Theory Paper

			art A Introduction			202425
		urs/Research	Class: B.COM	Year: IV	Session:	2024-25
	ject:	T .	COMMERCE			
1	Course Code	C4-COM	1A2T			
2	Course	Advanced Statistic	SEART MARKET PERSON			
_	Title	Advanced Statistic	car rinary 515			
3	Course	CORE-	JE			
	Type	1000				
4	Pre-	B.COM. Degr	see			
	requisite	Q				
5	Course		n of this course the			
	Learning		inderstanding of the	2.764	pability, rules	of
	outcomes		d probability distribu			
	(CLO)		the decision making	g process unde	er uncertainty	using
		statistical tools.	re of the concepts in	sampling sa	nnling dietrib	itions
		and estimation.	re of the concepts in	samping, sai	inpining distribu	4110115
			he meaning and pro-	cess of hypoth	esis testing	
			ample and two-samp		J	
		5. To appreciate th	ne importance and ar		on-parametric	tests in
		hypothesis testi		950 	200 201 201 10-11	
		6. To apply correlation and regression analysis including both simple and				
		multiple correle			Contraction of the Additional Contraction	
			tion and regression	in the real life	case situation	s using
-	Cua dit	available softwa		in the real life	case situation	s using
6	Credit			in the real life	case situation	s using
100	Value	available softwa 6	are packages.			
7	Value Total	available softwa	are packages.		N. Passin	
	Value	6 Max. Marks: 30 +	are packages.	MI		
7	Value Total	available softwa 6 Max. Marks: 30 +	are packages.	MI		
7 Tot	Value Total Marks al No. of Lec	available softwa 6 Max. Marks: 30 +	are packages.	MI		
7 Tot	Value Total Marks al No. of Lec	available softwa 6 Max. Marks: 30 +	70 - Content of the	MI		g Mark
7 Tot Uni	Value Total Marks al No. of Lec	available softwa 6 Max. Marks: 30 + Part B tures- 90 f Probability and	70 - Content of the Topics Probability Distr	Course	N. Passin	g Mark
7 Tot Uni	Value Total Marks al No. of Lec t Theory of calculati	available softwa 6 Max. Marks: 30 + Part B tures- 90 f Probability and on of probability. Max. Marks: 30 + 30 + 30 + 30 + 30 + 30 + 30 + 30	Topics Probability Distr Marginal, joint and	Course ibutions: Ap	Passin proaches to probabilities;	No. of
7 Tot Uni	Value Total Marks al No. of Lecut Theory of calculati Probabil	available softwa 6 Max. Marks: 30 + Part B tures- 90 f Probability and on of probability. Marks: Bayes' the	Topics Probability Distr Marginal, joint and corem; Expected val	Course ibutions: Ap conditional pue and standa	proaches to probabilities;	No. of
7 Tot Uni	Value Total Marks al No. of Lectit Theory of calculating Probability of a probability of	Available softwards of the softward of the softward of probability and on of probability. Many the sobility distribution;	Topics Probability Distr Marginal, joint and corem; Expected val	Course ibutions: Ap conditional pue and standa	proaches to probabilities;	No. of
7 Tot Uni	Value Total Marks al No. of Lec t Theory of calculati Probabil of a prol Poisson,	Available softward 6 Max. Marks: 30 + Part Betures- 90 of Probability and on of probability. No ity rules; Bayes' the pability distribution; and Normal.	Topics Probability Distrest and sorem; Expected val Standard probability	Course ibutions: Ap conditional pue and standar distributions	proaches to probabilities; rd deviation - Binomial,	No. of Lectures
7 Tot Uni	Theory of calculating Probability of a probability of Statistical	Available softwards 6 Max. Marks: 30 + Part Betures- 90 of Probability and on of probability. No ity rules; Bayes' the bability distribution; and Normal. Decision Theory:	Topics Probability Distraginal, joint and corem; Expected val Standard probability Decision-making property of the property o	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff	proaches to probabilities; rd deviation - Binomial,	No. of
7 Tot Uni	Value Total Marks al No. of Lec t Theory of calculati Probabil of a prol Poisson, Statistical tables. I	Available softward 6 Max. Marks: 30 + Part Butures- 90 of Probability and on of probability. Make the pability distribution; and Normal. Decision Theory: Decision rules under the part of the pa	Topics Probability Distrest and sorem; Expected valued Standard probability Decision-making pricisk and uncertainty;	Course ibutions: Ap conditional pue and standary distributions rocess. Payoff Expected val	proaches to probabilities; rd deviation - Binomial,	No. of Lectures
