# SIPNA COLLEGE OF ENGINEERING & TECHNOLOGY, AMRAVATI

**An Autonomous Institute Affiliated to**

**Sant Gadge Baba Amravati University, Amravati, Maharashtra (India)**

**(Approved by AICTE, New Delhi and Recognized by DTE, Maharashtra)**

**(Accredited With 'A+' Grade by NAAC)**

## Bachelor of Technology (B. Tech.)

## Programme Scheme of Examination (SoE)

**Department of Computer Science and Engineering**

**B. Tech. Computer Science and Engineering with Multidisciplinary Minor**

**(Semester Pattern)**

**Effective from Academic Year 2025-26**

**Prepared by: Board of Studies - Computer Science and Engineering**

**Approved by: Academic Council - Sipna COET, Amravati**

| | | | | |
|---|---|---|---|---|
| | | | 30/03/2026 | 1.2 |
| Chairman Board of Studies | Dean Academics | Chairman Academic Council | Date of Release | Version |

## Definition of Course Code

| 1st & 2nd letter (Degree Program) | 3rd & 4th letter Applicable to which students | 5th & 6th letter (Course category) | 7th & 8th letter (Sr. no. of Subject) | 9th & 10th Letters Teaching Department | 11th letter (Semester) | 12th letter (Theory or Practical) |
|---|---|---|---|---|---|---|
| BT: B.Tech.<br>MT: M.Tech.<br>MB: MBA | AL: All Branches<br>CS: Computer Science and Engineering<br>IT: Information Technology<br>ME: Mechanical Engineering<br>ET: Electronics and Telecommunication Engineering<br>CE: Civil Engineering<br>AD: Artificial Intelligence (AI) and Data Science<br>For MDM "AL" excluding Teaching Department Students | BS: Basic Science<br>ES: Engineering Science<br>VE: Value Education<br>VS: Vocational and Skill Enhancement<br>AE: Ability Enhancement<br>IK: Indian Knowledge System<br>CC: Cocurricular Course<br>MD: Multidisciplinary Minor<br>OE: Open Elective<br>PC: Program Core<br>PE: Program Elective<br>FP: Field Project<br>H: Humanities<br>N: Entrepreneurship<br>E: Economics<br>M: Management<br>II: Industry Internship<br>RI: Research Internship<br>EI: Entrepreneurship Internship<br>RM: Research Methodology<br>PS: Project and Seminar<br>RP: Research Project and Seminar<br>MH: Minors & Honors | Sr. no. of course in the particular course category from 1st to 8th semester. | SH: Science and Humanities<br>CS: Computer Science and Engineering<br>IT: Information Technology<br>ME: Mechanical Engineering<br>ET: Electronics and Telecommunication Engineering<br>CE: Civil Engineering<br>AD: Artificial Intelligence (AI) and Data Science | 1: First Semester<br>2: Second Semester<br>3: Third Semester<br>4: Fourth Semester<br>5: Fifth Semester<br>6: Sixth Semester<br>7: Seventh Semester<br>8: Eight Semester | T: Theory<br>P: Practical |

Approved in 4th Academic Council Meeting
Dated:- 30/03/2026

## Category-wise Courses Master Lists

| Course Category: Basic Science Courses (BSC) | | |
|---|---|---|
| **Sr. No.** | **Course Name** | **Course Code** |
| 1 | Engineering Mathematics -I | BTALBS01SH1T |
| 2 | Engineering Chemistry | BTALBS02SH1T |
| 3 | Engineering Chemistry Lab | BTALBS03SH1P |
| 4 | Engineering Mathematics -II | BTALBS04SH2T |
| 5 | Engineering Physics | BTCSBS05SH2T |
| 6 | Engineering Physics Lab | BTCSBS06SH2P |
| 7 | Engineering Mathematics -III | BTCSBS07SH4T |

| Course Category: Engineering Science Courses (ESC) | | |
|---|---|---|
| **Sr. No.** | **Course Name** | **Course Code** |
| 1 | Engineering Graphics | BTALES01ME1T |
| 2 | Engineering Graphics Lab | BTALES02ME1P |
| 3 | Basics of Python | BTCSES03CS1T |
| 4 | Basics of Python Lab | BTCSES04CS1P |
| 5 | Basic Electrical Engineering | BTALES05ET2T |
| 6 | Basic Electrical Engineering Lab | BTALES06ET2P |
| 7 | Programming for Problem Solving | BTCSES07CS2T |
| 8 | Programming for Problem Solving Lab | BTCSES08CS2P |
| 9 | Workshop Practice Lab | BTALES09ME2P |

