**School of Engineering & Technology**
**B. Tech Computer Science & Business Systems**

## Credit Definition

| Type | Duration (in Hour) | Credit |
|---|---|---|
| Lecture (L) | 1 | 1 |
| Tutorial (T) | 1 | 1 |
| Practical (P) | 2 | 1 |

## Total Credit

| Year | Semester | hrs./Week | Credit |
|---|---|---|---|
| 1st | 1st | 26 | 24 |
| | 2nd | 26 | 24 |
| 2nd | 3rd | 29 | 24 |
| | 4th | 26 | 24 |
| 3rd | 5th | 30 | 23 |
| | 6th | 26 | 23 |
| 4th | 7th | 24 | 19 |
| | 8th | 23 | 19 |
| **Total** | | | **180** |

## Category Codification with Credit Break up

| Definition of Category | Category | No | Credit |
|---|---|---|---|
| Basic Science | BS/BSAE | 1 | 21 |
| Engineering Science | ES | 2 | 8 |
| Professional Core | CC/PCC | 3 | 67 |
| Professional Elective (Discipline Specific) | DSE/PEC | 4 | 22 |
| Open Elective (General Elective) | GE/OE | 5 | 0 |
| Humanities & Social Science including Management | AECC /HSM/ PAECC | 6 | 50 |
| Project Work / Seminar / Internship / Entrepreneurship | SEC/PSE/CLE | 7 | 4 |
| Mandatory / University Specified (Environmental Sc. / Induction Training / Indian Constitution / Foreign language) | USC/ MUS | 8 | 8 |
| **Total** | | | **180** |

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## Category wise Credit Distribution
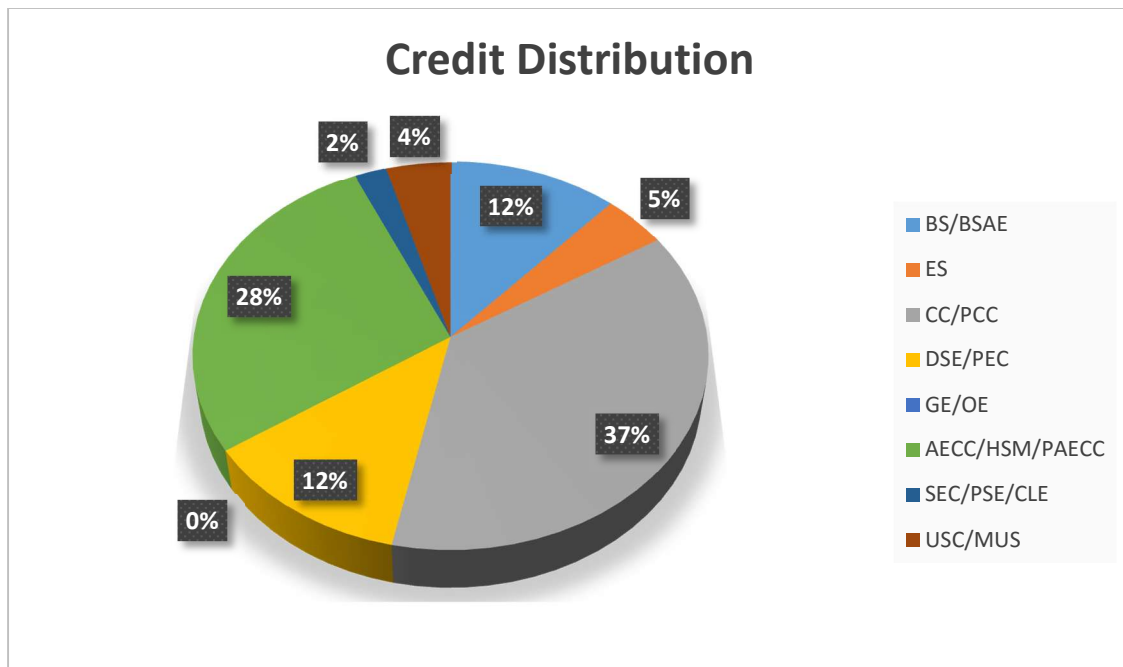
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## SEMESTER: I

