

**B. Tech. Electronics and Communication Engineering (Design and Manufacturing) +
M. Tech. VLSI & Electronic System Design (EVD)**
(According to 31st Senate meeting held on 1st July 2016)

| S.No | Course Name | I | P | C | Category |
|-------------------|---|---|---|-----------|-------------|
| Semester 1 | | | | | |
| 1 | Calculus | 3 | 0 | 3 | BSC |
| 2 | Engineering Mechanics | 3 | 0 | 3 | BSC |
| 3 | Computational Engineering/ Basic Electrical & Electronics Engineering | 3 | 0 | 3 | BEC/ BEC |
| 4 | Concepts in Engineering Design/ Science and Engineering of Materials | 3 | 0 | 3 | DES/ BEC |
| 5 | English for Communication | 2 | 0 | 2 | HMC |
| 6 | Earth, Environment & Design/ Professional Ethics for Engineers | 2 | 0 | P/F | DES/ HMC |
| 7 | Engineering Skills Practice | 0 | 3 | 2 | BEC |
| 8 | Computational Engineering Practice/ Measurement & Data Analysis Practice | 0 | 3 | 2 | BEC/ BSC |
| 9 | Materials & Mechanics Practice | 0 | 3 | 2 | BSC |
| 10 | Engineering Graphics | 1 | 3 | 3 | BEC |
| | Total Credits | | | 23 | |
| Semester 2 | | | | | |
| 1 | Differential Equations | 3 | 0 | 3 | BSC |
| 2 | Engineering Electromagnetics | 3 | 0 | 3 | BSC |
| 3 | Basic Electrical & Electronics Engineering/ Computational Engineering | 3 | 0 | 3 | BEC/ BEC |
| 4 | Science and Engineering of Materials/ Concepts in Engineering Design | 3 | 0 | 3 | BEC/ DES |
| 5 | Design History | 2 | 0 | 2 | DES |
| 6 | Professional Ethics for Engineers/ Earth, Environment & Design | 2 | 0 | P/F | HMC/ DES |
| 7 | Engineering Electromagnetics Practice | 0 | 3 | 2 | BSC |
| 8 | Measurement & Data Analysis Practice/ Computational Engineering Practice | 0 | 3 | 2 | BSC/ DES |
| 9 | Industrial Design Sketching | 0 | 3 | 2 | DES |
| 10 | Design Realization | 0 | 3 | 2 | DES |
| | Total Credits | | | 22 | |
| Semester 3 | | | | | |
| 1 | Linear Algebra | 3 | 0 | 3 | BSC |
| 2 | Systems Thinking for Design | 2 | 0 | 2 | DES |
| 3 | Engineering Economics | 2 | 0 | 2 | HMC |
| 4 | Digital Logic Design | 3 | 0 | 3 | PEC |
| 5 | Signals and Systems | 3 | 0 | 3 | PEC |
| 6 | Analog Circuits | 3 | 0 | 3 | PEC |
| 7 | Digital Logic Design practice | 0 | 3 | 2 | PEC |
| 8 | Analog Circuits Practice | 0 | 3 | 2 | PEC |
| | Total Credits | | | 20 | |

| Semester 4 | | | | | |
|------------|---|---|---|-----------|-----|
| 1 | Probability Theory | 3 | 0 | 3 | BSC |
| 2 | Designing Intelligent Systems | 2 | 0 | 2 | DES |
| 3 | Sociology of Design | 2 | 0 | 2 | HMC |
| 4 | Control Systems | 3 | 0 | 3 | PEC |
| 5 | Digital Signal Processing | 3 | 0 | 3 | PEC |
| 6 | Power Electronics | 3 | 0 | 3 | PEC |
| 7 | Data Structures and Algorithms Practice | 1 | 3 | 3 | PEC |
| 8 | Electrical Drives Practice | 1 | 3 | 3 | PEC |
| 9 | Digital Signal Processing Practice | 0 | 3 | 2 | PEC |
| | Total Credits | | | 24 | |
| Semester 5 | | | | | |
| 1 | Sustainable Design | 2 | 0 | 2 | DES |
| 2 | Entrepreneurship and Management Functions | 2 | 0 | 2 | HMC |
| 3 | Information Theory and Coding | 3 | 0 | 3 | PEC |
| 4 | Microprocessors and Computer Architecture | 3 | 0 | 3 | PEC |
| 5 | Analog and Digital Communication | 3 | 0 | 3 | PEC |
| 6 | Sensing and Instrumentation Practice | 0 | 3 | 2 | PEC |
| 7 | Microprocessors and Microcontrollers Practice | 0 | 3 | 2 | PEC |
| 8 | Analog and Digital Communication Practice | 0 | 3 | 2 | PEC |
| 9 | Electronic Manufacturing and Prototyping | 1 | 3 | 3 | PEC |
| | Total Credits | | | 22 | |
| Semester 6 | | | | | |
| 1 | