

SARALA BIRLA UNIVERSITY RANCHI



Established under the Sarala Birla University Act 2017 Govt. of Jharkhand as per Section 2(f) of UGC Act. 1956

CURRICULUM FOR Diploma in Computer Science & Engineering

(Based on UGC & AICTE- CBCS)

Effective from 2018-19

DEFINITION OF CREDIT

| | |
|------------------------------|------------|
| 1 Hr. Lecture (L) per week | 1 credit |
| 1 Hr. Tutorial (T) per week | 1 credit |
| 1 Hr. Practical (P) per week | 0.5 credit |
| 2 Hours Practical (Lab)/week | 1 credit |
| 4 Hours Practical (Lab)/week | 2 credits |

COURSE CODE AND DEFINITION

| Course Code | Definition |
|--------------------|---|
| BSC-D | Basic Science courses |
| ESC-D | Engineering Science courses |
| HSMC-D | Humanities and Social Sciences including Management courses |
| MC-D | Mandatory Courses |
| ECCA-D | Extra Co-Curricular Activities Courses |
| PCC-CSE-D | Professional core courses |
| PEC-CSE-D | Professional Elective courses |
| OEC-CSE-D | Open Elective Courses |
| CSE-DP1 | Project stage-I |
| CSE-DP2 | Project stage-II |

**STRUCTURE OF UNDERGRADUATE DIPLOMA IN CSE
PROGRAM**

| S.No | | Credit Breakup |
|----------------------|---|----------------|
| 1 | Humanities and Social Sciences including Management courses | 13 |
| 2 | Basic Science courses | 29 |
| 3 | Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc | 15 |
| 4 | Mandatory Courses | 4 |
| 5 | Professional Core courses | 61 |
| 6 | Professional Elective courses relevant to chosen specialization/branch | 8 |
| 7 | Open subjects – Electives from other technical and /or emerging subjects | 8 |
| 8 | Project work, seminar and internship in industry or elsewhere | 8 |
| 9 | Extra Co-Curricular Activities Courses | 2 |
| Total Credits | | 148 |

CREDITS DISTRIBUTION (SEMESTER-WISE AND COURSE-WISE)

| Semester | HSMC-D | BSC-D | ESC-D | MC-D | PCC-CSE-D | PEC-CSE-D | OEC-Dept. code-D | Project (CSE-DP1+CSE-DP2) | ECCA-D | Total Credit Semester-wise |
|--|-----------|-----------|-----------|----------|-----------|-----------|------------------|---------------------------|----------|----------------------------|
| Semester I | 3 | 14 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 25 |
| Semester II | 3 | 10 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 22 |
| Semester III | 3 | 5 | 0 | 2 | 12 | 0 | 4 | 0 | 0 | 26 |
| Semester IV | 2 | 0 | 0 | 2 | 21 | 0 | 0 | 0 | 0 | 25 |
| Semester V | 0 | 0 | 0 | 0 | 19 | 0 | 4 | 2 | 0 | 25 |
| Semester VI | 2 | 0 | 0 | 0 | 9 | 8 | 0 | 6 | 0 | 25 |
| Total Credit Course-wise Semestere-wise | 13 | 29 | 15 | 4 | 61 | 8 | 8 | 8 | 2 | |
| Total Credits | | | | | | | | | | 148 |

MARKS DISTRIBUTION OF DIPLOMA IN CSE PROGRAM

| S. No | Year | Semester | Total Credits | Total Classes per Week | Theory | | | Lab | | | Total Marks |
|--------------|------|----------|---------------|------------------------|--------|------|-------------|-----|-----|-------------|-------------|
| | | | | | IA | ESE | TM | IA | ESE | TM | |
| 1 | 1st | I | 25 | 30 | 150 | 350 | 500 | 180 | 120 | 300 | 800 |
| 2 | | II | 22 | 27 | 120 | 280 | 400 | 180 | 120 | 300 | 700 |
| 3 | 2nd | III | 26 | 32 | 180 | 420 | 600 | 120 | 80 | 200 | 800 |
| 4 | | IV | 25 | 30 | 180 | 420 | 600 | 90 | 60 | 150 | 750 |
| 5 | 3rd | V | 25 | 31 | 150 | 350 | 500 | 195 | 105 | 300 | 800 |
| 6 | | VI | 25 | 33 | 150 | 350 | 500 | 210 | 90 | 300 | 800 |
| Total | | | 148 | 183 | 930 | 2170 | 3100 | 975 | 575 | 1550 | 4650 |

