

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 B.Tech in Electronics & Communication Engineering (Based on AICTE- CBCS)

Effective from 2019-20

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 Hr. Practical (P) Per Week | 1 Credit |

Course Code Definitions

| Course code | Definitions |
|-------------|--|
| BSC | Basic Science Course |
| ESC | Engineering Science Course |
| HSMC | Humanities and Social Sciences including Management Course |
| MC | Mandatory Course |
| PCC-ECE | Professional Core Course |
| PEC-ECE | Professional Electives Course |
| OEC | Open Electives Course |
| ECE-P1 | Project Stage-I |
| ECE-P2 | Project Stage-II |
| ECE-P3 | Project Stage-III |

Structure of Electronics & Communication Engineering

(Breakup of Credits)

| Sl. No. | Category | Breakup of Credits (Total 162) |
|----------------------|--|--------------------------------|
| 1 | Humanities and Social Sciences including Management courses | 14 |
| 2 | Basic Science courses | 23 |
| 3 | Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc | 20 |
| 4 | Professional core courses | 49 |
| 5 | Professional Elective courses relevant to chosen specialization/branch | 18 |
| 6 | Open subjects – Electives from other technical and /or emerging subjects | 18 |
| 7 | Project work, seminar and internship in industry or elsewhere | 16 |
| 8 | Mandatory Courses [Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Traditional Knowledge] | 4 |
| Total Credit: | | 162 |

BASIC SCIENCE COURSES

| Sl. No. | Course Code | Course Title | Hours Per Week | | | Credits | Preferred Semester |
|---------------|-------------|-----------------|----------------|---|---|---------|--------------------|
| | | | L | T | P | | |
| 1 | BSC-101 | Physics | 3 | 1 | 0 | 4 | I |
| 2 | BSC-102 | Physics Lab | 0 | 0 | 3 | 1.5 | I |
| 3 | BSC-103 | Chemistry | 3 | 1 | 0 | 4 | II |
| 4 | BSC-104 | Chemistry Lab | 0 | 0 | 3 | 1.5 | II |
| 5 | BSC-105 | Mathematics-I | 3 | 1 | 0 | 4 | I |
| 6 | BSC-106 | Mathematics-II | 3 | 1 | 0 | 4 | II |
| 7 | BSC-107 | Mathematics-III | 3 | 1 | 0 | 4 | III |
| Total Credit: | | | | | | 23 | |

ENGINEERING SCIENCE COURSES

| Sl. No. | Course Code | Course Title | Hours Per Week | | | Credits | Preferred Semester |
|---------------|-------------|--|----------------|---|---|---------|--------------------|
| | | | L | T | P | | |
| 1 | ESC-101 | Basic Electrical & Electronics Engineering | 3 | 1 | 0 | 4 | I |
| 2 | ESC-102 | Basic Electrical & Electronics Engineering Lab | 0 | 0 | 2 | 1 | I |
| 3 | ESC-103 | Engineering Graphics & Design | 1 | 0 | 4 | 3 | I |
| 4 | ESC-104 | Programming for Problem Solving | 3 | 0 | 0 | 3 | II |
| 5 | ESC-105 | Programming for Problem Solving Lab | 0 | 0 | 4 | 2 | II |
| 6 | ESC-106 | Workshop/ Manufacturing Practices | 1 | 0 | 4 | 3 | II |
| 7 | ESC-107 | Engineering Mechanics | 3 | 1 | 0 | 4 | IV |
| Total Credit: | | | | | | 20 | |

HUMANITIES & SOCIAL SCIENCES INCLUDING MANAGEMENT COURSE

| Sl. No. | Course Code | Course Title | Hours per week | | | Credits | Preferred Semester |
|---------------|-------------|--|----------------|---|---|---------|--------------------|
| | | | L | T | P | | |
| 1 | HSMC-101 | English | 3 | 0 | 0 | 3 | II |
| 2 | HSMC-102 | Technical Communication | 2 | 0 | 0 | 2 | III |
| 3 | HSMC-103 | Technical Communication Lab | 0 | 0 | 2 | 1 | III |
| 4 | HSMC-104 | Organisational Behaviour | 2 | 0 | 0 | 2 | VI |
| 5 | HSMC-105 | French Through Communicative Approach-I | 2 | 0 | 0 | 2 | V |
| 6 | HSMC-106 | French Through Communicative Approach-II | 2 | 0 | 0 | 2 | VI |
| 7 | HSMC-107 | Professional Practice, Law & Ethics | 2 | 0 | 0 | 2 | VII |
| Total Credit: | | | | | | 14 | |

