

**Structure of B Tech Computer science and Engineering (Artificial Intelligence)  
(2020-21 admitted batch)**

**First Year:**

<b>Semester I</b>	<b>Semester II</b>
Applied Calculus	Applied Vector and Linear Algebra
Basic Electrical and Electronics Engineering	Intelligence of biological systems
Object Oriented Programming	Workshop (Electronics and Computer Hardware assembly)
Computer Aided Design and Drafting	Introduction to Python Programming
Presentation and Communication Techniques	Introduction to Artificial Intelligence
Physics	Critical Thinking
Constitution of India	Probability and Random variables
	Environmental Studies

**Second Year:**

<b>Semester III</b>	<b>Semester IV</b>
Random Processes and Estimation Techniques	Environmental Science
Discrete Mathematics	Statistical Methods
Data Structures and Algorithms	Machine Learning
Computer Organization and Architecture	Signal and Image Processing
Operating Systems	Optimization Techniques
Digital Electronics and Microprocessor	Management accounting for Engineers
Principles of Economics and Management	Open Elective - I (Technical Pool)
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