Approved in 4th
Academic Council Meeting
Dated:- 30/03/2026

| Course Category: Vocational and Skill Enhancement Courses (VSEC) | | |
|---|---|---|
| **Sr. No.** | **Course Name** | **Course Code** |
| 1 | Computer Skill Lab I-Hardware Lab | BTCSVS01CS1P |
| 2 | Design Thinking | BTCSVS02CS1T |
| 3 | Computer Skill Lab-II-Web Technology Lab | BTCSVS03CS2P |
| 4 | Fundamentals of Networking | BTCSVS04CS4P |
| 5 | Basics of Cyber Security | BTCSVS05CS6P |

| Course Category: Humanities, Social Science and Management Courses (HSSMC) | | |
|---|---|---|
| **Sr. No.** | **Course Name** | **Course Code** |
| 1 | Professional Communication | BTALAE01SH1P |
| 2 | Values and Ethics | BTALVE01SH1T |
| 3 | Environmental Studies | BTALVE02SH1T |
| 4 | Indian Knowledge System | BTALIK01SH2T |
| 5 | Management Information System | BTCSHM01CS3T |
| 6 | Business Fundamental & Entrepreneur | BTCSHN02CS4T |
| 7 | Modern Indian Language | BTALAE02SH6T |

| Course Category: Experiential Learning Courses | | |
|---|---|---|
| **Sr. No.** | **Course Name** | **Course Code** |
| 1 | Comm. Engg. Project/Field project | BTCSFP01CS5P |
| 2 | Project and Seminar/Research Project and Seminar | BTCSPS01CS7P/ BTCSRP01CS7P |
| 3 | Research Methodology | BTCSRM01CS8T |
| 4 | Industry Internship/Research Internship/Entrepreneurship | BTCSII01CS8P/BTCSRI01CS8P/ BTCSEI01CS8P |

Approved in 4th
Academic Council Meeting
Dated:- 30/03/2026

| Course Category: Programme Core Courses (PCC) | | |
|---|---|---|
| **Sr. No.** | **Course Name** | **Course Code** |
| 1 | Web Technology | BTCSPC01CS2T |
| 2 | Artificial Intelligence & ML | BTCSPC02CS3T |
| 3 | Discrete Structure | BTCSPC03CS3T |
| 4 | Object Oriented Programming | BTCSPC04CS3T |
| 5 | Object Oriented Programming Lab | BTCSPC05CS3P |
| 6 | Data Structures and Algorithms | BTCSPC06CS3T |
| 7 | Data Structures and Algorithms Lab | BTCSPC07CS3P |
| 8 | Computer Skill Lab – III | BTCSPC08CS3P |
| 9 | Operating System | BTCSPC09CS4T |
| 10 | Operating System Lab | BTCSPC10CS4P |
| 11 | Introduction to Cyber Security | BTCSPC29CS4T |
| 12 | Data Communication & Networking | BTCSPC30CS4T |
| 13 | Computer Skill Lab – IV | BTCSPC13CS4P |
| 14 | Theory of Computation | BTCSPC14CS5T |
| 15 | Database Management System | BTCSPC15CS5T |
| 16 | Database Management System Lab | BTCSPC16CS5P |
| 17 | Computer Organization and Architecture | BTCSPC17CS5T |
| 18 | Computer Skill Lab – V | BTCSPC18CS5P |
| 19 | Computer Skill Lab – VI | BTCSPC19CS5P |
| 20 | Compiler Design | BTCSPC20CS6T |
| 21 | Compiler Design Lab | BTCSPC21CS6P |
| 22 | Introduction to Data Science | BTCSPC22CS6T |
| 23 | Data Science Lab | BTCSPC23CS6P |
| 24 | Design & Analysis of Algorithms | BTCSPC24CS7T |
| 25 | Design & Analysis of Algorithms Lab | BTCSPC25CS7P |
| 26 | Cloud Computing | BTCSPC26CS7T |
| 27 | Cloud Computing Lab | BTCSPC27CS7P |
| 28 | Software Engineering & Project Management | BTCSPC28CS7T |

