

Course Structure and Syllabus of the Framework

6.1 Course Structure of B. Tech (CSE)

| 1 st Semester | | | | | | | |
|--|--------------|---|----|---|----|----|-----|
| S. No. | Subject Code | Names of subjects | L | T | P | C | TCP |
| Basic Science Course (BSC) | | | | | | | |
| 1 | PHY022C101 | Physics | 3 | 1 | 0 | 4 | 4 |
| 2 | MAT022C102 | Mathematics – I | 3 | 1 | 0 | 4 | 4 |
| 3 | PHY022C111 | Physics Lab | 0 | 0 | 2 | 1 | 2 |
| Engineering Science Course (ESC) | | | | | | | |
| 4 | CSE022C103 | Basic Electrical Engineering | 3 | 1 | 0 | 4 | 4 |
| 5 | CEE022C104 | Engineering Graphics & Design | 1 | 0 | 4 | 3 | 5 |
| 6 | CSE022C113 | Basic Electrical Engineering Lab | 0 | 0 | 2 | 1 | 2 |
| Humanities/Social Science including Management Course (HSMC) | | | | | | | |
| 7 | BHS022A101 | Universal Human Values: Understanding Harmony and Ethical Human Conduct | 2 | 1 | 0 | 3 | 3 |
| Mandatory Courses (MC)/ Skill Enhancement Courses | | | | | | | |
| 8 | COD022S116 | Design Thinking | 0 | 0 | 2 | 1 | 2 |
| 9 | CSE022S117 | Ideation Lab | 0 | 0 | 2 | 1 | 2 |
| | | TOTAL | 12 | 4 | 12 | 22 | 28 |
| 10 | | Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM] | 0 | 0 | 0 | 3 | 0 |
| 2 nd Semester | | | | | | | |
| S. No. | Subject Code | Names of subjects | L | T | P | C | TCP |
| Basic Science Course (BSC) | | | | | | | |
| 1 | CHY022C201 | Chemistry | 3 | 1 | 0 | 4 | 4 |
| 2 | MAT022C202 | Mathematics – II | 3 | 1 | 0 | 4 | 4 |
| 3 | CSE022C203 | Biology for Engineers | 3 | 0 | 0 | 3 | 3 |
| 4 | CHY022C211 | Chemistry Lab | 0 | 0 | 2 | 1 | 2 |
| Engineering Science Course (ESC) | | | | | | | |
| 4 | CSE022C204 | Programming for Problem Solving | 3 | 0 | 0 | 3 | 3 |
| 5 | MEE022C215 | Manufacturing Practices Workshop | 1 | 0 | 4 | 3 | 5 |
| 6 | CSE022C214 | Programming for Problem Solving Lab | 0 | 0 | 4 | 2 | 4 |
| Humanities/Social Science including Management Course (HSMC) | | | | | | | |
| 7 | CEN022A201 | English for Technical Writing | 2 | 0 | 0 | 2 | 2 |
| Mandatory Courses (MC)/ Skill Enhancement Courses | | | | | | | |
| 8 | CSE022S217 | Sports and Yoga | 0 | 0 | 2 | 1 | 2 |

