Kristu Jayanti College

AUTONOMOUS   **Bengaluru**

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

FACULTY OF SCIENCES

Programme Matrix: Bachelor of Science - Computer Science, Mathematics [2023 Batch]

Programme Outcomes

After successful completion of B.Sc. honours in Computer Science and Mathematics, 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: design, execute and interpret the results of experiments in Computer Science and Mathematics involving programming concepts, mathematical foundation and visualisations techniques

PO4: appraise programming skills by implementing the structure and development methodologies of software systems.

PO5: infer a modern scientific IT tool and techniques to solve problems in the area of computer science

PO6: develop critical thinking, mathematical modelling and logical reasoning skills to solve real-life problems.

Date of Approval: 10|2|23

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077

I Semester			
Course Type	**Course Code**	**Course Title**	**Course Outcomes**
DSC	21CSC2T411	Programming in C	1. Design flowchart and algorithms for C programs 2. Construct sequential, iterative problems and input/output operations on text files 3. Differentiate between decision control structures and loop control structures 4. Distinguish between data representation through arrays, functions, function using pointers, structures and unions
DSC	21CSC2L211	Programming in C Practical	1. Develop C programs using sequential conditional and iterative constructs 2. Design programs using user defined and derived data types, string operations and functions in C language 3. Use structures, files and pointers as per the requirement
DSC	21UMT2T411	Algebra I and Calculus I	1. Evaluate rank and inverse of a matrix using elementary transformations 2. Solve the system of homogeneous and non-homogeneous linear m equations in variables by using concept of rank of matrix, finding eigen values and eigen vectors 3. Formulate pedal equation, derivatives of arc, curvature, asymptote, evolute, envelope of curves in Cartesian, polar and pedal forms 4. Apply the concepts of limits, continuity, differentiability and intermediate value theorems, Taylor's, Maclaurin's series and L'Hospital rule 5. Construct nth derivative of $(z)=uv$ using Leibnitz's Theorem and of standard functions.
DSC	21UMT2L211	Algebra I and Calculus I Practical	1. Execute problems on algebra theory using FOSS software 2. Execute problems on calculus theory using FOSS software 3. Compare and relate the programs and solutions obtained through direct method of problems on algebra through FOSS 4. Compare and relate the programs and solutions obtained through direct method of problems on calculus through FOSS.
AECC	22ENG1T312	Musings in English Literature	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.

Date of Approval: 10|2|23

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077

AECC	21KAN1T312	Saahithya Sangama I	1: ಸಾಹಿತ್ಯದಲ್ಲಿ ಅಡಗಿರುವ ವಿವಿಧ ಸಾಮಾಜಿಕ ಮೌಲ್ಯ ಮತ್ತು ಜವಾಬ್ದಾರಿಗಳನ್ನು ಅರಿಯುವರು. 2: ಭಾಷಾ ಕೌಶಲವನ್ನು ಅಭಿವೃದ್ಧಿ ಪಡಿಸಿಕೊಳ್ಳುವರು. 3: ವಿದ್ಯಾರ್ಥಿಗಳು ತಮ್ಮ ಜೀವನದ ಸೃಜನಶೀಲತೆಯ ಮಹತ್ತ್ವವನ್ನು ಚರ್ಚಿಸುವರು. 4: ಹದಿಹರೆಯ ವಯಸ್ಸಿನ ಸಮಸ್ಯೆಗಳು ಹಾಗೂ ಪರಿಹಾರಗಳನ್ನು ವಿಶ್ಲೇಷಿಸುವರು.
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	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.

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077

II Semester			
Course Type	Course Code	Course Title	Course Outcomes
DSC	21CSC2T421	Data Structures	1. Understanding the fundamental analysis of data structures, dynamic memory management, recursive procedures and usage of pointer variables 2. Applying suitable sorting and searching algorithms for data structure applications 3. Articulate non-linear data structures of stack and queue and legal operations permitted on them 4. Understanding the concepts, operations of linked list and its application 5. Comprehend the basic data structures of tree terminologies with its application.
DSC	21CSC2L221	Data Structures Practical	1. Execute recursive functions for tower of Hanoi and binomial coefficient 2. Develop programs for searching and sorting techniques 3. Write programs explaining the data structures operations
DSC	21UMT2T421	Algebra II and Calculus II	1. Recognize the basic theorems and techniques of real analysis 2. Explain the significance of groups, subgroup, cosets, factor groups and related theorems 3. Evaluate partial derivatives of algebraic and transcendental functions 4. Determine the Taylor's and Maclaurin's series and extreme values of functions of two variables 5. Solve problems on line, double and triple integral.
DSC	21UMT2L221	Algebra II and Calculus II Practical	1. Execute problems on algebra theory using FOSS software 2. Execute problems on calculus theory using FOSS software 3. Compare and relate the programs and solutions obtained through direct method of problems on algebra through FOSS 4. Compare and relate the programs and solutions obtained through direct method of problems on calculus through FOSS.
AECC	22ENG1T322	Glimpses: Readings from English Literature	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.

Date of Approval: 10|2|23

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077

AECC	21KAN1T322	Saahithya Sangama II	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.
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.

