B.Tech Information Science and Engineering

This course is designed to equip students with both foundational knowledge and cutting-edge skills. This program offers an in-depth journey through key areas such as computation, algorithm design and analysis, computer programming languages, software architecture, information theory, IoT and smart sensor systems, Agile software methodologies, DevOps practices, and more

PROGRAMME STRUCTURE

SEMESTER I (Physics Cycle)

- BMATS101   Mathematics-2 Optimization Techniques for CS stream
- BPHY102   Modern Physics for CSE stream
- BCS103   Python Programming for Beginners
- BEC104   Introduction to Electrical Engineering
- BCS105   Web Programming Fundamentals
- BENG106   Communicative English
- BCO107   Indian Constitution
- BCS108   Drafting Techniques with CAD

SEMESTER I (Chemistry Cycle)

- BMATS101   Mathematics-I Complex Variables and Linear Algebra
- BCHE102   Applied Chemistry for CSE stream
- BCS103   Computational Problem-Solving Using C
- BEC104   Basics of Electronics and Communication
- BCS105   Introduction to Embedded System
- BDEPT106   Corporate Social Responsibility
- BK107   Kannada
- BCS109   Innovative Thinking & Design Strategies

SEMESTER II (Physics Cycle)

- BMATS101   Mathematics-2 Optimization Techniques for CS stream
- BPHY102   Modern Physics for CSE stream
- BCS103   Python Programming for Beginners
- BEC104   Introduction to Electrical Engineering
- BCS105   Web Programming Fundamentals
- BENG106   Communicative English
- BCO107   Indian Constitution
- BCS108   Drafting Techniques with CAD

SEMESTER II (Chemistry Cycle)

- BMATS101   Mathematics-2 Optimization Techniques for CS stream
- BCHE102   Applied Chemistry for CSE stream
- BCS103   Computational Problem-Solving Using C
- BEC104   Basics of Electronics and Communication
- BCS105   Introduction to Embedded System
- BDEPT106   Corporate Social Responsibility
- BK107   Kannada
- BCS109   Innovative Thinking & Design Strategies

SEMESTER III

- BCS301   Mathematics-3: Probability and Statistics
- BCS302   Data Structures and Applications Strategies
- BCS303   Micro Processor and Controllers

- BCS304   Operating System and Computer Organization
- BCSL305   Data Visualization and Analysis Lab with Tableau/Python
- BCS306   Object Oriented Programming with Java
- BCS308   Project Management with Git
- BDEPT309   Skills for the Modern Professional -I (Soft skills)

SEMESTER IV

- BCS401   Mathematics-4: Graph Theory
- BCS402   Algorithm Design and Optimization
- BCS403   Database Systems and Administration
- BCSL404   Image Processing with MATLAB Laboratory
- BCS405   Image processing with MATLAB
- BCS406   UI/UX
- BDEPT408   Universal human values course
- BCS407   Internship –I*
- BDEPT409   Skills for the Modern Professional -II (Quantitative & Qualitative Thinking)

*Internship to be carried out in the interleaving holidays between semester 3 and start of semester 4. But Evaluated at the end of semester 4

SEMESTER V

- BCS501   Software Engineering & Project Management
- BCS502   Computer Network and Applications
- BCS503   Artificial Intelligence & Machine Learning
- BCSL504   Artificial Intelligence & Machine Learning Lab
- BCS505   Reinforcement Learning
- BCS506   Mini Project
- BDEPT507   Research Methodology and IPR
- BDEPT508   Environmental Studies
- BDEPT509   Skills for the Modern Professional -III (Technical)

SEMESTER VI

- BCS601   Full Stack Development
- BCS602   Generative AI and Introduction to Chatbots
- BCS603   Cyber Security and Cyber Forensics
- BCS604   Open Elective Course
- BCS605   Project Phase I
- BCSL606   Cyber Security and Cyber Forensics Lab
- BEC608   Introduction to R programming
- BCS607   Internship – II*
- BDEPT609   Skills for the Modern Professional -IV (Industry Readiness Program)

SEMESTER VII

- BCS701   Cloud Computing
- BCS702   Natural Language Processing
- BCS703   Big Data Analytics
- BCS704   Robot Vision
- BCS705   Open Elective Course
- BCS706   Major Project Phase-II

SEMESTER VIII

- BCS801   *NPTEL COURSE 1
- BCS802   *NPTEL COURSE 2
- BCS803   Internship -III (Industry/Research) (14 - 20 weeks)