**Mandatory Induction Program – Duration 3 weeks**

- Physical Activity
- Creative Arts
- Universal Human Values
- Literary
- Proficiency Modules
- Lectures by Eminent People
- Visits to Local Areas
- Familiarization to Department/Branch & Innovations

| Sl No | Course Title | Code | Credit | Type | | |
|---|---|---|---|---|---|---|
| | | | | L | T | P |
| 1 | Discrete Mathematics | 7000021101 | 3 | 3 | 0 | 0 |
| 2 | Probability & Statistics | 7000021102 | 3 | 3 | 0 | 0 |
| 3 | Fundamentals of Computer Science | 1000021101 | 3 | 3 | 0 | 0 |
| 4 | Principles of Electrical Engineering | 8000021101 | 3 | 3 | 0 | 0 |
| 5 | Fundamentals of Physics | 7000021103 | 3 | 3 | 0 | 0 |
| 6 | Business Communication & Value Science - I | 4000021101 | 4 | 3 | 0 | 0 |
| 7 | Fundamentals of Computer Science Lab | 1000021201 | 1 | 0 | 0 | 2 |
| 8 | Principles of Electrical Engineering Lab | 8000021201 | 1 | 0 | 0 | 2 |
| 9 | Fundamentals of Physics Lab | 7000021201 | 1 | 0 | 0 | 2 |
| 10 | Foreign Language - I | 6000021101 | 2 | 2 | 0 | 0 |
| **Total Credit (L:20, T: 0, P: 6)** | | | **24** | **26 (hrs./Week)** | | |

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## SEMESTER: II

| Sl No | Course Title | Code | Credit | Type | | |
|---|---|---|---|---|---|---|
| | | | | L | T | P |
| 1 | Linear Algebra | 7000022104 | 4 | 4 | 0 | 0 |
| 2 | Statistical Modeling | 7000022105 | 3 | 3 | 0 | 0 |
| 3 | Data Structures & Algorithms | 1000022102 | 3 | 3 | 0 | 0 |
| 4 | Principles of Electronics | 8000022102 | 3 | 3 | 0 | 0 |
| 5 | Fundamentals of  Economics | 4000022102 | 2 | 2 | 0 | 0 |
| 6 | Business Communication & Value Science – II | 4000022103 | 4 | 3 | 0 | 0 |
| 7 | Statistical Modeling Lab | 7000022202 | 1 | 0 | 0 | 2 |
| 8 | Data Structures & Algorithms Lab | 1000022202 | 1 | 0 | 0 | 2 |
| 9 | Principles of Electronics Lab | 8000022202 | 1 | 0 | 0 | 2 |
| 10 | Foreign Language - II | 6000022102 | 2 | 2 | 0 | 0 |
| **Total Credit (L:20, T: 0, P: 6)** | | | **24** | **26 (hrs./Week)** | | |

## SEMESTER: III

| Sl No | Course Title | Code | Credit | Type | | |
|---|---|---|---|---|---|---|
| | | | | L | T | P |
| 1 | Formal Language and Automata Theory | 1000023103 | 4 | 4 | 0 | 0 |
| 2 | Computer Organization and Architecture | 1000023104 | 3 | 3 | 0 | 0 |
| 3 | Object Oriented Programming | 1000023105 | 3 | 3 | 0 | 0 |
| 4 | Computational Statistics | 1000023106 | 3 | 3 | 0 | 0 |
| 5 | Software Engineering | 1000023107 | 4 | 4 | 0 | 0 |
| 6 | Formal Language and Automata Theory Lab | 1000023203 | 1 | 0 | 0 | 2 |
| 7 | Computer Organization and Architecture Lab | 1000023204 | 1 | 0 | 0 | 2 |
| 8 | Object Oriented Programming Lab | 1000023205 | 1 | 0 | 0 | 2 |
| 9 | Computational Statistics Lab | 1000023206 | 1 | 0 | 0 | 2 |
| 10 | Software Engineering Lab | 1000023207 | 1 | 0 | 0 | 2 |
| 11 | Foreign Language - III | 6000023103 | 2 | 2 | 0 | 0 |
| **Total Credit (L: 19, T: 0, P: 10)** | | | **24** | **29 ( hrs./Week)** | | |