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077

III Semester			
Course Type	**Course Code**	**Course Title**	**Course Outcomes**
DSC	21CSC2T431	Programming in JAVA	1. Understand Procedural and Object-oriented Programming Paradigms and compare java programming with C and C++ 2. Implement the basic programming constructs in java to develop simple java programs 3. Design and Analyze reusable programs using the concepts of inheritance, interfaces and packages 4. Identify and Design the concepts of Multithreading and Exception handling to develop efficient and error free codes 5. Apply the concept of event driven GUI and create applications using applets and AWT.
DSC	21CSC2L231	Programming in JAVA Practical	1. Build sequential, decision making and iterative Java programs 2. Develop Java programs using Object oriented programming concepts 3. Design GUI based applications using frames.
DSC	21UMT2T431	Ordinary Differential Equations and Real Analysis I	1. Apply the concept of differential equation and solve first order linear and homogeneous differential equations 2. Evaluate and apply second and higher order differential equations 3. Define sequence, examine the boundedness and apply the properties to test convergence of a sequence 4. Define series and implement different test to examine convergence of series.
DSC	21UMT2L231	Ordinary Differential Equations and Real Analysis I Practical	1. Execute ODE problems using FOSS software 2. Execute a program to find the complementary function for the ordinary linear differential Equation 3. Execute a program to find the solution of ordinary linear differential equation using FOSS software 4. Verify for convergence and divergence of a sequence using FOSS software 5. Verify for convergence and divergence of a series using FOSS software.
AECC	21ENG1T332	Symphony of English Literature	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.

Date of Approval: 10|2|23

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077

AECC	21KAN1T332	Saahithya Sangama III	1: ಸಾಹಿತ್ಯದಲ್ಲಿ 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 ಬೆಳಸಿಕೊಳ್ಳಬೇಕಾದ ಬಹುಮುಖ್ಯ ಆದರ್ಶ. ತತ್ವಗಳ ಕುರಿತು ಚರ್ಚಿಸುವರು.
AECC	21HIN1T332	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 रुचि एवं सृजनात्मक कौशल्य का विकास। 4: संचार माध्यम कला में प्राविण्यता।
AECC	21AEN1T331	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.

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077

Course Type	Course Code	Course Title	Course Outcomes
IV Semester			
DSC	21CSC2T441	Internet Technology	1. Understand the basic internet technologies and protocols involve in internet and service rendered by internet 2. Write Standards/Compliant HTML code and CSS code to present HTML pages in different attractive ways 3. Develop dynamic web pages by using java script (client side programming) and write well/valid XML documents. 4. Quote examples related to JavaScript functions 5. Apply knowledge to work on XML with DTD an XML schemas
DSC	21CSC2L241	Internet Technology Practical	1. Create basic HTML tags 2. Design and webpages using java script and CSS 3. Manages webpages using XML Tags.
DSC	21UMT2T441	Partial Differential Equations and Integral Transforms	1. Solve partial differential equation of first order using charpit's method and second order using complementary function and particular integral 2. Evaluate Fourier series 3. Apply properties of Fourier transforms 4. Evaluate Laplace transforms and inverse Laplace transforms.
DSC	21UMT2L241	Partial Differential Equations and Integral Transforms Practical	1. Execute problems on PDE using FOSS software. 2. Execute problems on Laplace Transforms using FOSS software. 3. Acquire knowledge of applications of algebra and calculus through FOSS
AECC	21ENG1T342	Ruminations of English Literature	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.
AECC	21KAN1T342	Saahithya Sangama IV	1: ಸಾಹಿತ್ಯದಲ್ಲಿ ಅಡಗಿರುವ ವಿವಿಧ ಸಾಮಾಜಿಕ ಮೌಲ್ಯ ಮತ್ತು ಜವಾಬ್ದಾರಿಗಳನ್ನು ಅರಿಯುವರು. 2: ಭಾಷಾ ಕೌಶಲವನ್ನು ಅಭಿವೃದ್ಧಿ ಪಡಿಸಿಕೊಳ್ಳುವರು. 3: ವಿದ್ಯಾರ್ಥಿಗಳು ತಮ್ಮ ಜೀವನದಲ್ಲಿ ಧಾರ್ಮಿಕ ಸಹಿಷ್ಣುತೆಯ ಮಹತ್ವವನ್ನು ಚರ್ಚಿಸುವರು. 4: ಶ್ರೀಸಾಮಾನ್ಯನ ಬದುಕಿನ ಸಮಸ್ಯೆಗಳು, ಬವಣೆಗಳು ಹಾಗೂ ಪರಿಹಾರಗಳನ್ನು ವಿಶ್ಲೇಷಿಸುವರು. 5: ದಮನಿತ ಲೋಕದ ಶೋಷಣೆಯ ಭಿನ್ನ ರೂಪಗಳ ಕುರಿತು ಚರ್ಚಿಸುವರು.

Date of Approval: 10|2|23

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077

AECC	21HIN1T342	Hindi Laghu Upanyas aur Bhasha Ke Vividh Roop	1: हिंदी उपन्यासों का ज्ञान ग्रहण और समझने की योग्यता का विकास 2: विद्यार्थियों में सामाजिक यथार्थ और मुल्यांकन करने का विकास। 3: लघु उपन्यास की कथा का वर्णन और विश्लेषण करने की क्षमता का विकास। 4: भाषा के विविध रूपों एवं भाषा कौशल में प्राविण्यता।
AECC	21AEN1T341	Fundamentals of English Written Communication	1. Examine the features of effective writing and demonstrate their skills in complex, non-formulaic writing 2. Identify and fix common stylistic errors in written English 3. Analyze the representation of cross-cutting issues in literary works.
AECC	21INC1T341	India and Indian Constitution	1. Evaluate the philosophy of the Constitution and its structure 2. Appraise the powers and functions of various offices under the Constitution 3. Analyze the Indian values, Ideals and the role of Constitution in a Democracy.

Date of Approval: 10|2|23

DEAN
FACULTY OF SCIENCE
KRISTU JAYANTI COLLEGE AUTONOMOUS
K. Narayanapura, Kothanur PO
Bengaluru - 560077