IA- Internal Assessment, ESE-End Semester Examination

TM- Total Marks

BASIC SCIENCE COURSES

| Sl. No. | Course Code | Course Title | Hours per week | | | Credits | Preferred Semester |
|-----------------------|-------------|-------------------------|----------------|---|---|-----------|--------------------|
| | | | L | T | P | | |
| 1 | BSC-D099 | Applied Science | 4 | 0 | 0 | 4 | II |
| 2 | BSC-D100 | Applied Science Lab | 0 | 0 | 2 | 1 | II |
| 3 | BSC-D101 | Basic Chemistry | 3 | 1 | 0 | 4 | I |
| 4 | BSC-D102 | Basic Chemistry Lab | 0 | 0 | 2 | 1 | I |
| 5 | BSC-D103 | Basic Physics | 3 | 1 | 0 | 4 | II |
| 6 | BSC-D104 | Basic Physics Lab | 0 | 0 | 2 | 1 | II |
| 7 | BSC-D105 | Basic Mathematics | 3 | 1 | 0 | 4 | I |
| 8 | BSC-D106 | Engineering Mathematics | 4 | 1 | 0 | 5 | II |
| 9 | BSC-D107 | Applied Mathematics | 4 | 1 | 0 | 5 | III |
| Total Credits: | | | | | | 29 | |

ENGINEERING SCIENCE COURSES

| Sl. No. | Course Code | Course Title | Hours per week | | | Credits | Preferred Semester |
|-----------------------|-------------|--|----------------|---|---|-----------|--------------------|
| | | | L | T | P | | |
| 1 | ESC-D101 | Fundamentals of Computer | 3 | 0 | 0 | 3 | I |
| 2 | ESC-D102 | Fundamentals of Computer Lab | 0 | 0 | 2 | 1 | I |
| 3 | ESC-D103-P1 | Workshop Practice-I | 0 | 0 | 2 | 1 | I |
| 4 | ESC-D103-P2 | Workshop Practice-II | 0 | 0 | 2 | 1 | II |
| 5 | ESC-D104 | Fundamentals of Electrical and Electronics | 3 | 1 | 0 | 4 | II |
| 6 | ESC-D105 | Fundamentals of Electrical and Electronics Lab | 0 | 0 | 2 | 1 | II |
| 7 | ESC-D106-P1 | Engineering Graphics-I | 0 | 1 | 2 | 2 | I |
| 8 | ESC-D106-P2 | Engineering Graphics-II | 0 | 1 | 2 | 2 | II |
| Total Credits: | | | | | | 15 | |

HUMANITIES & SOCIAL SCIENCES INCLUDING MANAGEMENT COURSES

| Sl. No. | Course Code | Course Title | Hours per week | | | Credits | Preferred Semester |
|-----------------------|-------------|--|----------------|---|---|-----------|--------------------|
| | | | L | T | P | | |
| 1 | HSMC-D101 | Technical English | 3 | 0 | 0 | 3 | I |
| 2 | HSMC-D102 | Communication Skills | 2 | 0 | 0 | 2 | II |
| 3 | HSMC-D103 | Life Skills & Professional Practices-I | 0 | 0 | 2 | 1 | II |
| 4 | HSMC-D104 | Life Skills & Professional Practices-II | 0 | 0 | 2 | 1 | III |
| 5 | HSMC-D105 | French Through Communicative Approach-I | 2 | 0 | 0 | 2 | III |
| 6 | HSMC-D106 | French Through Communicative Approach-II | 2 | 0 | 0 | 2 | IV |
| 7 | HSMC-D107 | Organizational Behaviour | 2 | 0 | 0 | 2 | VI |
| Total Credits: | | | | | | 13 | |