Approved in 4th Academic Council Meeting
Dated:- 30/03/2026

| Course Category: Programme Elective Courses (PEC) | | |
|---|---|---|
| **Sr. No.** | **Course Name** | **Course Code** |
| 1 | Cryptography & Network Security | BTCSPE01CS5T |
| 2 | Cryptography & Network Security Lab | BTCSPE02CS5P |
| 3 | Internet of Things | BTCSPE03CS5T |
| 4 | Internet of Things Lab | BTCSPE04CS5P |
| 5 | Natural Language Processing | BTCSPE05CS5T |
| 6 | Natural Language Processing Lab | BTCSPE06CS5P |
| 7 | Data Analytics | BTCSPE07CS6T |
| 8 | Data Analytics Lab | BTCSPE08CS6P |
| 9 | Neural Network | BTCSPE09CS6T |
| 10 | Neural Network Lab | BTCSPE10CS6P |
| 11 | Block Chain Technology | BTCSPE11CS6T |
| 12 | Block Chain Technology Lab | BTCSPE12CS6P |
| 13 | Software Testing and Quality Assurance | BTCSPE13CS6T |
| 14 | Software Testing and Quality Assurance Lab | BTCSPE14CS6P |
| 15 | Data Mining & Data Warehousing | BTCSPE15CS6T |
| 16 | Data Mining & Data Warehousing Lab | BTCSPE16CS6P |
| 17 | Data Science for Cybersecurity and Forensics | BTCSPE17CS6T |
| 18 | Data Science for Cybersecurity and Forensics Lab | BTCSPE18CS6P |
| 19 | Bigdata Technologies | BTCSPE19CS7T |
| 20 | Bigdata Technologies Lab | BTCSPE20CS7P |
| 21 | Deep Learning | BTCSPE21CS7T |
| 22 | Deep Learning Lab | BTCSPE22CS7P |
| 23 | Wireless and Mobile Networks | BTCSPE23CS7T |
| 24 | Wireless and Mobile Networks Lab | BTCSPE24CS7P |
| 25 | Image Processing | BTCSPE25CS7T |
| 26 | Augmented Reality and Virtual Reality | BTCSPE26CS7T |
| 27 | Cognitive Computing | BTCSPE27CS7T |

Approved in 4th
Academic Council Meeting
Dated:- 30/03/2026

**For the detailed list of Multidisciplinary Minor (MDM) courses, click here.**

**For the detailed list of Open Elective (OE) courses, click here.**

**For the detailed list of Co-curricular (CC) courses, click here**

Approved in 4th
Academic Council Meeting
Dated:- 30/03/2026

## Scheme Semester- I

| Scheme for First Year B. Tech. In Computer Science and Engineering (Semester -I) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Course Name | Course Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | | | Practical Evaluation | | Total | ESE Time (Hrs.) |
| | | | L | P | T | Hrs. | | MSE-I | MSE-II | TA | ESE | INT | EXT | | |
| **Basic Science Courses (BSC)** | | | | | | | | | | | | | | | |
| 1 | Engineering Mathematics -I | BTALBS01SH1T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 2 | Engineering Chemistry | BTALBS02SH1T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 3 | Engineering Chemistry Lab | BTALBS03SH1P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| **Engineering Science Courses (ESC)** | | | | | | | | | | | | | | | |
| 4 | Engineering Graphics | BTALES01ME1T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 3.0 |
| 5 | Engineering Graphics Lab | BTALES02ME1P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 6 | Basics of Python | BTCSES03CS1T | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 7 | Basics of Python Lab | BTCSES04CS1P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| **Vocational and Skill Enhancement Courses (VSEC)** | | | | | | | | | | | | | | | |
| 8 | Computer Skill Lab I - Hardware Lab | BTCSVS01CS1P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 50 | - | 50 | - |
| 9 | Design Thinking | BTCSVS02CS1T | 1 | 0 | 0 | 1 | 1 | - | - | 50 | - | - | - | 50 | - |
| **Ability Enhancement Courses (AEC)** | | | | | | | | | | | | | | | |
| 10 | Professional Communication | BTALAE01SH1P | 0 | 2 | 1 | 3 | 2 | - | - | - | - | 30 | 20 | 50 | - |
| **Value Education Courses (VEC)** | | | | | | | | | | | | | | | |
| 11 | Values and Ethics | BTALVE01SH1T | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 12 | Environmental Studies | BTALVE02SH1T | 1 | 0 | 0 | 1 | 1 | - | - | 50 | - | - | - | 50 | - |
| **Cocurricular Courses (CC)** | | | | | | | | | | | | | | | |
| 13 | Co-curricular Courses (CC1) | - | - | 2 | - | 2 | 1 | - | - | - | - | 50 | - | 50 | - |
| TOTAL | | | 15 | 12 | 1 | 28 | 22 | 75 | 75 | 150 | 300 | 220 | 80 | 900 | |