Mandatory Courses

| Sl. No. | Course Code | Course Title | Hours per week | | | Credits | Preferred Semester |
|---------------|-------------|-----------------------|----------------|---|---|---------|--------------------|
| | | | L | T | P | | |
| 1 | MC-101 | Induction Program | 0 | 0 | 0 | 0 | I |
| 2 | MC-102 | Environmental Science | 2 | 0 | 0 | 2 | IV |
| 3 | MC-103 | Values & Ethics | 2 | 0 | 0 | 2 | IV |
| Total Credit: | | | | | | 4 | |

Professional Core Courses(Sem-III & IV)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Course Code | Course Title | Hrs. /Week L: T: P | Credits | Preferred Semester |
|---------|-------------|---|-----------------------|---------|--------------------|
| 1 | PCC-ECE-201 | Electronic Devices | 03:00:00 | 3 | III/IV |
| 2 | PCC-ECE-202 | Electronics Devices Lab | 00:00:02 | 1 | III/IV |
| 3 | PCC-ECE-203 | Digital Electronics | 03:00:00 | 3 | III/IV |
| 4 | PCC-ECE-204 | Digital Electronics Lab | 00:00:02 | 1 | III/IV |
| 5 | PCC-ECE-205 | Signals and Systems | 03:00:00 | 3 | III/IV |
| 6 | PCC-ECE-206 | Electrical Circuit Analysis | 03:00:00 | 3 | III/IV |
| 7 | PCC-ECE-207 | Electrical Circuit Analysis Lab | 00:00:02 | 1 | III/IV |
| 8 | PCC-ECE-208 | Analog and Digital Communication | 03:00:00 | 3 | III/IV |
| 9 | PCC-ECE-209 | Analog and Digital Communication Lab | 00:00:02 | 1 | III/IV |
| 10 | PCC-ECE-210 | Analog Circuits | 03:00:00 | 3 | III/IV |
| 11 | PCC-ECE-211 | Analog Circuits Lab | 00:00:02 | 1 | III/IV |
| 12 | PCC-ECE-212 | Microprocessors and Microcontroller | 03:00:00 | 3 | III/IV |
| 13 | PCC-ECE-213 | Microprocessors and Microcontroller Lab | 00:00:02 | 1 | III/IV |

Total Credit: 27

Professional Core Courses(Sem-V & VI)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Course Code | Course Title | Hrs. /Week L: T: P | Credits | Preferred Semester |
|---------|-------------|-------------------------------|-----------------------|---------|--------------------|
| 1 | PCC-ECE-301 | Electromagnetic Waves | 03:00:00 | 3 | V/VI |
| 2 | PCC-ECE-302 | Computer Architecture | 03:00:00 | 3 | V/VI |
| 3 | PCC-ECE-303 | Digital System Design | 03:00:00 | 3 | V/VI |
| 4 | PCC-ECE-304 | Digital System Design Lab | 00:00:02 | 1 | V/VI |
| 5 | PCC-ECE-305 | Digital Signal Processing | 03:00:00 | 3 | V/VI |
| 6 | PCC-ECE-306 | Digital Signal Processing Lab | 00:00:02 | 1 | V/VI |
| 7 | PCC-ECE-307 | Control Systems | 03:00:00 | 3 | V/VI |
| 8 | PCC-ECE-308 | Computer Networks | 03:00:00 | 3 | V/VI |
| 9 | PCC-ECE-309 | Computer Network Lab | 00:00:04 | 2 | V/VI |

