



**School of Engineering and Technology**  
**Department of Information Technology**  
**B.Tech. in Information Technology**

**SCHOOL OF ENGINEERING AND TECHNOLOGY**

AMBI, TALEGAON, PUNE

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**B. Tech. PROGRAMME FOR ACADEMIC YEAR 2020-21**

**BATCH 2020 - 2024**

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**SUBJECT BASKET**

**Information Technology (Generic) and**

**Specialization tracks **Cyber Security & Digital Forensic**, **Data Science** and **Information Communication Technology****

**B.Tech.Computer Engineering (Generic)**

<b>FIRST YEAR SEMESTER - I</b>	<b>FIRST YEAR SEMESTER - II</b>	<b>SECOND YEAR SEMESTER - III</b>	<b>SECOND YEAR SEMESTER - IV</b>
<i>B. Tech. in Information Technology.</i>	<i>B. Tech. in Information Technology</i>	<i>B. Tech. in Information Technology</i>	<i>B. Tech. in Information Technology</i>
Engineering Mathematics-I	Engineering Mathematics-II	Engineering Mathematics III	Engineering Mathematics IV
Engineering Physics / Engineering Chemistry	Engineering Physics / Engineering Chemistry	Database Management System	Theory of Automata and Formal Languages
Engineering Graphics	Engineering Mechanics	Data Structures and Information Representation	Operating System
Basic Electrical Engineering	C Programming	Basic Electronics and Logic Design	Design and Analysis of Algorithms
Basic Workshop Practices - I	English for Engineers	Computer Organization & Architecture	Information Communication Systems
Business Analytics	Basic Workshop Practices - II	Object Oriented Programming	Python Programming
	Environmental Studies	Audit Course I	Audit Course II
	Economics for Engineers		

*\*The School/College has all the rights to revise the syllabus/curriculum at any time.*

#### B.Tech. Information Technology (Generic)

THIRD YEAR SEMESTER - V	THIRD YEAR SEMESTER - VI	FOURTH YEAR SEMESTER - VII	FOURTH YEAR SEMESTER - VIII
<i>B. Tech. in Information Technology</i>	<i>B. Tech. in Information Technology</i>	<i>B. Tech. in Information Technology</i>	<i>B. Tech. in Information Technology</i>
Software Engineering	Stream Elective I- Cloud Computing	Stream Elective IV-Soft Computing	Project/Internship
Compiler Design	Stream Elective II- Internet of Things	Stream Elective V-Image Processing and Machine Vision	
Information Security and Privacy	Stream Elective III- Open Source Technologies	Stream Elective VI-Fault Tolerant Systems	
Computer Networks	Technical Elective I – -Computer Graphics -Error Control Coding and Compression -Robotics -Software Testing and Quality Assurance -Real-Time Operating Systems -Artificial Intelligence -Matlab Programming Applications	Technical Elective II – -Virtual and Augmented Reality -Operations Research -Machine Learning -User Interface Design -No SQL Database -Natural Language Processing -Network Design and Simulation	
Business Communication & Ethics	Open Elective I -Project Management -Cyber and Data Laws -Vedic Mathematics -Innovations and Design Thinking -Non-Conventional Energy Sources	Open Elective II -Financial Management -Intellectual Property Rights -Remote Sensing and GIS -Entrepreneurship and Business - Management -Human Resource Management	
Web Programming	Mini Project I	Mini Project II	

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#### B.Tech. Specialization track **Cyber Security & Digital Forensic**