L: Lecture P: Practical T: Tutorial MSE: Mid Semester Exam ESE: End Semester Exam TA: Teacher Assessment INT: Internal EXT: External

**Note: Six hours per week are allotted for continuous evaluation process of the above subjects (Total contact hours per week=34 Hrs.)**

*For the details of CC Courses, Refer the link given on page no 08*

Approved in 4th
Academic Council Meeting
Dated:- 30/03/2026

## Scheme Semester- II

| Scheme for First Year B. Tech. In Computer Science and Engineering (Semester -II) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Course Name | Course Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | | | Practical Evaluation | | Total | ESE Time (Hrs.) |
| | | | L | P | T | Hrs. | | MSE- I | MSE-II | TA | ESE | INT | EXT | | |
| **Basic Science Courses (BSC)** | | | | | | | | | | | | | | | |
| 1 | Engineering Mathematics -II | BTALBS04SH2T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 2 | Engineering Physics | BTCSBS05SH2T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 3 | Engineering Physics Lab | BTCSBS06SH2P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| **Engineering Science Courses (ESC)** | | | | | | | | | | | | | | | |
| 4 | Basic Electrical Engineering | BTALES05ET2T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | | | 100 | 2.5 |
| 5 | Basic Electrical Engineering Lab | BTALES06ET2P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 6 | Programming for Problem Solving | BTCSES07CS2T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 7 | Programming for Problem Solving Lab | BTCSES08CS2P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 8 | Workshop Practice Lab | BTALES09ME2P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| **Vocational and Skill Enhancement Courses (VSEC)** | | | | | | | | | | | | | | | |
| 9 | Computer Skill Lab-II- Web Technology Lab | BTCSVS03CS2P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 50 | - | 50 | - |
| **Program Core Courses (PCC)** | | | | | | | | | | | | | | | |
| 10 | Web Technology | BTCSPC01CS2T | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| **Indian Knowledge System (IKS)** | | | | | | | | | | | | | | | |
| 11 | Indian Knowledge System | BTALIK01SH2T | 2 | 0 | 0 | 2 | 2 | - | - | 50 | - | - | - | 50 | - |
| **Cocurricular Courses (CC)** | | | | | | | | | | | | | | | |
| 12 | Co-curricular Courses (CC2) | - | - | 2 | - | 2 | 1 | - | - | - | - | 50 | - | 50 | - |
| **TOTAL** | | | 16 | 12 | 0 | 28 | 22 | 75 | 75 | 100 | 300 | 220 | 80 | 850 | |

**L: Lecture P: Practical T :Tutorial MSE: Mid Semester Exam ESE: End Semester Exam TA: Teacher Assessment INT: Internal EXT: External**

**Note: Six hours per week are allotted for continuous evaluation process of the above subjects (Total contact hours per week=34 Hrs.)**

*For the details of CC Courses, Refer the link given on page no 08*

### Scheme for Multiple Entry and Exit

| Exit option1(L4.5): Award of One Year UG Certificate in Major with 44 credits and an additional 8 credits. | | |
|---|---|---|
| **Exit Courses** | | |
| Eight Credit Online courses from Swayam/ NPTEL /ANY Other agency approved by BoS during corresponding academic year which provides Certification/ Evaluation. | Online/Offline Certification Course | 8 Credits |

Approved in.....4th.....
Academic Council Meeting
Dated:-....30/03/2026.....

