium Prices, Impact of Tax and Subsidy on Demand and Supply, Calculations of Factor Prices, Calculations of Macro Economic Variables. Application of Minima and Maxima in Economics.	15
IV	Correlation Analysis: Karl Pearson Correlation, Spearman's Rank Correlation. Regression Analysis: Concept, Regression lines, finding Regression Coefficients and Equations, Interpolation and Extrapolation; Concept, Significance, Assumptions, Methods of Interpolation and Extrapolation.	15
V	Index Numbers: A Conceptual frame work, Uses, Types, Problems in Construction of Index Numbers, The Chain Index Numbers, Base Shifting and Deflating the Index Numbers, Cost of Living Index Numbers, Fishers' Index Number.	15

Suggested Readings

• Allen, R.G.D.(1974), Mathematical Analysis for Economists, Macmillan Press and ElBS, London.
• Chiang, A.C.(1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.

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• Gupta, S.C.(1993), Fundamental of Applied Statistics, S. Chand & Sons, New Delhi.

• Speigal, M.R.(1992), Theory and Problems of Statistics, McGraw Hill Book Co., London.

• Yamane, Taro (1975), Mathematical for Economists, Prentice Hall of India, New Delhi.

• Baumol, W.J.(1984), Economic Theory and Operations Analysis, Prentice Hall, Englewood Cliffs, New Jersey.

• Monga, G.S.(1972), Mathematical and Statistics for Economists, Vikas Publishing House, New Delhi.

• Chou, Y. (1975), Statistical Analysis, Holt, Reinhart and Winston, New York.

• Croxton, Crowden and Klein (1971), Applied General Statistics, Prentice Hall of India, New Delhi.

• Millar, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge.

• Nagar, A.L. and R.K. Das (1993), Basic Statistics, Oxford University Press, New Delhi.

• Goon; A.M., M.K. Gupta and B. Dasgupta (1993), Fundamentals of Statistics, Vol. 1, The World Press Ltd., Calcutta.

• Hogg, R.V. and A.T. Craig (1970), Introduction to Mathematical Statistics (3rd Edition). Macmillan Publishing Co., New York.

• Gupta & Gupta – Statistics

• R. G.D.Allen - Statistics for Economics

• MethaandMadnani - Mathematics for Economists