FIRST YEAR SEMESTER - I	FIRST YEAR SEMESTER - II	SECOND YEAR SEMESTER - III	SECOND YEAR SEMESTER - IV
<i>B. Tech. in CS&amp;DF.</i>	<i>B. Tech. in CS&amp;DF.</i>	<i>B. Tech. in NIS CS&amp;DF.</i>	<i>B. Tech. in CS&amp;DF.</i>
Engineering Mathematics-I	Engineering Mathematics-II	Engineering Mathematics III	Engineering Mathematics IV
Engineering Physics / Engineering Chemistry	Engineering Physics / Engineering Chemistry	Database Management System	Theory of Automata and Formal Languages
Engineering Graphics	Engineering Mechanics	Data Structures and Information Representation	Operating System
Basic Electrical Engineering	C Programming	Basic Electronics and Logic Design	Design and Analysis of Algorithms
Basic Workshop Practices - I	English for Engineers	Computer Organization & Architecture	Information Communication Systems
Business Analytics	Basic Workshop Practices - II	Object Oriented Programming	Python Programming
	Environmental Studies	Audit Course I	Audit Course II
	Economics for Engineers		

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**.B.Tech. Specialization track **Cyber Security & Digital Forensic****

<b>SEMESTER - V</b>	<b>THIRD YEAR SEMESTER - VI</b>	<b>FOURTH YEAR SEMESTER - VII</b>	<b>FOURTH YEAR SEMESTER - VIII</b>
<i>B. Tech. in CS&amp;DF.</i>	<i>B. Tech. in CS&amp;DF.</i>	<i>B. Tech. in CS&amp;DF.</i>	<i>B. Tech. in CS&amp;DF.</i>
Software Engineering	Stream Core1-Cyber Security	Stream Core 4-Incidence Response	Project/Internship
Compiler Design	Stream Core2-Digital Forensics	Stream Elective V- Vulnerability Discovery and Exploits	
Information Security and Privacy	Stream Core3-Ethical Hacking	Stream Elective VI- AI for Cybersecurity	
Computer Networks	Technical Elective I – -Computer Graphics -Error Control Coding and Compression -Robotics -Software Testing and Quality Assurance -Real-Time Operating Systems -Artificial Intelligence -Matlab Programming Applications	Technical Elective II – -Virtual and Augmented Reality -Operations Research -Machine Learning -User Interface Design -No SQL Database -Natural Language Processing -Network Design and Simulation	
Business Communication & Ethics	Open Elective I -Project Management -Cyber and Data Laws -Vedic Mathematics -Innovations and Design Thinking -Non-Conventional Energy Sources	Open Elective II -Financial Management -Intellectual Property Rights -Remote Sensing and GIS -Entrepreneurship and Business - Management -Human Resource Management	
	Mini Project I	Mini Project II	

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**B.Tech. Specialization track** **Data Science**

FIRST YEAR SEMESTER - I	FIRST YEAR SEMESTER - II	SECOND YEAR SEMESTER - III	SECOND YEAR SEMESTER - IV
<i>B. Tech. in Data Science.</i>	<i>B. Tech. in Data Science.</i>	<i>B. Tech. in Data Science.</i>	<i>B. Tech. in Data Science.</i>
Engineering Mathematics-I	Engineering Mathematics-II	Engineering Mathematics III	Engineering Mathematics IV
Engineering Physics / Engineering Chemistry	Engineering Physics / Engineering Chemistry	Database Management System	Theory of Automata and Formal Languages
Engineering Graphics	Engineering Mechanics	Data Structures and Information Representation	Operating System
Basic Electrical Engineering	C Programming	Basic Electronics and Logic Design	Design and Analysis of Algorithms
Basic Workshop Practices - I	English for Engineers	Computer Organization & Architecture	Information Communication Systems
Business Analytics	Basic Workshop Practices - II	Object Oriented Programming	Python Programming
	Environmental Studies	Audit Course I	Audit Course II
	Economics for Engineers		

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**B.Tech. Specialization track** **Data Science**