## Scheme Semester- III

**Scheme for Second Year B. Tech. In Computer Science and Engineering (Semester-III)**

| Sr. No. | Course Name | Course Code | Course Plan per Week (Hrs) | | | | Credits | Theory Evaluation | | | | Practical Evaluation | | Total | ESE Time (Hrs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | P | T | Hrs | | MSE I | MSE II | TA | ESE | INT | EXT | | |
| **Program Core Courses (PCC)** | | | | | | | | | | | | | | | |
| 1 | Artificial Intelligence & ML | BTCSPC02CS3T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 2 | Discrete Structure | BTCSPC03CS3T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 3 | Object Oriented Programming | BTCSPC04CS3T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 4 | Object Oriented Programming Lab | BTCSPC05CS3P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 5 | Data Structures and Algorithms | BTCSPC06CS3T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 6 | Data Structures and Algorithms Lab | BTCSPC07CS3P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 7 | Computer Skill Lab – III | BTCSPC08CS3P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| **Multidisciplinary Minor Courses (MDM)** | | | | | | | | | | | | | | | |
| 8 | Multi-Disciplinary Minor-I | -- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | | | 100 | 2.5 |
| **Open Elective Courses (OEC)** | | | | | | | | | | | | | | | |
| 9 | Open Elective- I | -- | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | | | 100 | 2.5 |
| **HSSMC (Entrepreneurship/ Economics/ Management Course)** | | | | | | | | | | | | | | | |
| 10 | Management Information System | BTCSHM01CS3T | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| **TOTAL** | | | 19 | 06 | 0 | 25 | 22 | 105 | 105 | 70 | 420 | 90 | 60 | 850 | |

**L: Lecture P: Practical T :Tutorial MSE: Mid Semester Exam ESE: End Semester Exam TA: Teacher Assessment INT: Internal EXT: External**

**Note: Six hours per week are allotted for continuous evaluation process of the above subjects (Total contact hours per week=34 Hrs.)**

*For the details of OE/MDM Courses, Refer the link given on page no 08*

Approved in 4th Academic Council Meeting
Dated:- 30/03/2026

## Scheme Semester- IV

**.Scheme for Second Year B. Tech. In Computer Science and Engineering (Semester -IV)**

| Sr. No. | Course Name | Course Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | | | Practical Evaluation | | Total | ESE Time (Hrs.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | P | T | Hrs. | | MSE-I | MSE-II | TA | ESE | INT | EXT | | |
| **Basic Science Courses (BSC)** | | | | | | | | | | | | | | | |
| 1 | Engineering Mathematics -III | BTCSBS07SH4T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| **Program Core Courses (PCC)** | | | | | | | | | | | | | | | |
| 2 | Operating System | BTCSPC09CS4T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 3 | Operating System Lab | BTCSPC10CS4P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 4 | Introduction to Cyber Security | BTCSPC29CS4T | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 5 | Data Communication & Networking | BTCSPC30CS4T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 6 | Computer Skill Lab – IV | BTCSPC13CS4P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| **Multidisciplinary Minor Courses (MDM)** | | | | | | | | | | | | | | | |
| 7 | Multi-Disciplinary Minor-II | -- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | | | 100 | 2.5 |
| **Vocational and Skill Enhancement Courses (VSEC)** | | | | | | | | | | | | | | | |
| 8 | Fundamentals of Networking | BTCSVS04CS4P | - | 2 | 1 | 3 | 2 | - | - | - | - | 50 | - | 50 | - |
| **Open Elective Courses (OEC)** | | | | | | | | | | | | | | | |
| 9 | Open Elective- II | -- | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | | | 100 | 2.5 |
| **HSSMC (Entrepreneurship/ Economics/ Management Course)** | | | | | | | | | | | | | | | |
| 10 | Business Fundamental & Entrepreneur | BTCSHN02CS4T | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| **TOTAL** | | | 18 | 06 | 1 | 25 | 22 | 105 | 105 | 70 | 420 | 110 | 40 | 850 | |