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|---|---------------------|---|-----------|----------|-----------|-----------|------------|
| | | TOTAL | 15 | 2 | 12 | 23 | 29 |
| 9 | | Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM] | 0 | 0 | 0 | 3 | 0 |
| 3rd Semester | | | | | | | |
| S. No. | Subject Code | Names of subjects | L | T | P | C | TCP |
| Professional Core Course (PCC) | | | | | | | |
| 1. | | Discrete Mathematics | 3 | 1 | 0 | 4 | 4 |
| 2. | | Data Structures and Algorithms | 3 | 0 | 0 | 3 | 3 |
| 3. | | IT Workshop (Python Programming) | 1 | 0 | 4 | 3 | 5 |
| 4. | | Data Structures and Algorithms Lab | 0 | 0 | 4 | 2 | 4 |
| Engineering Science Course (ESC) | | | | | | | |
| 5. | | Digital Logic and Design | 3 | 0 | 0 | 3 | 3 |
| 6. | | Digital Logic and Design Lab | 0 | 0 | 4 | 2 | 4 |
| Humanities | | | | | | | |
| 7. | | Principles of Management | 3 | 0 | 0 | 3 | 3 |
| IKS | | | | | | | |
| 8. | | Indian Knowledge System-I | 3 | 0 | 0 | 3 | 3 |
| | | TOTAL | 16 | 1 | 12 | 23 | 29 |
| 9. | | Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM] | 0 | 0 | 0 | 3 | 0 |
| 4th Semester | | | | | | | |
| S. No. | Subject Code | Names of subjects | L | T | P | C | TCP |
| Professional Core Course (PCC) | | | | | | | |
| 1. | | Computer Organisation and Architecture | 3 | 0 | 0 | 3 | 3 |
| 2. | | Design and Analysis of Algorithms | 3 | 0 | 0 | 3 | 3 |
| 3. | | Formal Language and Automata Theory | 3 | 1 | 0 | 4 | 4 |
| 4. | | Advanced Programming | 3 | 1 | 0 | 4 | 4 |
| 5. | | Design and Analysis of Algorithms Lab | 0 | 0 | 4 | 2 | 4 |
| IKS | | | | | | | |
| 6. | | Indian Knowledge System-II | 3 | 0 | 0 | 3 | 3 |
| Humanities | | | | | | | |
| 7. | | Organizational Behaviour/Finance & Accounting | 3 | 0 | 0 | 3 | 3 |
| Environmental Science | | | | | | | |
| 8. | | Environmental Sciences | 1 | 0 | 0 | 1 | 1 |
| | | TOTAL | 19 | 2 | 4 | 23 | 25 |
| 9. | | Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM] | 0 | 0 | 0 | 3 | 0 |
| 5th Semester | | | | | | | |
| S. No. | Subject Code | Names of subjects | L | T | P | C | TCP |
| Professional Core Course (PCC) | | | | | | | |
| 1. | | Operating Systems | 3 | 0 | 0 | 3 | 3 |
| 2. | | Machine Learning | 3 | 1 | 0 | 4 | 4 |
| 3. | | Database Management Systems | 3 | 0 | 0 | 3 | 3 |
| 4. | | Operating Systems Lab | 0 | 0 | 4 | 2 | 4 |
| 5. | | Database Management Systems Lab | 0 | 0 | 4 | 2 | 4 |
| 6. | | Machine Learning Lab | 0 | 0 | 4 | 2 | 4 |
| Engineering Science Course (ESC) | | | | | | | |
| 7. | | Signal and Systems | 3 | 0 | 0 | 3 | 3 |
| Humanities/Social Science including Management Course (HSMC) | | | | | | | |
| 8. | | Constitution of India | 3 | 0 | 0 | 3 | 3 |
| | | TOTAL | 15 | 1 | 12 | 22 | 26 |

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|---|---------------------|--|-----------|----------|-----------|-----------|------------|
| 9. | | Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM] | 0 | 0 | 0 | 3 | 0 |
| 6th Semester | | | | | | | |
| S. No. | Subject Code | Names of subjects | L | T | P | C | TCP |
| Professional Core Course (PCC) | | | | | | | |
| 1. | | Computer Networks | 3 | 0 | 0 | 3 | 3 |
| 2. | | Compiler Design | 3 | 0 | 0 | 3 | 3 |
| 3. | | Computer Networks Lab | 0 | 0 | 4 | 2 | 4 |
| Professional Elective Course (PEC) | | | | | | | |
| 4. | | Introduction to Cyber Security | 3 | 0 | 0 | 3 | 3 |
| 5. | | Professional Elective Course-I | 3 | 0 | 0 | 3 | 0 |
| 6. | | Professional Elective Course-II | 3 | 0 | 0 | 3 | 0 |
| 7. | | Introduction to Cyber Security Lab | 0 | 0 | 4 | 2 | 4 |
| Project | | | | | | | |
| 8. | | Project-I | 0 | 0 | 6 | 3 | 6 |
| | | TOTAL | 15 | 0 | 14 | 22 | 23 |
| 9. | | Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM] | 0 | 0 | 0 | 3 | 0 |
| 7th Semester | | | | | | | |
| S. No. | Subject Code | Names of subjects | L | T | P | C | TCP |
| Professional Core Course (PCC) | | | | | | | |
| 1. | | Web Technology | 3 | 0 | 0 | 3 | 3 |
| 2. | | Web Technology Lab | 0 | 0 | 4 | 2 | 4 |
| Professional Elective Course (PEC) | | | | | | | |
| 3. | | Professional Elective Course-III | 3 | 0 | 0 | 3 | 3 |
| Open Elective | | | | | | | |
| 4. | | Open Elective-I | 3 | 0 | 0 | 3 | 3 |
| Internship | | | | | | | |
| 5. | | Internship | 0 | 0 | 0 | 3 | 0 |
| Project/ Dissertation | | | | | | | |
| 6. | | Project-II | 0 | 0 | 12 | 6 | 12 |
| | | TOTAL | 9 | 0 | 16 | 20 | 25 |
| 7. | | Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM] | 0 | 0 | 0 | 3 | 0 |
| 8th Semester | | | | | | | |
| S. No. | Subject Code | Names of subjects | L | T | P | C | TCP |
| Professional Elective Course (PEC) | | | | | | | |
| 1. | | PEC-IV | 3 | 0 | 0 | 3 | 3 |
| Open Elective | | | | | | | |
| 2. | | Open Elective-II | 3 | 0 | 0 | 3 | 3 |
| 3. | | Open Elective-II | 3 | 0 | 0 | 3 | 3 |
| Project/ Dissertation | | | | | | | |
| 4. | | Project-II | 0 | 0 | 12 | 6 | 12 |
| | | TOTAL | 9 | 0 | 12 | 15 | 21 |
| 5 | | Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM] | 0 | 0 | 0 | 3 | 0 |