Total Credit: 22

Professional Elective Courses (Sem V & VI)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Course Code | Course Title | Hrs./ Week L: T: P | Credits | Preferred Semester |
|---------|-------------|-------------------------------|-----------------------|---------|--------------------|
| 1 | PEC-ECE-301 | Information Theory and Coding | 03:00:00 | 3 | V/VI |
| 2 | PEC-ECE-302 | Introduction to MEMS | 03:00:00 | 3 | V/VI |
| 3 | PEC-ECE-303 | CMOS Design | 03:00:00 | 3 | V/VI |
| 4 | PEC-ECE-304 | Nano Electronics | 03:00:00 | 3 | V/VI |

Professional Elective Courses (Sem VII & VIII)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Course Code | Course Title | Hrs./ Week L: T: P | Credits | Preferred Semester |
|---------|-------------|-----------------------------------|-----------------------|---------|--------------------|
| 1 | PEC-ECE-401 | Microwave Theory and Techniques | 03:00:00 | 3 | VII/VIII |
| 2 | PEC-ECE-402 | Fiber Optic Communications | 03:00:00 | 3 | VII/VIII |
| 3 | PEC-ECE-403 | Adaptive Signal Processing | 03:00:00 | 3 | VII/VIII |
| 4 | PEC-ECE-404 | Antennas and Propagation | 03:00:00 | 3 | VII/VIII |
| 5 | PEC-ECE-405 | Mobile Communication and Networks | 03:00:00 | 3 | VII/VIII |
| 6 | PEC-ECE-406 | Mixed Signal Design | 03:00:00 | 3 | VII/VIII |
| 7 | PEC-ECE-407 | Wireless Sensor Networks | 03:00:00 | 3 | VII/VIII |
| 8 | PEC-ECE-408 | Satellite Communication | 03:00:00 | 3 | VII/VIII |
| 9 | PEC-ECE-409 | High Speed Electronics | 03:00:00 | 3 | VII/VIII |
| 10 | PEC-ECE-410 | Wavelets | 03:00:00 | 3 | VII/VIII |
| 11 | PEC-ECE-411 | Embedded systems | 03:00:00 | 3 | VII/VIII |
| 12 | PEC-ECE-412 | Error Correcting Codes | 03:00:00 | 3 | VII/VIII |

Open Elective Course

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Course Code | Course Title | Hrs./ Week L: T: P | Credits |
|---------|-------------|---|-----------------------|---------|
| 1 | OEC-CSE-401 | Soft Computing | 03:00:00 | 3 |
| 2 | OEC-CSE-403 | Data Mining Concepts and Techniques | 03:00:00 | 3 |
| 3 | OEC-CSE-404 | Natural Language Processing | 03:00:00 | 3 |
| 4 | OEC-CSE-406 | Data Analytics | 03:00:00 | 3 |
| 5 | OEC-CSE-409 | Mobile Computing | 03:00:00 | 3 |
| 6 | OEC-CSE-410 | Mobile Computing Lab | 00:00:02 | 1 |
| 7 | OEC-CSE-411 | Image Processing | 03:00:00 | 3 |
| 8 | OEC-CSE-412 | Image Processing Lab | 00:00:02 | 1 |
| 9 | OEC-EEE-301 | Line Commutated and Active Rectifiers | 03:00:00 | 3 |
| 10 | OEC-EEE-302 | Electrical Drives | 03:00:00 | 3 |
| 11 | OEC-EEE-303 | Electrical Machine Design | 03:00:00 | 3 |
| 12 | OEC-EEE-304 | High Voltage Engineering | 03:00:00 | 3 |
| 13 | OEC-EEE-305 | Electrical Energy Conservation and Auditing | 03:00:00 | 3 |
| 14 | OEC-EEE-306 | Industrial Electrical Systems | 03:00:00 | 3 |
| 15 | OEC-EEE-307 | Digital Control Systems | 03:00:00 | 3 |
| 16 | OEC-EEE-308 | Digital Signal Processing | 03:00:00 | 3 |
| 17 | OEC-EEE-309 | Computer Architecture | 03:00:00 | 3 |
| 18 | OEC-EEE-310 | Computational Electromagnetics | 03:00:00 | 3 |
| 19 | OEC-EEE-311 | Control Systems Design | 03:00:00 | 3 |
| 20 | OEC-EEE-312 | Signals and Systems | 03:00:00 | 3 |
| 21 | OEC-EEE-401 | Wind and Solar Energy Systems | 03:00:00 | 3 |
| 22 | OEC-EEE-402 | Electrical and Hybrid Vehicles | 03:00:00 | 3 |
| 23 | OEC-EEE-403 | Power System Protection | 03:00:00 | 3 |
| 24 | OEC-EEE-404 | HVDC Transmission Systems | 03:00:00 | 3 |
| 25 | OEC-EEE-405 | Power Quality and FACTS | 03:00:00 | 3 |
| 26 | OEC-EEE-406 | Power System Dynamics and Control | 03:00:00 | 3 |
| 27 | OEC-EEE-407 | Advanced Electric Drives | 03:00:00 | 3 |
| 28 | OEC-CSE-303 | Artificial Intelligence | 03:00:00 | 3 |
| 29 | OEC-CSE-304 | Internet-of-Things | 03:00:00 | 3 |
| 30 | OEC-CSE-305 | Machine Learning | 03:00:00 | 3 |
| 31 | OEC-CSE-306 | Cloud Computing | 03:00:00 | 3 |
| 32 | OEC-CSE-307 | Cryptography & Network Security | 03:00:00 | 3 |
| 33 | OEC-CSE-308 | Cryptography & Network Security Lab | 00:00:02 | 1 |
| 34 | OEC-CSE-311 | Computer Graphics | 03:00:00 | 3 |
| 35 | OEC-CSE-312 | Computer Graphics Lab | 00:00:02 | 1 |
| 36 | OEC-CSE-313 | Web App Development | 03:00:00 | 3 |
| 37 | OEC-CSE-314 | Web App Development Lab | 00:00:02 | 1 |