**L: Lecture P: Practical T : Tutorial MSE: Mid Semester Exam ESE: End Semester Exam TA: Teacher Assessment INT: Internal EXT: External**

**Note: Six hours per week are allotted for continuous evaluation process of the above subjects (Total contact hours per week=34 Hrs.)**

***For the details of OE/MDM Courses, Refer the link given on page no 08***

## Scheme for Multiple Entry and Exit

| **Exit option 2 (L5.0): Award of Two Years UG Diploma in Major with 88 credits and an additional 8 credits** | | |
|---|---|---|
| **Exit Courses** | | |
| Eight Credit Online courses from Swayam/ NPTEL /ANY Other agency approved by BoS during corresponding academic year which provides Certification/ Evaluation. | Online/Offline Certification Course | 8 Credits |

Approved in 4th
Academic Council Meeting
Dated:- 30/03/2026

## Scheme Semester- V

**Scheme for Third Year B. Tech. In Computer Science and Engineering (Semester -V)**

| Sr. No. | Course Name | Course Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | | | Practical Evaluation | | Total | ESE Time (Hrs.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | P | T | Hrs. | | MSE- I | MSE-II | TA | ESE | INT | EXT | | |
| **Program Core Courses (PCC)/ Program Elective Courses (PEC)** | | | | | | | | | | | | | | | |
| 1 | Theory of Computation | BTCSPC14CS5T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 2 | Database Management System | BTCSPC15CS5T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 3 | Database Management System Lab | BTCSPC16CS5P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 4 | Computer Organization and Architecture | BTCSPC17CS5T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 5 | Computer Skill Lab – V | BTCSPC18CS5P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 6 | Computer Skill Lab – VI | BTCSPC19CS5P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 7 | Program Elective Course-I | -- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 8 | Program Elective Course-I Lab | -- | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 9 | Comm. Engg. Project/Field project | BTCSFP01CS5P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 50 | - | 50 | - |
| **Multidisciplinary Minor Courses (MDM)** | | | | | | | | | | | | | | | |
| 10 | Multi-Disciplinary Minor-III | -- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | | | 100 | 2.5 |
| **Open Elective Courses (OEC)** | | | | | | | | | | | | | | | |
| 11 | Open Elective- III | -- | 2 | 0 | 0 | 2 | 2 | 15 | 15 | 10 | 60 | | | 100 | 2.5 |
| TOTAL | | | 17 | 10 | 0 | 27 | 22 | 90 | 90 | 60 | 360 | 170 | 80 | 850 | |

**L: Lecture P: Practical T :Tutorial MSE: Mid Semester Exam ESE: End Semester Exam TA: Teacher Assessment INT: Internal EXT: External**

**Note: Six hours per week are allotted for continuous evaluation process of the above subjects (Total contact hours per week=34 Hrs.)**

***For the details of OE/MDM Courses, Refer the link given on page no 08***

**List of Program Elective Course-I (Semester-V) (Choose any one Course)**

| Sr. No. | Course Name | Course Code |
|---|---|---|
| 1 | Cryptography & Network Security | BTCSPE01CS5T |
| 2 | Cryptography & Network Security Lab | BTCSPE02CS5P |
| 3 | Internet of Things | BTCSPE03CS5T |
| 4 | Internet of Things Lab | BTCSPE04CS5P |
| 5 | Natural Language Processing | BTCSPE05CS5T |
| 6 | Natural Language Processing Lab | BTCSPE06CS5P |

