

## B TECH COMPUTER AND COMMUNICATION

YEAR	THIRD SEMESTER						FOURTH SEMESTER					
II	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
	MAT 2126	Engineering Mathematics – III	2	1	0	3	MAT 2226	Engineering Mathematics - IV	2	1	0	3
	ICT 2121	Data Structures	3	1	0	4	ICT 2225	Database Management Systems	3	0	0	3
	ICT 2122	Object Oriented Programming	3	1	0	4	ICT 2222	Design and Analysis of Algorithms	3	1	0	4
	ICT 2123	Digital Systems and Computer Organization	4	0	0	4	ICT 2226	Computer Networks and protocols	3	0	0	3
	ICT 2124	Principles of Data Communication	3	0	0	3	ICT 2227	Operating Systems	4	0	0	4
	ICT 2141	Data Structures Lab	0	0	3	1	ICT 2228	Software Design Technology	2	1	0	3
	ICT 2142	Object Oriented Programming Lab	0	0	3	1	ICT 2241	Database Systems Lab	0	0	3	1
	ICT 2143	Digital Systems Lab	0	0	3	1	ICT 2244	Operating Systems Lab	0	0	3	1
			15	3	9	21			17	3	6	22
Total Contact Hours (L + T + P)			27			Total Contact Hours (L + T + P)			26			
FIFTH SEMESTER						SIXTH SEMESTER						
III	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
	HUM 3022	Essential of Management	3	0	0	3	HUM 3021	Engineering Economics and Financial Management	3	0	0	3
	ICT 3121	Information Security	3	0	0	3	ICT 3225	Network Programming and Advanced Communication Networks	3	0	0	3
	ICT 3127	Embedded System Design	3	0	0	3	ICT ****	Flexible Core – 2 (A2/B2/C2)	3	0	0	3
	ICT 3128	Wireless Communication and Computing	3	1	0	4	ICT ****	Program Elective - I/ Minor Specialization	3	0	0	3
	ICT ****	Flexible Core – 1 (A1/B1/C1)	3	0	0	3	ICT ****	Program Elective- II / Minor Specialization	3	0	0	3
	IPE 4302	Open Elective-1 Creativity, Problem Solving and Innovation	3	0	0	3	*** ****	Open Elective-2	3	0	0	3
	ICT 3141	Information Security lab	0	0	3	1	ICT 3243	Mobile Application Development Lab	0	1	2	2
	ICT 3143	Embedded System Design Lab	0	0	3	1	ICT 3244	Network Design and Programming Lab	0	0	3	1
			18	1	6	21			18	1	5	21
Total Contact Hours (L + T + P)			25			Total Contact Hours (L + T + P)			24			
SEVENTH SEMESTER						EIGHTH SEMESTER						
IV	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
	ICT ****	Program Elective –III / Minor Specialization	3	0	0	3	ICT 4291	Industrial Training				1
	ICT ****	Program Elective –IV/ Minor Specialization	3	0	0	3	ICT 4292	Project Work/Practice School				12
	ICT ****	Program Elective –V	3	0	0	3	ICT 4293	Project Work (B. Tech Honours) **				20
	ICT ****	Program Elective- VI	3	0	0	3	ICT ****	B Tech Honours (Theory 1)** (V Semester)				4
	ICT ****	Program Elective -VII	3	0	0	3	ICT ****	B Tech Honours (Theory 2)** (VI Semester)				4
	*** ****	Open Elective-3	3	0	0	3	ICT ****	B Tech Honours (Theory 3)** (VII Semester)				4
	ICT 4191	Mini Project (Minor specialization)*				8						
			18	0	0	18/26						13/33
Total Contact Hours (L + T + P)						Total Contact Hours (L + T + P)						

\*Applicable to students who opted for minor specialization

\*\*Applicable to eligible students who opted for and successfully completed the B Tech – Honours requirements

**Flexi Core 1:**

A1: ICT 3129 Foundations of Internet of Things

B1: ICT 3130 Statistical Data Analysis

C1: ICT 3131 Web Technologies

**Flexi Core 2:**

A2: ICT 3228 Cloud Technologies

B2: ICT 3229 Data Mining and Predictive Analytics

C2: ICT 3230 Full Stack Web Development Tools.

**MINOR SPECIALIZATIONS****I. Computational Intelligence**

ICT 4401 Artificial Intelligence

ICT 4402 Machine Learning

ICT 4403 Foundations of Generative Artificial Intelligence

ICT 4404 Neural Computation and Applications

**II. Computer Graphics & Visualization**

ICT 4405 Computer Graphics

ICT 4406 Digital Image Processing

ICT 4407 Augmented and Virtual Reality

ICT 4408 Computer Vision

**III. Data Analytics**

ICT 4409 Information Retrieval

ICT 4412 Applied Data Analytics

ICT 4410 Big Data Analytics

ICT 4411 Social Network Analysis

**IV. Cyber Security**

ICT 4413 Cyber Forensics and Cyber laws

ICT 4414 Ethical hacking

ICT :4415 Blockchain Technology

ICT 4416 Artificial Intelligence in Cyber security

**Other Program Electives**

ICT 4442 Deep Learning

ICT 4443 Evolutionary Computing and Swarm Intelligence

ICT 4444 Explainable AI

ICT 4445 Game Theory and Applications

ICT 4446 High Performance Computing

ICT 4447 Human Computer Interaction

ICT 4450 Software Reliability

**Open Electives**

ICT 4311 Computer Graphics and Animation

ICT 4312 Design and Development of Web Applications

ICT 4313 Fundamentals of Data Structures and Algorithms

ICT 4314 Machine Learning Tools and Technologies

ICT 4315 Networking with TCP/IP

ICT 4316 Fundamentals of Cyber Security

ICT 4317 Game Theory & Applications