Project

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Course Code | Course Title | Hrs. /Week L: T: P | Credits | Preferred Semester |
|---------|-------------|-------------------|-----------------------|---------|--------------------|
| 1 | ECE-P1 | Project Stage-I | 00:00:04 | 2 | VI |
| 2 | ECE-P2 | Project Stage-II | 00:00:10 | 5 | VII |
| 3 | ECE-P3 | Project Stage-III | 00:00:18 | 9 | VIII |

Total Credit: 16

COURSE STRUCTURE

SEMESTER I (1st YEAR)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---|----------------------------|-------------|--|-------|---|---|--------|-------|-----|-------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Basic Science Course | BSC-101 | Physics | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 2 | Basic Science Course | BSC-105 | Mathematics – I | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 3 | Engineering Science Course | ESC-101 | Basic Electrical & Electronics Engineering | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| Total(A) | | | | | | | 12 | 90 | 210 | 300 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Engineering Science Course | ESC-103 | Engineering Graphics & Design | 1 | 0 | 4 | 3 | 30 | 20 | 50 |
| 2 | Basic Science Course | BSC-102 | Physics Lab | 0 | 0 | 3 | 1.5 | 30 | 20 | 50 |
| 3 | Engineering Science Course | ESC-102 | Basic Electrical & Electronics Engineering Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| Total(B) | | | | | | | 5.5 | 90 | 60 | 150 |
| Grand Total (A+B) | | | | | | | 17.5 | 180 | 270 | 450 |
| L-Lecture, T-Tutorial, P-Practical IA- Internal Assessment, ESE-End Semester Examination | | | | | | | | | | |