MANDATORY COURSES

| Sl. No. | Course Code | Course Title | Hours per week | | | Credits | Preferred Semester |
|-----------------------|-------------|-----------------------|----------------|---|---|----------|--------------------|
| | | | L | T | P | | |
| 1 | MC-D101 | Induction Program | 0 | 0 | 0 | 0 | I |
| 2 | MC-D102 | Environmental Science | 2 | 0 | 0 | 2 | III |
| 2 | MC-D103 | Values and Ethics | 2 | 0 | 0 | 2 | IV |
| Total Credits: | | | | | | 4 | |

EXTRA CO-CURRICULAR ACTIVITIES COURSES

| Sl. No. | Course Code | Course Title | Hours per week | | | Credits | Preferred Semester |
|-----------------------|-------------|-------------------------|----------------|---|---|----------|--------------------|
| | | | L | T | P | | |
| 1 | ECCA-D101 | PT and Games/NSS/NCC/CA | 0 | 0 | 2 | 1 | I |
| 2 | ECCA-D102 | PT and Games/NSS/NCC/CA | 0 | 0 | 2 | 1 | II |
| Total Credits: | | | | | | 2 | |

PROFESSIONAL CORE COURSES

Branch: Computer Science & Engineering

| Sl. No. | Course Code | Course Title | Hrs. /Week L: T: P | Credits | Preferred Semester |
|-----------------------|--------------|--|-----------------------|-----------|--------------------|
| 1 | PCC-CSE-D201 | C Programming | 03:01:00 | 4 | III |
| 2 | PCC-CSE-D202 | C Programming Lab | 00:00:04 | 2 | III |
| 3 | PCC-CSE-D203 | Database Management System | 03:01:00 | 4 | III |
| 4 | PCC-CSE-D204 | Database Management System Lab | 00:00:04 | 2 | III |
| 5 | PCC-CSE-D205 | Computer Hardware | 03:01:00 | 4 | IV |
| 6 | PCC-CSE-D206 | Computer Hardware Lab | 00:00:02 | 1 | IV |
| 7 | PCC-CSE-D207 | Data Structure | 03:01:00 | 4 | IV |
| 8 | PCC-CSE-D208 | Data Structure Lab | 00:00:04 | 2 | IV |
| 9 | PCC-CSE-D209 | Object Oriented Programming | 03:01:00 | 4 | IV |
| 10 | PCC-CSE-D210 | Object Oriented Programming Lab | 00:00:04 | 2 | IV |
| 11 | PCC-CSE-D211 | Computer Organization and Architecture | 03:01:00 | 4 | IV |
| 12 | PCC-CSE-D301 | Computer Network | 03:01:00 | 4 | V |
| 13 | PCC-CSE-D302 | Computer Network Lab | 00:00:02 | 1 | V |
| 14 | PCC-CSE-D303 | Operating Systems | 03:01:00 | 4 | V |
| 15 | PCC-CSE-D304 | Operating Systems Lab | 00:00:02 | 1 | V |
| 16 | PCC-CSE-D305 | Software Engineering | 03:01:00 | 4 | V |
| 17 | PCC-CSE-D306 | Software Engineering Lab | 00:00:02 | 1 | V |
| 18 | PCC-CSE-D307 | Formal Language & Automata Theory | 03:01:00 | 4 | V |
| 19 | PCC-CSE-D308 | Web Technology and Application | 03:01:00 | 4 | VI |
| 20 | PCC-CSE-D309 | Web Technology and Application Lab | 00:00:02 | 1 | VI |
| 21 | PCC-CSE-D310 | Computer Graphics | 03:01:00 | 4 | VI |
| Total Credits: | | | | 61 | |

