

BIJOY KRISHNA GIRLS' COLLEGE, HOWRAH

Estd : 1st August 1947. Affiliated to University of Calcutta
NCTE approved NAAC B accredited College with CPE status

POs PSOs and COs

Program Outcomes (POs)

At the end of the B.Sc CS Programme, graduates will be able to

PO1 Critical Thinking: Apply knowledge of Computer Science to identify, analyze problems and to provide effective solution in the area of Computing.

PO2 Analytical skill: Ability to design, develop algorithms and provide software solutions to cater the industrial needs.

PO3 Employability Skills: Inculcate skills to excel in the fields of Information Technology and its Enabled services, Government and Private sectors, Teaching and Research.

PO4 Ethics: Instill ethical responsibilities, human and professional values and make their

internationally learning

contribution to the society.

PO5 Self Directed and Life-long Learning: Engaged in lifelong learning to equip them to the changing environment and be prepared to take-up mastering programmes.

Course Outcomes:

CC1

Core Course -1

Theory CMS-A-CC-1-1-T Digital Logic (TH+LAB)

Course Outcome:

To acquire the basic knowledge of digital logic levels and application of knowledge to understand digital electronics circuits.

To prepare students to perform the analysis and design of various digital electronic circuits.

CC2

Core Course -2

Programming Fundamentals using C (TH+LAB) Course Outcome:

Explain about the basic concepts of program development statements and its syntax.

Explain the various types of arrays and its structure.

Discuss about the various types of Functions and String handling mechanisms.

Explain the Concepts of structures and Unions.

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Illustrates the various operations performed on different types of files.

CC3

Core Course -3

Data Structure using C (TH+LAB)

Course Outcome:

Introduce the concept of data structures through ADT including List, Stack, Queues.

To design and implement various data structure algorithms.

To introduce various techniques for representation of the data in the real world.

To develop application using data structure algorithms

CC4

Core Course -4

Basic Electronics (TH+LAB)

Course Outcome:

Recognize a variety of exciting high-tech products and systems enabled by electronics.

Manipulate voltages, currents and resistances in electronic circuits.

Demonstrate familiarity with basic electronic components and use them to design simple electronic circuits.

CC5

Core Course -5

Computer Organization and Architecture (TH+LAB)

Course Outcome:

Describe the fundamental organization of a computer system.

Explain the functional units of a processor.

Explain addressing modes, instruction formats and program control statements.

Distinguish the organization of various parts of a system memory hierarchy.

CC6

Core Course -6

Numerical Analysis (TH+LAB)

Course Outcome:

Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration,

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The solution of linear and nonlinear equations, and the solution of differential equations.
Analyze and evaluate the accuracy of common numerical methods.

CC7

Core Course -7

Operating System (TH+LAB)

Course Outcome:

1. A successful student will be able to understand the basic components of a computer operating system, and the interactions among the various components. The course will cover an introduction on the policies for scheduling, deadlocks, memory management, synchronization, system calls, and file systems. The students will implement solutions via C/C++ programs, and through NACHOS.

Skill Enhancement Course (SEC-A) Core Course - SEC-A-1

Computer Graphics (TH)

Course Outcome:

Interpret the mathematical foundation of the concepts of computer graphics.
Describe the fundamentals of animation, parametric curves and surfaces, and spotlighting.
Identify a typical graphics pipeline and apply graphics programming techniques to design and create computer graphics.

Skill Enhancement Course (SEC-A) Core Course - SEC-A-2

IoT (Internet of Things) (TH)

Course Outcome:

Apply the knowledge and skills acquired during the course to build and test a complete, working IoT system involving prototyping, programming and data analysis.
Appreciate the role of big data, cloud computing and data analytics in a typical IoT system.

CC8

Core Course -8

Computer Network (TH+LAB)

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Course Outcome:

1. Upon successful completion, students will have the knowledge and skills to: Understand and describe the layered protocol model. Describe, analyze and evaluate a number of datalink, network, and transport layer protocols. Program network communication services for client/server and other application layouts.

CC9

Core Course -9

Algorithm Analysis (TH+LAB)

Course Outcome:

1. Analyze the asymptotic performance of algorithms. Write rigorous correctness proofs for algorithms. Demonstrate a familiarity with major algorithms and data structures. Apply important algorithmic design paradigms and methods of analysis.

CC10

Core Course -10

8085 programming (TH+LAB)

Course Outcome:

To illustrate the architecture of 8085 and 8086 microprocessors.

To introduce the programming and interfacing techniques of 8086 microprocessor.

To analyse the basic concepts and programming of 8051 microcontroller .

To understand the interfacing circuits for various applications of 8051 microcontroller.

Skill Enhancement Course (SEC-B) Core Course - SEC-B-1 Information Security (TH)

Course Outcome:

The candidate is capable of demonstrating advanced knowledge in the field of cyber and information security in general and the following particular topics: computer and network security, security management, incident response, computational and digital forensics, biometrics, privacy, and security of critical infrastructure. The candidate possesses special insight and can demonstrate expertise in information security technology, digital forensics, or security management, depending on the chosen program track.

The candidate can demonstrate advanced knowledge of the current state-of-the-art in the field of cyber and information security.

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Skill Enhancement Course (SEC-B) Core Course - SEC-B-2
E-Commerce (TH)

Course Outcome:

Demonstrate an understanding of retailing in E-commerce by: analyzing branding and pricing strategies, using and determining the effectiveness of market research.

CC11

Core Course -11

Database Management system (DBMS) (TH+LAB)

Course Outcome:

Describe the fundamental elements of relational database management systems

Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.

Design ER-models to represent simple database application scenarios .

Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.

Improve the database design by normalization.

Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing.

CC12

Core Course -12

Object Oriented Programming (OOPs) (TH+LAB)

Course Outcome:

Understand the difference between the top-down and bottom-up approach

Describe the object-oriented programming approach in connection with C++

Apply the concepts of object-oriented programming

Illustrate the process of data file manipulations using C++

Disciplinary Specific Elective Course - DSE-A Core Course - DSE-A-1

Digital Image Processing (TH+LAB)

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Course Outcome:

Develop any image processing application.

Understand the rapid advances in Machine vision.

Learn different techniques employed for the enhancement of images.

Learn different causes for image degradation and overview of image restoration techniques.

Disciplinary Specific Elective Course - DSE-B Core Course - DSE-B-2
Programming using Python (TH+LAB)

Course Outcome:

1. Understanding programming logic.
2. Develop knowledge for data analysis.