COURSE STRUCTURE

SEMESTER II (1st YEAR)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---|---|-------------|-------------------------------------|-------|---|---|--------|-------|-----|-------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Basic Science Course | BSC-103 | Chemistry | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 2 | Basic Science Course | BSC-106 | Mathematics –II | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 3 | Engineering Science Course | ESC-104 | Programming for Problem Solving | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 4 | Humanities and Social Sciences including Management Courses | HSMC-101 | English | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| Total(A) | | | | | | | 14 | 120 | 280 | 400 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Engineering Science Course | ESC-106 | Workshop/ Manufacturing Practices | 1 | 0 | 4 | 3 | 30 | 20 | 50 |
| 2 | Basic Science Course | BSC-104 | Chemistry Lab | 0 | 0 | 3 | 1.5 | 30 | 20 | 50 |
| 3 | Engineering Science Course | ESC-105 | Programming for Problem Solving Lab | 0 | 0 | 4 | 2 | 30 | 20 | 50 |
| Total(B) | | | | | | | 6.5 | 90 | 60 | 150 |
| Grand Total (A+B) | | | | | | | 20.5 | 210 | 340 | 550 |
| L-Lecture, T-Tutorial, P-Practical IA- Internal Assessment, ESE-End Semester Examination | | | | | | | | | | |

COURSE STRUCTURE

SEMESTER III (2nd YEAR)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---|---|-------------|---------------------------------|-------|---|---|--------|-------|-----|-----|
| | | | | L | T | P | | | IA | ESE |
| Theory | | | | | | | | | | |
| 1 | Basic Science Course | BSC-107 | Mathematics –III | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 2 | Professional Core Courses | PCC-ECE-203 | Digital Electronics | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 3 | Humanities and Social Sciences including Management Courses | HSMC-102 | Technical Communication | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| 4 | Professional Core Courses | PCC-ECE-201 | Electronics Devices | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 5 | Professional Core Courses | PCC-ECE-205 | Signal & System | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 6 | Professional Core Courses | PCC-ECE-206 | Electrical Circuit Analysis | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| Total(A) | | | | | | | 18 | 180 | 420 | 600 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Professional Core Courses | PCC-ECE-204 | Digital Electronics Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 2 | Professional Core Courses | PCC-ECE-202 | Electronics Devices Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 3 | Humanities and Social Sciences including Management Courses | HSMC-103 | Technical Communication Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 4 | Professional Core Courses | PCC-ECE-207 | Electrical Circuit Analysis Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| Total(B) | | | | | | | 4 | 120 | 80 | 200 |
| Grand Total (A+B) | | | | | | | 22 | 300 | 500 | 800 |
| L-Lecture, T-Tutorial, P-Practical IA- Internal Assessment, ESE-End Semester Examination | | | | | | | | | | |

COURSE STRUCTURE

SEMESTER IV (2nd YEAR)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|--------------------------|----------------------------|-------------|---|-------|---|---|--------|-------|-----|-------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Mandatory Courses | MC-102 | Environmental Science | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| 2 | Professional Core Courses | PCC-ECE-210 | Analog Circuits | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 3 | Engineering Science Course | ESC-107 | Engineering Mechanics | 3 | 1 | 0 | 4 | 30 | 70 | 100 |
| 4 | Professional Core Courses | PCC-ECE-208 | Analog & Digital Communication | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 5 | Professional Core Courses | PCC-ECE-212 | Microprocessors and Microcontroller | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 6 | Mandatory Courses | MC-103 | Values & Ethics | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| Total(A) | | | | | | | 17 | 180 | 420 | 600 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Professional Core Courses | PCC-ECE-211 | Analog Circuits Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 2 | Professional Core Courses | PCC-ECE-209 | Analog & Digital Communication Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 3 | Professional Core Courses | PCC-ECE-213 | Microprocessors and Microcontroller Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| Total(B) | | | | | | | 3 | 90 | 60 | 150 |
| Grand Total (A+B) | | | | | | | 20 | 270 | 480 | 750 |

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER V (3rd YEAR)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|--------------------------|---|-------------|--------------------------------|-------|---|---|--------|-------|-----|-------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Professional Core Courses | PCC-ECE-301 | Electromagnetic Wave | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 2 | Professional Core Courses | PCC-ECE-302 | Computer Architecture | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 3 | Professional Core Courses | PCC-ECE-303 | Digital System Design | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 4 | Professional Core Courses | PCC-ECE-305 | Digital Signal Processing | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 5 | Professional Elective Course | | Professional Elective Course-I | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 6 | Humanities and Social Sciences including Management Courses | | Foreign Languages-I | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| Total(A) | | | | | | | 17 | 180 | 420 | 600 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Professional Core Courses | PCC-ECE-304 | Digital System Design Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| 2 | Professional Core Courses | PCC-ECE-306 | Digital Signal Processing Lab | 0 | 0 | 2 | 1 | 30 | 20 | 50 |
| Total(B) | | | | | | | 2 | 60 | 40 | 100 |
| Grand Total (A+B) | | | | | | | 19 | 240 | 460 | 700 |