PROFESSIONAL ELECTIVE COURSES

Branch: Computer Science & Engineering

| SL NO. | Course Code | Course Title | Hrs. /Week L: T: P | Credits | Preferred Semester |
|--------|--------------|--|--------------------|---------|--------------------|
| 1 | PEC-CSE-D301 | Mobile Computing | 03:00:00 | 3 | V/VI |
| 2 | PEC-CSE-D302 | Mobile Computing Lab | 00:00:02 | 1 | V/VI |
| 3 | PEC-CSE-D303 | Multimedia Technologies | 03:00:00 | 3 | V/VI |
| 4 | PEC-CSE-D304 | Multimedia Technologies Lab | 00:00:02 | 1 | V/VI |
| 5 | PEC-CSE-D305 | Advance Computer Networks | 03:00:00 | 3 | V/VI |
| 6 | PEC-CSE-D306 | Advance Computer Networks Lab | 00:00:02 | 1 | V/VI |
| 7 | PEC-CSE-D307 | Information Security | 03:00:00 | 3 | V/VI |
| 8 | PEC-CSE-D308 | Information Security Security Lab | 00:00:02 | 1 | V/VI |
| 9 | PEC-CSE-D309 | Network Forensics | 03:00:00 | 3 | V/VI |
| 10 | PEC-CSE-D310 | Network Forensics Lab | 00:00:02 | 1 | V/VI |
| 11 | PEC-CSE-D311 | FOSS (Free and Open Source Software) | 03:00:00 | 3 | V/VI |
| 12 | PEC-CSE-D312 | FOSS (Free and Open Source Software) Lab | 00:00:02 | 1 | V/VI |
| 13 | PEC-CSE-D313 | Software Testing | 03:00:00 | 3 | V/VI |
| 14 | PEC-CSE-D314 | Software Testing Lab | 00:00:02 | 1 | V/VI |
| 15 | PEC-CSE-D315 | Web App Development | 03:00:00 | 3 | V/VI |
| 16 | PEC-CSE-D316 | Web App Development Lab | 00:00:02 | 1 | V/VI |
| 17 | PEC-CSE-D317 | Image Processing | 03:00:00 | 3 | V/VI |
| 18 | PEC-CSE-D318 | Image Processing Lab | 00:00:02 | 1 | V/VI |

| | | | | | |
|----|--------------|---|----------|---|------|
| 19 | PEC-CSE-D319 | Fundamentals of Artificial Intelligence | 03:01:00 | 4 | V/VI |
| 20 | PEC-CSE-D320 | Data Sciences: Data Warehousing and Data Mining | 03:01:00 | 4 | V/VI |
| 21 | PEC-CSE-D321 | Soft Computing | 03:01:00 | 4 | V/VI |
| 22 | PEC-CSE-D322 | Cloud Computing | 03:01:00 | 4 | V/VI |
| 23 | PEC-CSE-D323 | Cyber Law and Ethics | 03:01:00 | 4 | V/VI |
| 24 | PEC-CSE-D324 | Big Data Analytics | 03:01:00 | 4 | V/VI |

OPEN ELECTIVE COURSES

Branch: Computer Science & Engineering

| Sl. No. | Course Code | Course Title | Hrs./ Week L: T: P | Credits | Preferred Semester |
|----------------|--------------------|---|-------------------------------|----------------|---------------------------|
| 1 | OEC-ECE-D201 | Basic Electronics | 03:00:00 | 3 | III |
| 2 | OEC-ECE-D202 | Basic Electronics Lab | 00:00:02 | 1 | III |
| 3 | OEC-EEE-D302 | Microprocessor & Microcontroller | 03:00:00 | 3 | V |
| 4 | OEC-EEE-D303 | Microprocessor & Microcontroller Lab | 00:00:02 | 1 | V |

PROJECT FOR COMPUTER SCIENCE & ENGINEERING BRANCH

Branch: Computer Science & Engineering

| Sl. No. | Course Code | Course Title | Hrs. /Week L: T: P | Credits | Preferred Semester |
|-----------------------|--------------------|---------------------|-------------------------------|----------------|---------------------------|
| 1 | CSE-DP1 | Project Stage-I | 00:00:04 | 2 | V |
| 2 | CSE-DP2 | Project Stage-II | 00:00:12 | 6 | VI |
| Total Credits: | | | | 8 | |

COURSE STRUCTURE

SEMESTER I (FIRST YEAR]

