

Programme Matrix: Bachelor of Science – Statistics, Economics [2023 Batch]



Kristu Jayanti College

AUTONOMOUS Bengaluru

Reaccredited 'A++' Grade by NAAC | Affiliated to Bengaluru North University

FACULTY OF SCIENCES

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Programme Outcomes

After successful completion of B.Sc. honours in Statistics and Economics, a student will be able to:

PO1: integrate scientific temper; spirit of enquiry, humanism and reform

PO2: apply scientific knowledge and skills ethically for societal development and entrepreneurship

PO3: acquire coherent understanding of the academic field of Statistics and its different learning areas and applications.

PO4: analyse research projects by using research skills- preparation of questionnaire, conducting national sample survey, research projects using sample survey, sampling techniques.

PO5: Plan and execute Statistical experiments or investigations, analyse and interpret data/information collected using appropriate methods, including the use of appropriate statistical software including programming languages, and report accurately the findings of the experiment/investigations.

PO6: Evaluate relevant economic literature and identify the appropriate data to analyse economic problems.

PO7: Analyse the future course of changes and development in the economy.

PO8: Display competency in the use of basic research skills.

Date of Approval: 10/2/23

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FACULTY OF SCIENCE

KRISTU JAYANTI COLLEGE AUTONOMOUS

K. Narayanapura, Kothanur PO

Bengaluru - 560077



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I Semester			
Course Type	Course Code	Course Title	Course Outcomes
DSC	21STS2T411	Descriptive Statistics	<ol style="list-style-type: none"> 1. Acquire knowledge of introductory statistics, its scope and importance in various areas such as Medical, Engineering, Agricultural and Social Sciences etc 2. Categorize various types of data and their organization, formulate evaluation of summary measures such as measures of central tendency and dispersion etc 3. Perceive the knowledge of correlation, regression analysis, regression diagnostics, partial and multiple correlations 4. Identify different types of data reflecting independence and association between two or more attributes.
DSC	21STS2L211	Descriptive Statistics Practical	<ol style="list-style-type: none"> 1. Use graphical techniques to interpret and compute various measures of central tendency 2. Calculate various measures of dispersion, skewness and kurtosis. 3. Develop the linear relationship between the two variables by using scatter plots and other correlation methods and also fitting of curves 4. Solve multivariate descriptive statistics, mean vector, dispersion matrix, independence and association between two or more attributes.
DSC	21ECO2T311	Micro Economic Theory and Application	<ol style="list-style-type: none"> 1. Apply basic economic concepts to real time situations. 2. Illustrate the concept of utility in consumer behavior. 3. Demonstrate the measurement of individual demand, supply and market demand. 4. Analyze cost and production functions of modern business firm. 5. Evaluate the pricing decisions under different market structures.
DSC	21ECO2T312	Indian Economic Issues	<ol style="list-style-type: none"> 1. Demonstrate the demographic dividend of India 2. Illustrate the impact of WTO on Indian Agriculture 3. Appraise various economic policies adopted in India. 4. Analyze the working of money and capital markets 5. Evaluate structure and performance of Karnataka economy
AECC	22ENGIT312	Musings in English Literature	<ol style="list-style-type: none"> 1. Articulate the relevant issues of society through the imbibed knowledge of prose 2. Identify and appreciate nuances of poetry 3. Implement the basic concepts of grammar and its usage.
AECC	21KANIT312	Saahithya Sangama I	<ol style="list-style-type: none"> 1: ಸಾಹಿತ್ಯದಲ್ಲಿ ಅಡಗಿರುವ ವಿವಿಧ ಸಾಮಾಜಿಕ ಮೌಲ್ಯ ಮತ್ತು ಜವಾಬ್ದಾರಿಗಳನ್ನು ಅರಿಯುವರು. 2: ಭಾಷಾ ಕೌಶಲವನ್ನು ಅಭಿವೃದ್ಧಿ ಪಡಿಸಿಕೊಳ್ಳುವರು. 3: ವಿದ್ಯಾರ್ಥಿಗಳು ತಮ್ಮ ಜೀವನದ ಸೃಜನಶೀಲತೆಯ ಮಹತ್ವವನ್ನು ಚರ್ಚಿಸುವರು. 4: ಹದಿಹರೆಯ ವಯಸ್ಸಿನ ಸಮಸ್ಯೆಗಳು ಹಾಗೂ ಪರಿಹಾರಗಳನ್ನು ವಿಶ್ಲೇಷಿಸುವರು.

