

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) | | 18 | | | | | Total Contact Hours (L + T + P) | | | 13/33 | |

*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