Approved in 4th Academic Council Meeting
Dated:- 30/03/2026

## Scheme Semester- VI

**Scheme for Third Year B. Tech. In Computer Science and Engineering (Semester -VI)**

| Sr. No. | Course Name | Course Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | | | Practical Evaluation | | Total | ESE Time (Hrs.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | P | T | Hrs. | | MSE-I | MSE-II | TA | ESE | INT | EXT | | |
| **Program Core Courses (PCC)/ Program Elective Courses (PEC)** | | | | | | | | | | | | | | | |
| 1 | Compiler Design | BTCSPC20CS6T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 2 | Compiler Design Lab | BTCSPC21CS6P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 3 | Introduction to Data Science | BTCSPC22CS6T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 4 | Data Science Lab | BTCSPC23CS6P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 5 | Program Elective Course-II | -- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 6 | Program Elective Course Lab-II Lab | -- | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 7 | Program Elective Course-III | -- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 8 | Program Elective Course Lab-III Lab | -- | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| **Ability Enhancement Courses (AEC)** | | | | | | | | | | | | | | | |
| 9 | Modern Indian Language | BTALAE02SH6T | 1 | 0 | 0 | 1 | 1 | - | - | 50 | - | - | - | 50 | - |
| **Multidisciplinary Minor Courses (MDM)** | | | | | | | | | | | | | | | |
| 10 | Multi-Disciplinary Minor-IV | --- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| **Vocational and Skill Enhancement Courses (VSEC)** | | | | | | | | | | | | | | | |
| 11 | Basics of Cyber Security | BTCSVS05CS6P | 0 | 2 | 1 | 3 | 2 | - | - | - | - | 50 | - | 50 | - |
| TOTAL | | | 16 | 10 | 1 | 27 | 22 | 75 | 75 | 100 | 300 | 170 | 80 | 800 | |

**L: Lecture P: Practical T : Tutorial MSE: Mid Semester Exam ESE: End Semester Exam TA: Teacher Assessment INT: Internal EXT: External**

**Note: Six hours per week are allotted for continuous evaluation process of the above subjects (Total contact hours per week=34 Hrs.)**

*For the details of MDM Courses, Refer the link given on page no 08*

### List of Program Elective Course-II (Semester-VI) (Choose any one Course and its associated lab if any.)

| Sr. No. | Course Name | Course Code | Sr. No. | Course Name | Course Code |
|---|---|---|---|---|---|
| 1 | Data Analytics | BTCSPE07CS6T | 4 | Neural Network Lab | BTCSPE10CS6P |
| 2 | Data Analytics Lab | BTCSPE08CS6P | 5 | Block Chain Technology | BTCSPE11CS6T |
| 3 | Neural Network | BTCSPE09CS6T | 6 | Block Chain Technology Lab | BTCSPE12CS6P |

### List of Program Elective Course-III (Semester-VI) (Choose any one Course and its associated lab if any.)

| Sr. No. | Course Name | Course Code | Sr. No. | Course Name | Course Code |
|---|---|---|---|---|---|
| 1 | Software Testing and Quality Assurance | BTCSPE13CS6T | 4 | Data Mining & Data Warehousing Lab | BTCSPE16CS6P |
| 2 | Software Testing and Quality Assurance Lab | BTCSPE14CS6P | 5 | Data Science for Cybersecurity and Forensics | BTCSPE17CS6T |
| 3 | Data Mining & Data Warehousing | BTCSPE15CS6T | 6 | Data Science for Cybersecurity and Forensics Lab | BTCSPE18CS6P |

### Scheme for Multiple Entry and Exit

| Exit option 3 (L5.5): Award of Three Years Bachelor's Degree (B. Voc. or B.Sc.) in Major with 132 credits and an additional 8 credits | | |
|---|---|---|
| **Exit Courses** | | |
| Eight Credit Online courses from Swayam/ NPTEL /ANY Other agency approved by BoS during corresponding academic year which provides Certification/ Evaluation. | Online/Offline Certification Course | 8 Credits |

Approved in 4th Academic Council Meeting
Dated:- 30/03/2026

## Scheme Semester- VII

| Scheme for Fourth Year B. Tech. In Computer Science and Engineering (Semester -VII) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Course Name | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | | | Practical Evaluation | | Total | ESE Time (Hrs.) |
| | | | L | P | T | Hrs. | | MSE-I | MSE-II | TA | ESE | INT | EXT | | |
| Program Core Courses (PCC)/ Program Elective Courses (PEC) | | | | | | | | | | | | | | | |
| 1 | Design & Analysis of Algorithms | BTCSPC24CS7T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 2 | Design & Analysis of Algorithms Lab | BTCSPC25CS7P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 3 | Cloud Computing | BTCSPC26CS7T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 4 | Cloud Computing Lab | BTCSPC27CS7P | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 5 | Software Engineering & Project Management | BTCSPC28CS7T | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 6 | Program Elective Course-IV | -- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| 7 | Program Elective Course Lab-IV | -- | 0 | 2 | 0 | 2 | 1 | - | - | - | - | 30 | 20 | 50 | - |
| 8 | Program Elective Course-V | -- | 3 | 0 | 0 | 3 | 3 | 15 | 15 | 10 | 60 | - | | 100 | 2.5 |
| 9 | Project and Seminar/ Research Project and Seminar | BTCSPS01CS7P/ BTCSRP01CS7P | 0 | 8 | 0 | 8 | 4 | - | - | - | | 30 | 20 | 50 | - |
| | TOTAL | | 15 | 14 | 0 | 29 | 22 | 75 | 75 | 50 | 300 | 120 | 80 | 700 | |
| L: Lecture P: Practical T: Tutorial MSE: Mid Semester Exam ESE: End Semester Exam TA: Teacher Assessment INT: Internal EXT: External | | | | | | | | | | | | | | | |

### List of Program Elective Course-IV (Semester-VII) (Choose any one Course and its associated lab if any)

| Sr. No. | Course Name | Course Code | Sr. No. | Course Name | Course Code |
|---|---|---|---|---|---|
| 1 | Bigdata Technologies | BTCSPE19CS7T | 4 | Deep Learning Lab | BTCSPE22CS7P |
| 2 | Bigdata Technologies Lab | BTCSPE20CS7P | 5 | Wireless and Mobile Networks | BTCSPE23CS7T |
| 3 | Deep Learning | BTCSPE21CS7T | 6 | Wireless and Mobile Networks Lab | BTCSPE24CS7P |
| | | | | | |

### List of Program Elective Course-V (Semester-VII) (Choose any one Course)

| Sr. No. | Course Name | Course Code |
|---|---|---|
| 1 | Image Processing | BTCSPE25CS7T |
| 2 | Augmented Reality and Virtual Reality | BTCSPE26CS7T |
| 3 | Cognitive Computing | BTCSPE27CS7T |

Approved in 4th Academic Council Meeting
Dated:- 30/03/2026

## Scheme Semester- VIII

| Scheme for Fourth Year B. Tech. In Computer Science and Engineering (Semester -VIII) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Course Name | Code | Course Plan per Week (Hrs) | | | | Credits | Theory Evaluation | | | | Practical Evaluation | | Total | ESE Time (Hrs) |
| | | | L | P | T | Hrs | | MSE-I | MSE-II | TA | ESE | INT | EXT | | |
| **Program Core Courses (PCC)** | | | | | | | | | | | | | | | |
| 1 | Industry Internship/Research Internship/Entrepreneurship | BTCSII01CS8P/ BTCSRI01CS8P/ BTCSEI01CS8P | 0 | 24 | 0 | 24 | 12 | - | - | - | - | 20 | 80 | 100 | - |
| 2 | Research Methodology | BTCSRM01CS8T | 3 | 0 | 1 | 4 | 4 | 15 | 15 | 10 | 60 | - | - | 100 | 2.5 |
| **Multidisciplinary Minor Courses (MDM)** | | | | | | | | | | | | | | | |
| 3 | Multi-Disciplinary Minor-V | -- | 0 | 2 | 0 | 4 | 2 | | | | | 50 | | 50 | - |
| | TOTAL | | 3 | 26 | 1 | 32 | 18 | 15 | 15 | 10 | 60 | 70 | 80 | 250 | |
| L: Lecture P: Practical T : Tutorial MSE: Mid Semester Exam ESE: End Semester Exam TA: Teacher Assessment INT: Internal EXT: External | | | | | | | | | | | | | | | |

**Note: Suitable number of hours per week are allotted for continuous evaluation process for all subjects from Semester III to Semester VIII (Total contact hours per week =42 Hrs)**

*For the details of MDM Courses, Refer the link given on page no 08*

Approved in 4th
Academic Council Meeting
Dated:- 30/03/2026