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER VI (3rd YEAR)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---|---|-------------|--|-------|---|---|--------|-------|-----|-------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Professional Core Courses | PCC-ECE-307 | Control System | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 2 | Professional Core Courses | PCC-ECE-308 | Computer Network | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 3 | Professional Elective Course | | Professiona Elective Course-II | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 4 | Open Elective Course | | Open Elective Course-I | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 5 | Humanities and Social Sciences including Management Courses | HSMC-104 | Organisational Behaviour | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| 6 | Humanities and Social Sciences including Management Courses | | Foreign Languages-II | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| Total(A) | | | | | | | 16 | 180 | 420 | 600 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Professional Core Courses | PCC-ECE-309 | Computer Network Lab | 0 | 0 | 4 | 2 | 30 | 20 | 50 |
| 2 | Project Stage-I | ECE-P1 | Mini Project/ Electronic Design Workshop | 0 | 0 | 4 | 2 | 75 | 25 | 100 |
| Total(B) | | | | | | | 4 | 105 | 45 | 150 |
| Grand Total (A+B) | | | | | | | 20 | 285 | 465 | 750 |
| L-Lecture, T-Tutorial, P-Practical IA- Internal Assessment, ESE-End Semester Examination | | | | | | | | | | |

COURSE STRUCTURE

SEMESTER VII (4th YEAR)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---|---|-------------|-------------------------------------|-------|---|----|--------|-------|-----|-------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Professional Elective Course | | Professional Elective Course-III | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 2 | Professional Elective Course | | Professional Elective Course-IV | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 3 | Open Elective Course | | Open Elective Course-II | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 4 | Open Elective Course | | Open Elective Course-III | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 5 | Open Elective Course | | Open Elective Course-IV | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 6 | Humanities and Social Sciences including Management Courses | HSMC-107 | Professional Practice, Law & Ethics | 2 | 0 | 0 | 2 | 30 | 70 | 100 |
| Total(A) | | | | | | | 17 | 180 | 420 | 600 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Project Stage-II | ECE-P2 | Project Work | 0 | 0 | 10 | 5 | 150 | 50 | 200 |
| Total(B) | | | | | | | 5 | 150 | 50 | 200 |
| Grand Total (A+B) | | | | | | | 22 | 330 | 470 | 800 |
| L-Lecture, T-Tutorial, P-Practical IA- Internal Assessment, ESE-End Semester Examination | | | | | | | | | | |

COURSE STRUCTURE

SEMESTER VIII (4th YEAR)

Branch: Electronics & Communication Engineering (B.Tech)

| Sl. No. | Category | Course Code | Course Title | Hours | | | Credit | Marks | | |
|---|------------------------------|-------------|---------------------------------|-------|---|----|--------|-------|-----|-------|
| | | | | L | T | P | | IA | ESE | Total |
| Theory | | | | | | | | | | |
| 1 | Professional Elective Course | | Professional Elective Course-V | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 2 | Professional Elective Course | | Professional Elective Course-VI | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 3 | Open Elective Course | | Open Elective Course-V | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| 4 | Open Elective Course | | Open Elective Course-VI | 3 | 0 | 0 | 3 | 30 | 70 | 100 |
| Total(A) | | | | | | | 12 | 120 | 280 | 400 |
| Practical/Drawing/Design | | | | | | | | | | |
| 1 | Project Stage-III | ECE-P3 | Project Work & Dissertation | 0 | 0 | 18 | 9 | 300 | 100 | 400 |
| Total(B) | | | | | | | 9 | 300 | 100 | 400 |
| Grand Total (A+B) | | | | | | | 21 | 420 | 380 | 800 |
| L-Lecture, T-Tutorial, P-Practical IA- Internal Assessment, ESE-End Semester Examination | | | | | | | | | | |