Branch: Computer Science & Engineering

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---------------------------------|---|-------------|------------------------------|-------|---|---|-----------|------------|------------|------------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Basic Science Course | BSC-D101 | Basic Chemistry | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 2 | Basic Science Course | BSC-D103 | Basic Physics | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 3 | Basic Science Course | BSC-D105 | Basic Mathematics | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 4 | Humanities and Social Sciences including Management Courses | HSMC-D101 | Technical English | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 5 | Engineering Science Course | ESC-D101 | Fundamentals of Computer | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| Total(A) | | | | | | | 18 | 150 | 350 | 500 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Basic Science Course | BSC-D102 | Basic Chemistry Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 2 | Basic Science Course | BSC-D104 | Basic Physics Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 3 | Engineering Science Course | ESC-D102 | Fundamentals of Computer Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 4 | Engineering Science Course | ESC-D103-P1 | Workshop Practice-I | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 5 | Engineering Science Course | ESC-D106-P1 | Engineering Graphics-I | 0 | 1 | 2 | 2 | 30 | 20 | 50 |
| 6 | Extra Co-curricular Activities Course | ECCA-D101 | PT and Games/NSS/NCC/CA | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| Total(B) | | | | | | | 7 | 180 | 120 | 300 |
| Grand Total (A+B) | | | | | | | 25 | 330 | 470 | 800 |

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER II (FIRST YEAR]

Branch: Computer Science & Engineering

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---------------------------------|---|-------------|--|-------|---|---|-----------|------------|------------|------------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Basic Science Course | BSC-D099 | Applied Science | 4 | 0 | 0 | 4 | 30 | 70 | 100 |
| 2 | Basic Science Course | BSC-D106 | Engineering Mathematics | 4 | 1 | 0 | 5 | 30 | 70 | 100 |
| 3 | Engineering Science Course | ESC-D104 | Fundamentals of Electrical and Electronics | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 4 | Humanities and Social Sciences including Management Courses | HSMC-D102 | Communication Skills | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| Total(A) | | | | | | | 15 | 120 | 280 | 400 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Basic Science Course | BSC-D100 | Applied Science Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 2 | Engineering Science Course | ESC-D103-P2 | Workshop Practice-II | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 3 | Engineering Science Course | ESC-D105 | Fundamentals of Electrical and Electronics Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 4 | Engineering Science Course | ESC-D106-P2 | Engineering Graphics-II | 0 | 1 | 2 | 2 | 30 | 20 | 50 |
| 5 | Humanities and Social Sciences including Management Courses | HSMC-D103 | Life Skills & Professional Practices-I | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 6 | Extra Co-curricular Activities Course | ECCA-D102 | PT and Games/NSS/ NCC/CA | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| Total(B) | | | | | | | 7 | 180 | 120 | 300 |
| Grand Total (A+B) | | | | | | | 22 | 300 | 400 | 700 |

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER III (SECOND YEAR)

Branch: Computer Science & Engineering

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---------------------------------|---|--------------|---|-------|---|---|-----------|------------|------------|------------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Basic Science Course | BSC-D107 | Applied Mathematics | 4 | 1 | 0 | 5 | 30 | 70 | 100 |
| 2 | Mandatory Course | MC-D102 | Environmental Science | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| 3 | Humanities and Social Sciences including Management Courses | HSMC-D105 | French Through Communicative Approach-I | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| 4 | Professional Core Course | PCC-CSE-D201 | C Programming | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 5 | Professional Core Course | PCC-CSE-D203 | Database Management System | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 6 | Open Elective Course | OEC-ECE-D201 | Basic Electronics | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| Total(A) | | | | | | | 20 | 180 | 420 | 600 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Professional Core Course | PCC-CSE-D202 | C Programming Lab | 0 | 0 | 4 | 2 | 30 | 20 | 50 |
| 2 | Professional Core Course | PCC-CSE-D204 | Database Management System Lab | 0 | 0 | 4 | 2 | 30 | 20 | 50 |
| 3 | Open Elective Course | OEC-ECE-D202 | Basic Electronics Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 4 | Humanities and Social Sciences including Management Courses | HSMC-D104 | Life Skills & Professional Practices-II | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| Total(B) | | | | | | | 6 | 120 | 80 | 200 |
| Grand Total (A+B) | | | | | | | 26 | 300 | 500 | 800 |

