



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 Science

Bachelor of Science (B.Sc.)

SUBJECT: MATHEMATICS

B.Sc.VISemester

Paper- Discipline Specific Elective (DSE) Group-B, Paper-1

Statistics

Course Outcomes

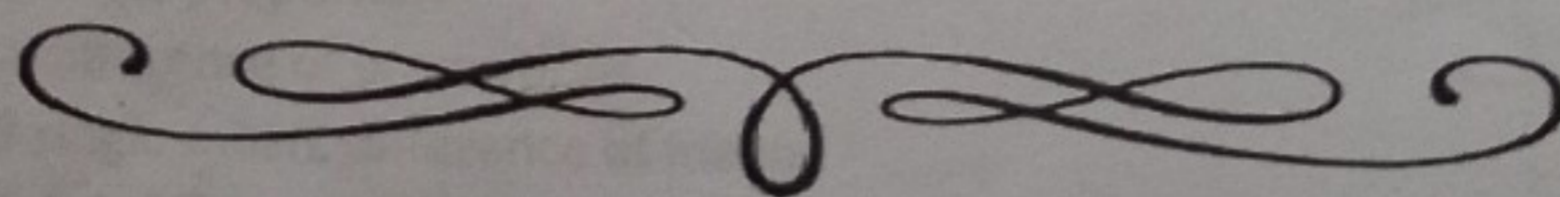
CO.No.	Course Outcomes	Cognitive Level
CO1	Describe and calculate the mean deviation, standard deviation, range, quartiles and percentiles.	U
CO2	Calculate and interpret the correlation coefficient.	E
CO3	Understand the basic concepts of linear regression and correlation.	U
CO4	Interpret the Student's t probability distribution, chi-square goodness-of-fit, F and Z test	Ap

Credit and Marking Scheme

	Credits	Marks		Total Marks
		Internal	External	
Theory	4	40	60	100
Total	4		100	

Evaluation Scheme

	Marks	
	Internal	External
Theory	3 Internal Exams of 20 Marks (During the Semester) (Best 2 will be taken)	1 External Exams (At the End of Semester)



Mandru
26/7/24

Content of the Course

Theory

No.ofLectures(inhoursperweek):4.5Hrs.perweek

MD

Rimani

Arora

Purohit

Singh

M. Sharma

Mishra 26/7/24

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Total No. of Lectures: 60 Hrs.

Maximum Marks: 60

Unit	Topics	No. Of Lectures
I	1.1 Indian Contributions in Statistics: 1.1.1 P. C. Mahalanobis 1.1.2 C. Radhakrishna Rao 1.1.3 Samanta Chandra Sekhar Harichandan 1.1.4 J. K. Ghose 1.1.5 P. Maiti 1.2 Dispersion: 1.2.1 Measures of dispersion 1.2.1.1 Range and interquartile range 1.2.1.2 Mean deviation and Standard deviation 1.3 Moments, Skewness and kurtosis	24
II	2.1 Curve fitting and Correlation: 2.1.1 Methods of least squares 2.1.2 Curve fitting 2.1.3 Correlation and regression 2.1.4 Partial and multiple correlations up to three variables only	24
III	3.1 Sampling of large samples : 3.1.1 Large sample test for 3.1.1.1 single proportion 3.1.1.2 difference of proportions 3.1.1.3 single mean, difference of means 3.1.1.4 difference of standard deviations	16

MD

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IV	4.1 Sampling: 4.1.1 Null and alternative hypothesis 4.1.2 Errors of first and second kinds 4.1.3 Level of significance and critical region 4.1.4 Tests of significance based on chi-square t, F and Z distribution	16
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References

Text Books:

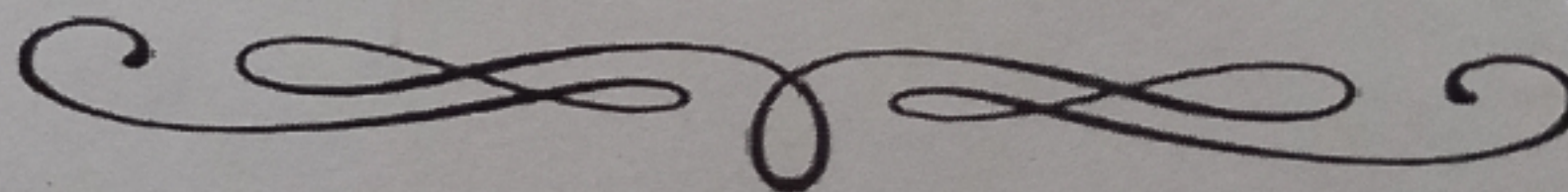
1. H. C. Saxena and J. N. Kapoor: Mathematical Statistics, S. Chand and Company, 2010.
2. E. Rukmangadachari: Probability and Statistics, Pearson Education India; First edition, 2012.
3. M. Ray, HarSwarup Sharma, S. S Chaudhary: Mathematical Statistics, Ram Prasad Publication, 2022.
4. मध्यप्रदेश हिंदी ग्रंथ अकादमी की पुस्तके।

Reference Books:

1. Vijay K. Rohatgi, A. K. Md. EhsanesSaleh: An Introduction to Probability and Statistics, Wiley; 3rd edition, 2015.
2. S. C. Gupta and V. K. Kapoor: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, 2014.

Suggested Digital Platforms Web links: <https://www.eshiksha.mp.gov.in/mpdhe> Suggested

Equivalent online courses: <https://nptel.ac.in/courses/111106112/> <https://nptel.ac.in/courses/111105090/> https://ugcmoocs.inflibnet.ac.in/index.php/courses/view_u/313 https://ugcmoocs.inflibnet.ac.in/index.php/courses/view_u/327



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Handwritten signature: Romiani

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