7 Tot Unit	Value Total Marks al No. of Lect it Theory of calculating Probabile of a prolepoisson, Statistical tables. If and EVI	Available softward 6 Max. Marks: 30 + Part Betures- 90 f Probability and on of probability. No ity rules; Bayes' the bability distribution; and Normal. Decision Theory: Decision rules under the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the probability distribution; and Normal.	Topics Probability Distragginal, joint and corem; Expected val Standard probability Decision-making prisk and uncertainty; Decision-tree analy	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values.	proaches to probabilities; and deviation - Binomial, and Regret the approach	No. of Lectures 18
7 Tot Uni	Value Total Marks al No. of Lec it Theory of calculati Probabil of a prol Poisson, Statistical tables. If and EVI Sampling	Available software 6 Max. Marks: 30 + Part Betures- 90 of Probability and on of probability. No ity rules; Bayes' the pability distribution; and Normal. Decision Theory: Decision rules under the probability distribution and particular in the property of the probability distribution; and Normal. Decision Theory: Decision rules under the probability distributions and particular in the probability distribution and particular in the probability and probability and probability distribution; and particular in the probability distribution and particular in the probability distribution and particular in the probability distribution; and particular in the probability distribution in t	Topics Probability Distragginal, joint and corem; Expected val Standard probability Decision-making purisk and uncertainty; Decision-tree analy Estimation: Samp	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values.	proaches to probabilities; rd deviation - Binomial, and Regret the approach s; Types of	No. of Lectures
7 Tot Unit	Value Total Marks al No. of Lect t Theory of calculating Probabile of a prolepoisson, Statistical tables. If and EVI Sampling sampling	Available software 6 Max. Marks: 30 + Part Betures- 90 of Probability and on of probability. Material distribution; and Normal. Decision Theory: Decision rules under the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the probability of the probability and the probability of the probability and the probability of t	Topics Probability Distragginal, joint and corem; Expected val Standard probability Decision-making purisk and uncertainty; Decision-tree analy Estimation: Samp	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values.	proaches to probabilities; rd deviation - Binomial, and Regret the approach s; Types of	No. of Lectures 18
7 Tot Unit	Value Total Marks al No. of Lectit Theory of calculating Probabile of a prolepoisson, Statistical tables. If and EVI Sampling sampling Central I	Available software 6 Max. Marks: 30 + Part Betures- 90 f Probability and on of probability. Note that the probability distribution; and Normal. Decision Theory: Decision rules under the probability distribution and second particular analysis. Distributions and second particular analysis.	Topics Probability Distragginal, joint and corem; Expected val Standard probability Decision-making prisk and uncertainty; Decision-tree analy Estimation: Sampling distribution of	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values.	proaches to probabilities; and deviation - Binomial, and Regret tue approach s; Types of proportions;	No. of Lectures 18
7 Tot Unit	Value Total Marks al No. of Lect t Theory of calculating Probabile of a prolepoisson, Statistical tables. If and EVE Sampling sampling Central in Point	Available software 6 Max. Marks: 30 + Part Betures- 90 of Probability and on of probability. Note that it is probability and probability distribution; and Normal. Decision Theory: Decision rules under the probability distribution and gradient and gradient and interval estimated and interval estimated.	Topics Probability Distragginal, joint and corem; Expected val Standard probability Decision-making prisk and uncertainty; Decision-tree analy Estimation: Sampling distribution of timation; Properties	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values. pling concept means and s of a good	proaches to probabilities; rd deviation - Binomial, and Regret the approach s; Types of proportions; the estimator;	No. of Lectures 18
7 Tot Unit	Value Total Marks al No. of Lect t Theory of calculating Probabile of a prolapoisson, Statistical tables. If and EVI Sampling sampling Central Point Confider	Available software 6 Max. Marks: 30 + Part Betures- 90 of Probability and on of probability. Marks: Bayes' the pability distribution; and Normal. Decision Theory: Decision rules under the probability distribution and particular includes and general techniques; Samp Limit Theorem. Interval estimate interval estimate intervals for market and interval estimate intervals for market and intervals.	Topics Probability Distragginal, joint and corem; Expected val Standard probability Decision-making prisk and uncertainty; Decision-tree analy Estimation: Sampling distribution of timation; Properties	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values. pling concept means and s of a good	proaches to probabilities; rd deviation - Binomial, and Regret the approach s; Types of proportions; the estimator;	No. of Lectures 18