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AECC	21HIN1T312	Hindi Kahani aur Prayajanmulak Hindi	1: हिन्दी कहानी विधा का ज्ञान ग्रहण करने की क्षमता का विकास। 2: विद्यार्थियों में सामाजिक यथार्थ और मुल्यांकन करने का विकास। 3: विद्यार्थियों में कहानी विधा का वर्णन करने की क्षमता का विकास। 4: विद्यार्थियों में कहानी का विश्लेषण और भाषा कौशल में प्रवीणता।
AECC	22AEN1T311	Listening and Comprehension in English	4. identify the barriers to listening and describe the key components that contribute to effective listening 5. use their grammatical knowledge to refine their speech and writing 6. analyse complex human situations and challenges that emerge from the prescribed texts.

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II Semester			
Course Type	Course Code	Course Title	Course Outcomes
DSC	21STS2T421	Probability and Distributions	<ol style="list-style-type: none"> 1. Perceive the concept of basic probability and its terminologies. Simultaneously, learn the concept of conditional probability including the concept of Bayes' Theorem 2. Understand the calculation concept of univariate and bivariate random variables 3. Identify the characteristics of discrete distributions- binomial, Poisson, negative binomial, geometric, hyper geometric and continuous distribution- normal 4. Apply simulation techniques to generate random samples for uniform, Poisson, Binomial and normal distributions and descriptive statistics problems are solved using R programming.
DSC	21STS2L221	Probability and Distributions Practical	<ol style="list-style-type: none"> 1. Find the probabilities of events, additional, multiplication, conditional and Bayes theorems. 2. Analyze data pertaining to discrete and continuous variables and to interpret the results 3. Obtain a discrete and continuous probability distribution in the given situation. 4. Simulate random samples using simulation techniques for uniform, Poisson, binomial and normal distributions and descriptive statistics problems are solved using R
DSC	21ECO2T321	Macro-Economic Theory and Application	<ol style="list-style-type: none"> 1. Demonstrate the basic concepts of macroeconomics 2. Illustrate the demand for and supply of money in the economy. 3. Appraise the impact of macroeconomic challenges and policies 4. Analyze the poverty through multi-dimensional poverty index 5. Measure the gains from international trade between the trading countries.
DSC	21ECO2T322	Economic Development and Growth	<ol style="list-style-type: none"> 1. Examining the basic concepts of growth and development. 2. Assess the crucial indicators of growth and development of an economy 3. Apply the theory of growth and development in real economic situations. 4. Evaluate the role of market and state in economic development. 5. Critically evaluate the strategies for resource allocation at state and central level.
AECC	22ENG1T322	Glimpses: Readings from English Literature	<ol style="list-style-type: none"> 1. Identify the themes and relevant issues through the study of prose and poetry 2. Develop the skill to identify the pertinent themes and characters in the novel 3. Implement new approaches in speaking and writing skills.
AECC	21KAN1T322	Saahithya Sangama II	<ol style="list-style-type: none"> 1: ಸಾಹಿತ್ಯದಲ್ಲಿ ವ್ಯಕ್ತವಾಗಿರುವ ಮಾನವೀಯ ಮೌಲ್ಯಗಳನ್ನು ಅರಿಯುವರು. 2: ಸಾಹಿತ್ಯದಲ್ಲಿ ಅಡಗಿರುವ ಸಾಮಾಜಿಕ ಮೌಲ್ಯಗಳನ್ನು ಅರಿಯುವರು. 3: ಯುದ್ಧದಿಂದಾಗುವ ಅನಾಹುತಗಳನ್ನು ಅರಿಯುವರು. 4: ಮಾನ್ಯವಿಲ್ಲದ ಜಾತಿ ಬೇಧಭಾವಗಳ ಬಗ್ಗೆ ಅರಿಯುವರು. 5: ಜೀವನ ಕೌಶಲವನ್ನು ಅಭಿವೃದ್ಧಿ ಪಡಿಸಿಕೊಳ್ಳುವರು.

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AECC	21HIN1T322	Hindi Kavitha aur Anuvaad Koushal	1: हिन्दी कविता का विश्लेषण एवं समझने की योग्यता का विकास। 2: विद्यार्थियों में सामाजिक यथार्थ और मूल्यांकन करने का विकास। 3: कविता में वर्णित कथा का वर्णन एवं काव्य सृजन करने का विकास। 4: अनुवाद एवं भाषा कौशल में प्राविण्यता।
AECC	22AEN1T321	Conversation Practice in English	1. Identify the barriers to listening and describe the key components that contribute to effective listening 2. Use their grammatical knowledge to refine their speech and writing 3. Analyse complex human situations and challenges that emerge from the prescribed texts.
AECC	21EVS1T321	Environmental Studies	1. Understand the concept of Environment and ecosystems 2. Gain knowledge on various components controlling the stability of ecosystem 3. Understand the Policies and laws pertaining to the welfare of life forms.

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III Semester			
Course Type	Course Code	Course Title	Course Outcomes
DSC	21STS2T431	Calculus and Probability Distributions	<ol style="list-style-type: none"> Understand how the Central Limit Theorem describes the shape, center, and spread of sampling distributions of sample statistics; and the statement of law of large numbers Identify the characteristics of different continuous distributions and apply selected probability distributions to solve problems in real world events Perceive the concept of random samples, parameter, and statistics; obtain the sampling distribution of mean and variance and understand the details of important sampling distributions, namely chi-square, Student -t, and Snedecor's F-distributions Apply simulation technique to generate random samples from Uniform, Poisson, Binomial and Normal and Cauchy distributions.
DSC	21STS2L231	Calculus and Probability Distributions Practicals	<ol style="list-style-type: none"> Understand how the Central Limit Theorem describes the shape, center, and spread of sampling distributions of sample statistics; and the statement of law of large numbers Identify the characteristics of different continuous distributions and apply selected probability distributions to solve problems in real world events Perceive the concept of random samples, parameter, and statistics and obtain the sampling distribution of mean and variance Apply simulation technique to generate random samples from Uniform, Poisson, Binomial and Normal and Cauchy distributions.
DSC	21ECO2T331	Monetary Economics	<ol style="list-style-type: none"> Identify the importance of monetary systems and its Functions in the economy. Examine the monetary standards and its implications in the economy. Evaluate the significance in maintain equilibrium between demand and supply of money. Evaluate inflation, deflation, and its impact on Economy. Assess the monetary policy measures for economic stability.
DSC	21ECO2T332	Mathematical Economics	<ol style="list-style-type: none"> Infer mathematical equations for demand and supply function, cost and revenue function and consumption function Examine the relationship between economic variables Evaluate constrained and unconstrained optimization mathematical models. Apply the basic rules of integration to the concept of consumer and producer surplus and the basics of matrix to solve input-output model Solve economic issues by using input-output analysis

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AECC	2IENG1T332	Symphony of English Literature	<ol style="list-style-type: none">1. Identify the themes and relevant issues through the study of prose and poetry2. Develop the skill to identify the pertinent themes and characters in the novel3. Implement new approaches in speaking and writing skills.
AECC	2IKANIT332	Saahithya Sangama III	<ol style="list-style-type: none">1: ನಾಹಿತ್ಯದಲ್ಲಿ ಅಡಗಿರುವ ವಿವಿಧ ಸಾಮಾಜಿಕ ಮೌಲ್ಯ ಮತ್ತು ಜವಾಬ್ದಾರಿಗಳನ್ನು ಅರಿಯುವರು.2: ಭಾಷಾ ಕೌಶಲವನ್ನು ಅಭಿವೃದ್ಧಿ ಪಡಿಸಿಕೊಳ್ಳುವರು.3: ವಿದ್ಯಾರ್ಥಿಗಳು ತಮ್ಮ ಜೀವನದ ವರ್ತಮಾನದ ಘಟನೆಗಳ ಕುರಿತು ಚರ್ಚಿಸುವರು.4: ಹದಿಹರೆಯ ವಯಸ್ಸಿನಲ್ಲಿ ಅರಿಯಬೇಕಾಗಿರುವ ಶಾಂತಿ-ಸೌಹಾರ್ದತೆಯ ಕುರಿತು ವಿಶ್ಲೇಷಿಸುವರು.5: ಜೀವನದಲ್ಲಿ ಮಾನವನು ಬೆಳೆಸಿಕೊಳ್ಳಬೇಕಾದ ಬಹುಮುಖ್ಯ ಆದರ್ಶ, ತತ್ವಗಳ ಕುರಿತು ಚರ್ಚಿಸುವರು.

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AECC	21HINIT332	Hindi Natak Sahitya aur Sanchar Maadhyam evam Hindi	1:हिन्दी नाटक विधा को समझना और अभिनय करने की योग्यता का विकास। 2:विद्यार्थियों में सामाजिक यथार्थ और मुल्यांकन करने का विकास। 3: नाटक लेखन और पठन में रूचि एवं सृजनात्मक कौशल्य का विकास। 4: संचार माध्यम कला में प्राविण्यता।
AECC	21AENIT331	Essential English Reading	1. Recognize the techniques of effective reading and demonstrate their competence in comprehension. 2. Articulate their thoughts and structure written compositions as needed in official contexts 3. Formulate their responses to contemporary challenges that emerge from the prescribed texts.