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### SEMESTER: IV

| Sl No | Course Title | Code | Credit | Type | | |
|---|---|---|---|---|---|---|
| | | | | L | T | P |
| 1 | Operating Systems | 1000024108 | 3 | 3 | 0 | 0 |
| 2 | Database Management System | 1000024109 | 3 | 3 | 0 | 0 |
| 3 | Software Design with UML | 1000024110 | 3 | 3 | 0 | 0 |
| 4 | Introduction to Innovation, IP Management & Entrepreneurship | 4000024104 | 3 | 3 | 0 | 0 |
| 5 | Business Communication & Value Science – III | 4000024105 | 4 | 2 | 0 | 0 |
| 6 | Operations Research | 7000024106 | 2 | 2 | 0 | 0 |
| 7 | Operating Systems Lab | 1000024208 | 1 | 0 | 0 | 2 |
| 8 | Database Management System Lab | 1000024209 | 1 | 0 | 0 | 2 |
| 9 | Software Design with UML Lab | 1000024210 | 1 | 0 | 0 | 2 |
| 10 | Operations Research Lab | 7000024203 | 1 | 0 | 0 | 2 |
| 11 | Foreign Language - IV | 6000024104 | 2 | 2 | 0 | 0 |
| **Total Credit (L: 18, T: 0, P: 8)** | | | **24** | **26 ( hrs./Week)** | | |

### SEMESTER: V

| Sl No | Course Title | Code | Credit | Type | | |
|---|---|---|---|---|---|---|
| | | | | L | T | P |
| 1 | Design And Analysis of Algorithms | 1000025111 | 3 | 3 | 0 | 0 |
| 2 | Compiler Design | 1000025112 | 3 | 3 | 0 | 0 |
| 3 | Fundamentals of Management | 4000025106 | 4 | 4 | 0 | 0 |
| 4 | Business Strategy | 4000025107 | 3 | 3 | 0 | 0 |
| 5 | Design Thinking | 4000025108 | 3 | 6 | 0 | 0 |
| 6 | Elective I (Machine Learning) | 2000025101 | 3 | 3 | 0 | 0 |
| 7 | Mini Project | 5000025501 | 1 | 0 | 0 | 2 |
| 8 | Design And Analysis of Algorithms Lab | 1000025211 | 1 | 0 | 0 | 2 |
| 9 | Compiler Design Lab | 1000025212 | 1 | 0 | 0 | 2 |
| 10 | Elective I (Machine Learning) Lab | 2000025201 | 1 | 0 | 0 | 2 |
| **Total Credit (L: 22, T: 0, P: 8)** | | | **23** | **30 ( hrs./Week)** | | |

| Elective I (Open) | | |
|---|---|---|
| Sl No. | Paper Code | Paper Name |
| 1. | | Microprocessor and Microcontroller |
| 2. | | Analog and Digital Communication |

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## SEMESTER: VI

| Sl No | Course Title | Code | Credit | Type | | |
|---|---|---|---|---|---|---|
| | | | | L | T | P |
| 1 | Computer Networks | 1000026113 | 3 | 3 | 0 | 0 |
| 2 | Information Security | 1000026114 | 3 | 3 | 0 | 0 |
| 3 | Artificial Intelligence | 1000026115 | 2 | 2 | 0 | 0 |
| 4 | Financial & Cost Accounting | 4000026109 | 3 | 3 | 0 | 0 |
| 5 | Business Communication & Value Science – IV | 4000026110 | 4 | 2 | 0 | 0 |
| 6 | Elective II | 2000026102 | 3 | 3 | 0 | 0 |
| 7 | Computer Networks Lab | 1000026213 | 1 | 0 | 0 | 2 |
| 8 | Information Security Lab | 1000026214 | 1 | 0 | 0 | 2 |
| 9 | Artificial Intelligence Lab | 1000026215 | 2 | 0 | 0 | 4 |
| 10 | Elective II Lab | 2000026202 | 1 | 0 | 0 | 2 |
| **Total Credit (L: 16, T: 0, P: 10)** | | | **23** | **26 ( hrs./Week)** | | |