7 Tot Unit	Value Total Marks al No. of Lect it Theory of calculating Probabile of a professon, Statistical tables. If and EVI Sampling sampling Central In Point Confider Sample	Available software 6 Max. Marks: 30 + Part Botures- 90 of Probability and on of probability. Martine in the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the	Topics Probability Distribution of the Standard probability Decision-making prisk and uncertainty; Decision-tree analyst Estimation: Sampling distribution of timation; Properties neans; Confidence in the standard probability of the standard probability	Course ibutions: Ap conditional p ue and standar distributions rocess. Payoff Expected val ysis. pling concept means and s of a good intervals for	proaches to probabilities; rd deviation - Binomial, and Regret the approach s; Types of proportions; destimator; proportions;	No. of Lectures 18
7 Tot Unit	Value Total Marks al No. of Lect it Theory of calculating Probabile of a prolemon Poisson, Statistical tables. If and EVI Sampling sampling Central Point Confider Sample Hypothes	Available software Max. Marks: 30 + Part Betures- Of Probability and on of probability. Note that the pability distribution; and Normal. Decision Theory: Decision rules under the probability distributions and get techniques; Samp Limit Theorem. Interval of the probability and the probability distributions and get techniques; Samp Limit Theorem. Interval of the probability and the probability distributions and get techniques; Samp Limit Theorem. Interval of the probability and the probability an	Topics Probability Distragginal, joint and corem; Expected val Standard probability Decision-making prisk and uncertainty; Decision-tree analy Estimation: Sampling distribution of timation; Properties neans; Confidence in Ehypothesis testing.	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values. Payoff means and so of a good intervals for One and two	proaches to probabilities; rd deviation - Binomial, and Regret the approach s; Types of proportions; l estimator; proportions; -tailed tests.	No. of Lectures 18
7 Tot Unit	Theory of calculating Probabile of a	Available software 6 Max. Marks: 30 + Part Botures- 90 of Probability and on of probability. Martine in the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the probability distribution; and Normal. Decision Theory: Decision rules under the probability of the	Topics Probability Distraction Arginal, joint and strandard probability Decision-making prisk and uncertainty; Decision-tree analyling distribution of timation; Properties neans; Confidence in the properties of a test; Calculation of a test	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values. Payoff means and so of a good intervals for One and two	proaches to probabilities; rd deviation - Binomial, and Regret the approach s; Types of proportions; l estimator; proportions; -tailed tests.	No. of Lectures 18
7 Tot Unit	Theory of calculating Probability of a property of a prope	Available software Max. Marks: 30 + Part Betures- of Probability and on of probability. Note ity rules; Bayes' the pability distribution; and Normal. Decision Theory: Decision rules under the probability distribution and particular in the probability distribution; and Normal. Decision Theory: Decision rules under the probability distribution and get echniques; Samp Limit Theorem. Int and interval estimate ince intervals for making determination. In Testing: Steps of and type IIErrors; Pound type IIErrors; Pound type IIErrors; Pound in the probability and probab	Topics Probability Distraction And Probability Distraction And Probability Decision-making parish and uncertainty; Decision-tree analy Estimation: Sampling distribution of timation; Properties heans; Confidence in the Proportions of the American Andrews of a test; Calculate the Proportions of the Calculate The Proportion Andrews of the Cal	Course ibutions: Ap conditional pue and standar distributions rocess. Payoff Expected values. Pling concept means and so of a good intervals for One and two lation and use en means —	proaches to probabilities; rd deviation - Binomial, and Regret the approach s; Types of proportions; destimator; proportions; -tailed tests. of p-value. Independent	No. of Lectures 18

	between proportions.	
5	Analysis of Variance and Non-Parametric Tests: F-test of equality of variances; One-factor ANOVA; Chi-square test for Independence and for Goodness-of-fit. Sign test, One-sample runs test.	18

Keywords/Tags: Regression, Interpolation, Association of Attributes, Probability,

Sampling Quality Control, Research Methodology

Part C-Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

- 1. Gupta & Gupta, Business Statistics, Himalaya Publication House
- 2. Dr. N.P. Agrawal, Advanced statistical Analysis ,Ramesh book depot
- 3. S.P. Gupta, Statistical Methods, Sultan Chand & sons
- 4. Chakrabarty, S.K., Business Statistics, New Age International (P) Ltd., Publishers
- 5. Mc Clave, Benson Statistics for Business and Economics, Prentice Hall Publication.
- 6. Jack Levin, James Alan Fox, Elementary Statistics in Social Research, Pearson Education.
- 7. Sanjiv Jaggia, Alison Kelly, Business Statistics, McGraw Hill
- 8. D. P. Apte, Statistics for Managers, Excel Publication

Suggestive digital platforms, web links:

https://www.ddegjust.ac.in/studymaterial/mcom/mc-106.pdf

https://ug.its.edu.in/sites/default/files/Business%20Statistics.pdf

https://www.wbnsou.ac.in/online_services/SLM/PG/MCOM-14.pdf

https://ddceutkal.ac.in/Downloads/UG SLM/Commerce/Business Statistics.pdf

https://mu.ac.in/wp-content/uploads/2021/08/MMS-Business-Statistics-1.pdf

https://www.ddegjust.ac.in/2022/2/mba-1st/MBA-102%20book.pdf

http://anucde.info/thirdsem/307BCO21.pdf

Part D-Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100

Continuous Comprehensive Evaluation (CCE): 30 Marks University Exam (UE): 70 Marks

Internal Assessment : Continuous	Class Test Assignment/Presentation	
Comprehensive Evaluation (CCE)	,	30
External Assessment :	Section(A): Very Short Questions	
University Exam Section	Section (B): Short Questions	70
Time: 03.00 Hours	Section (C) : Long Questions	

Any remarks/ suggestions:

(PROF. PAVAN MISHRA)

Chairman

Central Board of Studies (Commerce)
Department of Higher Education Govt. of M.P.

×.		भाग अ	परिचय		
कार्यक्र	र्म:	कक्षा: बी.कॉम		सत्र: 2024	4-25
		विषय:	बाणिज्य		
1	पाठ्यक्रम कोड	C4-C0	MAZT		
2	पाठ्यक्रम का शीर्षक		उन्नत सांख्यिकीय विश्लेषण		
3	कोर्स का प्रकार		i. 402-11		
4 पूर्विपक्षा (Prerequisite) बी.कॉम.डिग्री					160.000
5	पाठ्यक्रम अध्ययन की परिलब्धियां (कोर्स लर्निंग आउटकम) (CLO)	 सांख्यिकीय वि सांख्यिकीय वि प्रतिगमन विश् आवृत्ति वितरण् मॉडल, परिक समझ। 	5. विभिन्न मानक गेम सिद्धांत, संचालन, योजना और अनुसंधान पद्धति कं		
6	क्रेडिटमान	06			
7	कुल अंक	अधिकतम अंक	. 30 + 70	न्यूनतम उत्तीर्ण उ	अंक ∙ ३५
55515	9	भाग ब - पाठ्यक्र			
ബാര	गन की कुलसंख्या -90	1114 11042	1 42 14 14 14 1	3	
	नाम का कुराराख्या -50				व्याख्यानों क
इका ई		विषय			संख्या
1.	प्रतीपगमन विश्लेषण, अन्तग	णिन एवं बाह्यगणन		ig .	18
2.	गुण संबंध (तीसरे क्रम तक),	काई -स्कायर परीक्षण	, विचरण विश्लेषण		18
3.	प्रायिकता - क्रमचय और संचय, प्रायिकतासिद्धांत, प्रायिकता पैमानाऔर घटनाएँ, प्रायिकताप्रमेय सैद्धांतिक आवृत्ति वितरण - द्विपद, पॉइसन और सामान्य वितरण			18	
4.	प्रतिदर्श विधियाँ और परिकल्पना परीक्षण - बड़े प्रतिदर्श, छोटे प्रतिदर्श (टी-टेस्ट, एफ-टेस्ट, जेड-टेस्ट)			18	
5.	खेल सिद्धांत, निर्णय सिद्धांत, सांख्यिकीय गुणवत्तानियंत्रण, संचालन योजना, रणनीति और अनुसंधानप्रविधि 18				18
गी-व	। र्ड/टैग: प्रतीपगमन, अन्तर्ग रणनीति और	गन एवं बाह्यगणन, गुप अनुसंधान पद्धति	ग संबंध, प्रायिकत	ा,प्रतिदर्श, गुणवत्ता नि	भयंत्रण,