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IV Semester			
Course Type	Course Code	Course Title	Course Outcomes
DSC	21STS2T441	Statistical Inference I	<ol style="list-style-type: none"> 1. Understand the properties of unbiasedness, consistency, efficiency and sufficiency of estimators and obtain the estimators for unknown parameters 2. Construct confidence intervals for means, difference of mean, proportions, difference of proportions, variance, and ratio of variances 3. Perceive the concepts of statistical hypothesis and analyze type I error, type II error and power of test 4. Relate to test of significance for means, difference of mean, proportions, difference of proportions.
DSC	21STS2L241	Statistical Inference I Practical	<ol style="list-style-type: none"> 1. Formulate point estimators using maximum likelihood method and method of moments. 2. Construct confidence intervals for means, difference of mean, proportions, difference of proportions, variance, and ratio of variances. 3. Calibrate type I error, type II error and power of test and Design MP test for mean of normal distribution, parameters of binomial and Poisson distributions. 4. Develop test of significance for means, difference of mean, proportions, difference of proportions, variance , ratio of variances, correlation coefficients
DSC	21ECO2T341	Agriculture and Rural Development	<ol style="list-style-type: none"> 1. Demonstrate the techniques in finding trends in area and regional pattern of agriculture 2. Apply the theoretical knowledge to analyze the structure, growth and problems of Agriculture 3. Analyze and implement the technological advancement to improve the agricultural Productivity and rural development. 4. Analyze the performance of non-cooperative credit societies in rural development. 5. Evaluate the relevance of Government programmes for rural industrialization.
DSC	21ECO2T342	Economics of Globalisation	<ol style="list-style-type: none"> 1. Analyse the historical evolution of globalisation. 2. Evaluate the world trade scenario after globalisation. 3. Demonstrate the trends and pattern in the FDI and FII flow. 4. Analyse the cost and benefit of globalisation in India. 5. Evaluate the causes and consequences of global economic crisis.
AECC	21ENGIT342	Ruminations of English Literature	<ol style="list-style-type: none"> 1. Articulate the relevant social issues and thematic representation in prose and poetry 2. Analyse the characters, plot, setting and themes of novel 3. Acquire vital employability skills and employment opportunities with in-depth knowledge of writing skills.

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AECC	21KANIT342	Saahithya Sangama IV	<p>1: ಸಾಹಿತ್ಯದಲ್ಲಿ ಅಡಗಿರುವ ವಿವಿಧ ಸಾಮಾಜಿಕ ಮೌಲ್ಯ ಮತ್ತು ಜವಾಬ್ದಾರಿಗಳನ್ನು ಅರಿಯುವರು.</p> <p>2: ಭಾಷಾ ಕೌಶಲವನ್ನು ಅಭಿವೃದ್ಧಿ ಪಡಿಸಿಕೊಳ್ಳುವರು.</p> <p>3: ವಿದ್ಯಾರ್ಥಿಗಳು ತಮ್ಮ ಜೀವನದಲ್ಲಿ ಧಾರ್ಮಿಕ ಸಹಿಷ್ಣುತೆಯ ಮಹತ್ವವನ್ನು ಚರ್ಚಿಸುವರು.</p> <p>4: ಶ್ರೀಸಾಮಾನ್ಯನ ಬದುಕಿನ ಸಮಸ್ಯೆಗಳು, ಬವಣೆಗಳು ಹಾಗೂ ಪರಿಹಾರಗಳನ್ನು ವಿಶ್ಲೇಷಿಸುವರು.</p> <p>5: ದಮನಿತ ಲೋಕದ ಶೋಷಣೆಯ ಭಿನ್ನ ರೂಪಗಳ ಕುರಿತು ಚರ್ಚಿಸುವರು.</p>
AECC	21HINIT342	Hindi Laghu Upanyas aur Bhasha Ke Vividh Roop	<p>1: हिंदी उपन्यासों का ज्ञान ग्रहण और समझने की योग्यता का विकास।</p> <p>2: विद्यार्थियों में सामाजिक यथार्थ और मुल्यांकन करने का विकास।</p> <p>3: लघु उपन्यास की कथा का वर्णन और विश्लेषण करने की क्षमता का विकास।</p> <p>4: भाषा के विविध रूपों एवं भाषा कौशल में प्राविण्यता।</p>
AECC	21AENIT341	Fundamentals of English Written Communication	<p>1. Examine the features of effective writing and demonstrate their skills in complex, non-formulaic writing</p> <p>2. Identify and fix common stylistic errors in written English</p> <p>3. Analyze the representation of cross-cutting issues in literary works.</p>
AECC	21INCIT341	India and Indian Constitution	<p>1. Evaluate the philosophy of the Constitution and its structure</p> <p>2. Appraise the powers and functions of various offices under the Constitution</p> <p>3. Analyze the Indian values, Ideals and the role of Constitution in a Democracy.</p>

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