| Elective II (Open) | | |
|---|---|---|
| **Sl No.** | **Paper Code** | **Paper Name** |
| 1. | | Fuzzy Set Theory And Decision Making |
| 2. | | Robotics |
| **Elective – I (Professional)** | | |
| **Sl No.** | **Paper Code** | **Paper Name** |
| 3. | | Digital Signal Processing |
| 4. | | Cryptography and Network Security |
| 5. | | Advanced Architecture |
| 6. | | Artificial Neural Network |
| **Elective – II (Professional)** | | |
| 7. | | Digital Image Processing |
| 8. | | Embedded System |
| 9. | | Machine Learning |

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### SEMESTER: VII

| Sl No | Course Title | Code | Credit | Type | | |
|---|---|---|---|---|---|---|
| | | | | L | T | P |
| 1 | Usability Design of Software Applications | 1000027116 | 3 | 3 | 0 | 0 |
| 2 | Financial Management | 4000027111 | 3 | 3 | 0 | 0 |
| 3 | Human Resource Management | 4000027112 | 3 | 3 | 0 | 0 |
| 4 | Elective III | 2000027103 | 3 | 3 | 0 | 0 |
| 5 | Elective IV | 2000027104 | 3 | 3 | 0 | 0 |
| 6 | Project Evaluation I | 5000027502 | 1 | 0 | 0 | 3 |
| 7 | IT Workshop Skylab / Matlab (PCC-CS 302)  Lab | 1000027216 | 2 | 0 | 0 | 4 |
| 8 | Elective IV Lab | 2000027203 | 1 | 0 | 0 | 2 |
| **Total Credit (L: 15, T: 0, P: 9)** | | | **19** | **24 ( hrs./Week)** | | |

| Elective III (Open) | | |
|---|---|---|
| **Sl No.** | **Paper Code** | **Paper Name** |
| 1. | | Fibre Optic communication |
| 2. | | Cyber Law |
| 3. | | Web Technology |
| **Elective – III (Professional)** | | |
| **Sl No.** | **Paper Code** | **Paper Name** |
| 4. | | Bioinformatics |
| 5. | | Cloud Computing |
| 6. | | Data Mining |
| 7. | | Internet of Things |
| **Elective – IV (Professional)** | | |
| 8. | | Soft Computing |
| 9. | | Natural Language Processing |
| 10. | | Distributed Database System |

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### SEMESTER: VIII

| Sl No | Course Title | Code | Credit | Type | | |
|---|---|---|---|---|---|---|
| | | | | L | T | P |
| 1 | Services Science & Service Operational Management | 4000028113 | 3 | 3 | 0 | 0 |
| 2 | IT Project Management | 4000028114 | 3 | 3 | 0 | 0 |
| 3 | Marketing Research & Marketing Management | 4000028115 | 3 | 3 | 0 | 0 |
| 4 | Elective V | 2000028105 | 3 | 3 | 0 | 0 |
| 5 | Elective VI | 2000028106 | 3 | 3 | 0 | 0 |
| 6 | Project Evaluation II | 5000028503 | 2 | 0 | 0 | 4 |
| 7 | IT Project Management Lab | 4000028201 | 1 | 0 | 0 | 2 |
| 8 | Elective VI Lab | 2000028204 | 1 | 0 | 0 | 2 |
| **Total Credit (L: 15, T: 0, P: 8)** | | | **19** | **23 ( hrs./Week)** | | |

| Elective IV (Open) | | |
|---|---|---|
| **Sl No.** | **Paper Code** | **Paper Name** |
| 1. | | Business Analytics/Design Thinking |
| 2. | | Satellite Communication |
| **Elective- V (Professional)** | | |
| **Sl No.** | **Paper Code** | **Paper Name** |
| 3. | | Data Science |
| 4. | | Wireless and Sensor Network |
| 5. | | Mobile Computing |
| 6. | | Block Chain and Crypto Currency |