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER IV (SECOND YEAR)

Branch: Computer Science & Engineering

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---------------------------------|---|--------------|--|-------|---|---|-----------|------------|------------|------------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Mandatory Course | MC-D103 | Values and Ethics | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| 2 | Humanities and Social Sciences including Management Courses | HSMC-D106 | French Through Communicative Approach-II | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| 3 | Professional Core Course | PCC-CSE-D205 | Computer Hardware | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 4 | Professional Core Course | PCC-CSE-D207 | Data Structure | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 5 | Professional Core Course | PCC-CSE-D209 | Object Oriented Programming | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 6 | Professional Core Course | PCC-CSE-D211 | Computer Organization and Architecture | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| Total(A) | | | | | | | 20 | 180 | 420 | 600 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Professional Core Course | PCC-CSE-D206 | Computer Hardware Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 2 | Professional Core Course | PCC-CSE-D208 | Data Structure Lab | 0 | 0 | 4 | 2 | 30 | 20 | 50 |
| 3 | Professional Core Course | PCC-CSE-D210 | Object Oriented Programming Lab | 0 | 0 | 4 | 2 | 30 | 20 | 50 |
| Total(B) | | | | | | | 5 | 90 | 60 | 150 |
| Grand Total (A+B) | | | | | | | 25 | 270 | 480 | 750 |

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER V (THIRD YEAR)

Branch: Computer Science & Engineering

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---------------------------------|--------------------------|--------------|--|-------|---|---|-----------|------------|------------|------------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Professional Core Course | PCC-CSE-D301 | Computer Network | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 2 | Professional Core Course | PCC-CSE-D303 | Operating Systems | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 3 | Professional Core Course | PCC-CSE-D305 | Software Engineering | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 4 | Professional Core Course | PCC-CSE-D307 | Formal Language & Automata Theory | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 5 | Open Elective Course | OEC-EEE-D302 | Microprocessor & Microcontroller | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| Total(A) | | | | | | | 19 | 150 | 350 | 500 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Professional Core Course | PCC-CSE-D302 | Computer Network Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 2 | Professional Core Course | PCC-CSE-D304 | Operating Systems Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 3 | Professional Core Course | PCC-CSE-D306 | Software Engineering Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 4 | Open Elective Course | OEC-EEE-D303 | Microprocessor & Microcontroller Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 5 | Project | CSE-DP1 | Mini Project/ Computer Science and Engineering Workshop | 0 | 0 | 4 | 2 | 75 | 25 | 100 |
| Total(B) | | | | | | | 6 | 195 | 105 | 300 |
| Grand Total (A+B) | | | | | | | 25 | 345 | 455 | 800 |

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER VI (THIRD YEAR)

Branch: Computer Science & Engineering

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---------------------------------|--|--------------|---|-------|---|----|-----------|------------|------------|------------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Humanities and Social Sciences including Management Course | HSMC-D107 | Organizational Behaviour | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| 2 | Professional Core Course | PCC-CSE-D308 | Web Technology and Application | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 3 | Professional Core Course | PCC-CSE-D310 | Computer Graphics | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 4 | Professional Elective Course | PEC-CSE-D319 | Fundamentals of Artificial Intelligence | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 5 | Professional Elective Course | PEC-CSE-D307 | Information Security | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| Total(A) | | | | | | | 17 | 150 | 350 | 500 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Professional Core Course | PCC-CSE-D309 | Web Technology and Application Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 2 | Professional Elective Course | PEC-CSE-D308 | Information Security Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 3 | Project | CSE-DP2 | Project Work & Dissertation | 0 | 0 | 12 | 6 | 150 | 50 | 200 |
| Total(B) | | | | | | | 8 | 210 | 90 | 300 |
| Grand Total (A+B) | | | | | | | 25 | 360 | 440 | 800 |

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination