

Department of Computer Science

Government Autonomous College, Rourkela

Program outcome

PO1: Provides technology-oriented students with the knowledge and ability to develop creative solutions. Develop skills to learn new technology.

PO2: Apply computer science theory and software development concepts to construct computing-based solutions

PO3: Design and develop computer programs/computer-based systems in the areas related to algorithms, networking, web design, cloud computing, Artificial Intelligence, Mobile applications.

PO4: Students will attain an understanding of professional, ethical, legal, security and social issues and responsibilities.

Program Specific Outcome

PSO1. Applying theoretical concepts and technology for real world problems

PSO2. Possess skill sets in programming

PSO3. Inculcate skills for team work and leadership

PSO4. Providing computing solutions at par with global standards

PSO5. Promote continuous learning and innovation in research in the field of technology

BSC COMPUTER SCIENCE

SEMISTER I:

Core 1: programming in c- To be able to write c programs using array, function and pointers.

Core 2: Digital logic- Understanding different logic gates, circuit ship and flip-flop.

SEMISTER II:

Core 3: Programming in C++ Understanding the basic of OOPs using C++ Core 4: Data

structure- Understanding the model and structure of Data **SEMISTER III:**

Core 5: Operating system- To know the details of different units of operating system

Core 6: DBMS- To store retrieve and modify data in database

Core 7: Discrete structure- To understand the basics of mathematics in terms of Graph theory

SEMISTER IV:

Core 8: Java Programming- Writing programs using Java

Core 9: Computer Network- Understanding of Network layers and their functionality

Core 10: Computer Graphics- Writing of Graphical design programs

SEMISTER V:

Core 11: Internet Technology- Designing webpage with the understanding of IT

Core 12: Software Engineering: Understand the steps of SDLC

DSE 1: Information Security-Understanding the security and ethical responsibility

DSE 2: Microprocessor- Understanding of different circuit chips

SEMISTER VI:

Core 13: Artificial Intelligence: To build a bridge between human and machine

Core 14: DAA: Design and analysis of complex problem.

DSE 3: Cloud Computing- Understanding the architecture of cloud technology.

DSE 4: PROJECT- Building software project for real time application

M.Sc. COMPUTER SCIENCE

SEMISTER I:

MSC 101: Computer organization and Architecture- Understanding of architecture of computer, memory address, bus, arithmetic operation.

MCS 102: Data structure through JAVA: To understand stack, queue, sorting, searching techniques with the help of JAVA.

MCS 103: operating system: To understand different OS and design issues related to process management, Deadlock, file management.

MCS 104: Theory of computer: Acquire the knowledge of PDA, Turing machine, LBA, regular expression.

MCS 105: LAB- To be able to write basic program to perform operations on stack, queues, search and sorting techniques.

SEMISTER II:

MCS 201: **Design Methods and Analysis of Algorithm:** on successful completion of this subject the students should have the ability to design effective algorithm with the understanding of computational complexity and different approaches including greedy, dynamic programming and divide and conquer approach.

MCS 202: Advance computer network: To understand TCP/IP, ATM, queue and multi-server queue.

MCS 203: System Programming: Understanding of Machine structure, machine language, Macro and its features along with operations.

MCS 204: Linear Algebra and Probability: To acquire the knowledge of Matrix , probability, Bayes theorem.

MCS 205: LAB- to understand the concept of C++ and to be able to solve problems like, palindrome, Armstrong, GFD, LCM, Sum of Digit, searching with and sorting.

SEMISTER III:

MCS 301: Artificial Intelligence: Understand the numerous applications and huge possibilities in the field of AI with the understanding of search techniques, NLP, NN, ML and Fuzzy Set.

MCS 302: Software Engineering : Understand different SDLC models, advantage and limitation of each model, SRS, DFD, UML, and different Testing in software.

MCS 303: Mobile communication: to understand mobile IP, traditional TCP model, 3G, MAC layers.

MCS 304: Database engineering: To understand different data model, transition property, joins type and normal forms.

MCS 305: Seminar and review report: To able to understand a specific topic of computer science and presenting it with proper formatting.

MCS 306: LAB: To acquire the knowledge of crating, updating and deleting tables with SQL command, retrieving data from tables, and be able to draw different UML diagrams for real time systems like ATM and Library management system

SEMISTER IV:

MCS 401: Real Time system: Understand the concept of EDF, RMA,DMA, UNIX, LINUX, and QoS framework.

MCS 402: Cryptography and network security: To Illustrate the concepts of Network Security and Compare Various Symmetric and Asymmetric Cryptographic methods used for Network Security. Implement Firewall design principles and identify various intrusion detection systems and be able to achieve highest system security

MCS 403: Internet and web technology: to understand, HTML, JAVA SCRIPT, SERVLET.

MCS 404: Application Modeling Lab: To be able to write Java program.

MCS 405: IWT LAB: To be able to design HTML template, writing of programs based on Servlet.

MCS 406: Project/ Dissertation: To learn latest technology and application with the understanding of research in the field of computer science.