

**Structure of B Tech Computer science and Engineering (Artificial Intelligence)  
(2021-22 admitted batch)**

**First Year:**

<b>Semester I</b>	<b>Semester II</b>
Calculus	Linear Algebra and Ordinary Differential Equations
Physics	Intelligence of Biological Systems
English Communication	Probability and Random Variables
Programming for Problem Solving	Engineering Graphics and Design
Basic Electrical and Electronics Engineering	Data Structures and Algorithms
Constitution of India	Professional Ethics
Critical Thinking	Design Thinking

**Second Year:**

<b>Semester III</b>	<b>Semester IV</b>
Discrete Mathematics	Environmental Science
Random processes and Estimation Techniques	Statistical Methods
Principles of Economics and Management	Machine Learning
Digital Electronics and Microprocessor	Signal and Image Processing
Principles of Operating Systems	Optimization Techniques
Computer Organization and Architecture	Management accounting for Engineers
Introduction to Artificial Intelligence	Open Elective - I (Technical Pool)
Community Service	Professional Ethics

**Third Year:**

<b>Semester V</b>	<b>Semester VI</b>
Computer Vision	Artificial Intelligence
Deep Learning	Robotics
Basic Control Theory	Computer Networks
Elective - I (Basket I)	Elective - V (Basket II)
Elective - II (Basket II)	Elective - VI (Basket II)
Elective - III (Basket II)	Elective - VII (Basket III)
Elective - IV (Basket III)	Open Elective - III (Humanities)
Open Elective II (Basic Sciences)	Open Elective - IV (Technical Pool)

**Fourth Year:**

<b>Semester VII</b>	<b>Semester VIII</b>
Human Computer Interaction	Major Project (Industry/Internship)
Natural Language Processing	
Distributed Computing	
Open Elective - V (Mixed Pool)	
Open Elective - VI (Mixed Pool)	
Elective - VIII (Basket II)	
Summer Internship	
Minor Project	

**Elective list and Open Elective list as follows:**

Elective Lists:

<b>Professional Electives Basket I</b>	
<b>Course</b>	<b>Credits</b>
Soft Computing	3
Cyber Security	3
Web Programming	3
Software Engineering	3
Unix Programming	3
Information storage and Management	3
Software quality assurance and Testing	3
Software project Management	3
Microcontroller and Embedded Programming	3
Cloud Computing	3
Information theory and coding	3
<b>Professional Electives Basket III</b>	
<b>Course</b>	<b>Credits</b>
Ethics and values in AI	1
Research Methodology	1
Bioengineering	1
AI and Humanity	1

<b>Professional Electives Basket II</b>	
<b>Course</b>	<b>Credits</b>
Sentiment / Web Analytics	3
Adversarial Machine Learning	3
Speech Systems	3
Reinforcement learning	3
Information Retrieval and Web Search	3
Data Wrangling	3
Data visualization	3
Machine Learning with Big Data	3
Data Mining	3
Database organization	3
Gaming theory	2
Cognitive Science	3
Bayesian Computational Stats	3
Probabilistic Graphical Models	3
Information Security	3
Intelligent text analysis and knowledge management	3
Application of AI in agriculture	2
Bioinformatics	3
Application of AI in health care	2
AI in Manufacturing	2
Gene Editing	3
Brain Machine Interfaces	3
Non linear Control Techniques	3
Predictive and Prescriptive Analytics	3
Big Data Technology	3