भाग स -लर्निंग संसाधन

पाठ्य पुस्तकें, संदर्भ पुस्तकें, अन्य संसाधन

सुझाई गई रीडिंग:

- 1. गुप्ता एस. सी. बिजनेस स्टैटिस्टिकल, हिमालय पब्लिकेशन हाउस, नई दिल्ली
- 2. डॉ.डी.पी.जैन,नरेश कुमार व्यवसायिक सांख्यकी,जीवन संस पब्लिकेशन
- 3. टी.आर.जैन,अग्रवाल व्यवसायिक सांख्यकी,वी.के.ग्लोबल पब्लिकेशन
- 4. गुप्ता सी. बी. सांख्यिकीय विधि, सुल्तान चंद, देहली
- 5. संचेती और कपूर सांख्यिकीय विश्लेषण
- 6. गुप्ता एस.पी. उन्नत सांख्यिकी, एस.चंद एंड कंपनी, दिल्ली
- 7. नागर के . एन . उन्नत सांख्यिकी (हिन्दी एवं अंग्रेजी) मीनाक्षी प्रकाशन, मेरठ
- 8. शुक्ला और सहाय सांख्यिकीय विश्लेषण, साहित्य भवन, आगरा
- 9. अलहंस डी.एन. उन्नत सांख्यिकी एस. चंद एंड कंपनी, नई दिल्ली
- 10. वार्ष्णेय आर.पी. उन्नत सांख्यिकी (हिन्दी एवं अंग्रेजी) जवाहर प्रकाशन, आगरा

अनुशंसित डिजिटल प्लेटफॉर्म/वेब लिंक

https://egyankosh.ac.in/handle/123456789/58648

https://uou.ac.in/sites/default/files/slm/BCM-106.pdf

https://mdu.ac.in/UpFiles/UpPdfFiles/2020/Jan/Business%20Statistis.pdf

https://jvbi.ac.in/dde/pdf/menu/distance/SLM/BCom-I-Paper-V.pdf

https://www.uou.ac.in/sites/default/files/slm/MCM-502.pdf

https://mu.ac.in/wp-content/uploads/2021/08/MMS-Business-Statistics-1.pdf

https://www.ddegjust.ac.in/2022/2/mba-1st/MBA-102%20book.pdf

http://anucde.info/thirdsem/307BCO21.pdf

भाग द - अनुशंसित मूल्यांकन विधियां

अनुशंसित सतत मूल्यांकन विधियां:

अधिकतम अंक: 100

सतत व्यापक मूल्यांकन (सीसीई): 30 अंक विश्वविद्यालय परीक्षा (UE): 70 अंक

आंतरिक मूल्यांकन: सततव्यापक मूल्यांकन (CCE)	क्लास टेस्ट असाइनमेंट /असाइनमेंट/प्रस्तुतीकरण(प्रेजेंटेशन)	30
आंकलनः विश्वविद्यालय परीक्षाः समय: 03.00 घंटे	अनुभाग (ए): अति लघुप्रश्न । अनुभाग (बी): लघु प्रश्न अनुभाग (सी): दीर्घ	70

(PROF.PAVAN MISHRA

Chairman

Central Board of Studies (Commerce)

Department of Higher Education Govt. of M.P.