THIRD YEAR SEMESTER - V	THIRD YEAR SEMESTER - VI	FOURTH YEAR SEMESTER - VII	FOURTH YEAR SEMESTER - VIII
<i>B. Tech. in Data Science.</i>	<i>B. Tech. in Data Science.</i>	<i>B. Tech. in Data Science.</i>	<i>B. Tech. in Data Science.</i>
Software Engineering	Stream Core1-Introduction to Data Science	Stream Core - Machine Learning with Python	Project/Internship
Compiler Design	Stream Core2-Data Warehousing and Mining	Stream Elective I- Neural Network and Deep Learning	
Information Security and Privacy	Stream Core3- Statistical Data Analysis with R	Stream Elective II- Big Data Analytics	
Computer Networks	Technical Elective I – -Computer Graphics -Error Control Coding and Compression -Robotics -Software Testing and Quality Assurance -Real-Time Operating Systems -Artificial Intelligence -Matlab Programming Applications	Technical Elective II – -Virtual and Augmented Reality -Operations Research -Machine Learning -User Interface Design -No SQL Database -Natural Language Processing -Network Design and Simulation	
Business Communication & Ethics	Open Elective I -Project Management -Cyber and Data Laws -Vedic Mathematics -Innovations and Design Thinking -Non-Conventional Energy Sources	Open Elective II -Financial Management -Intellectual Property Rights -Remote Sensing and GIS -Entrepreneurship and Business - Management -Human Resource Management	
	Mini Project I	Mini Project II	

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**B.Tech. Specialization track Information Communication Technology**

FIRST YEAR SEMESTER - I	FIRST YEAR SEMESTER - II	SECOND YEAR SEMESTER - III	SECOND YEAR SEMESTER - IV
<i>B. Tech. in ICT.</i>	<i>B. Tech. in ICT.</i>	<i>B. Tech. in ICT.</i>	<i>B. Tech. in ICT.</i>
Engineering Mathematics-I	Engineering Mathematics-II	Engineering Mathematics III	Engineering Mathematics IV
Engineering Physics / Engineering Chemistry	Engineering Physics / Engineering Chemistry	Database Management System	Theory of Automata and Formal Languages
Engineering Graphics	Engineering Mechanics	Data Structures and Information Representation	Operating System
Basic Electrical Engineering	C Programming	Basic Electronics and Logic Design	Design and Analysis of Algorithms
Basic Workshop Practices - I	English for Engineers	Computer Organization & Architecture	Information Communication Systems
Business Analytics	Basic Workshop Practices - II	Object Oriented Programming	Python Programming
	Environmental Studies	Audit Course I	Audit Course II

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**B.Tech. Specialization track Information Communication Technology**

THIRD YEAR SEMESTER - V	THIRD YEAR SEMESTER - VI	FOURTH YEAR SEMESTER - VII	FOURTH YEAR SEMESTER - VIII
<i>B. Tech. in ICT.</i>	<i>B. Tech. in ICT.</i>	<i>B. Tech. in ICT.</i>	<i>B. Tech. in ICT.</i>
Software Engineering	Stream Core1-Digital Signal Processing	Stream Core 4-Ecommerce and Digital Marketing	Project/Internship
Compiler Design	Stream Core2-Wireless Communication Systems	Stream Elective V-Social Engineering	
Information Security and Privacy	Stream Core3-Multimedia Communication	Stream Elective VI- Intelligent ICT Systems	
Computer Networks	Technical Elective I – -Computer Graphics -Error Control Coding and Compression -Robotics -Software Testing and Quality Assurance -Real-Time Operating Systems -Artificial Intelligence -Matlab Programming Applications	Technical Elective II – -Virtual and Augmented Reality -Operations Research -Machine Learning -User Interface Design -No SQL Database -Natural Language Processing -Network Design and Simulation	
Business Communication & Ethics	Open Elective I -Project Management -Cyber and Data Laws -Vedic Mathematics -Innovations and Design Thinking -Non-Conventional Energy Sources	Open Elective II -Financial Management -Intellectual Property Rights -Remote Sensing and GIS -Entrepreneurship and Business - Management -Human Resource Management	
	Mini Project I	Mini Project II	

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**#Non-credit courses**

<b>Course Name</b>
Music
Dance
Nature
Photography
Singing
Culture
Literature
German
French

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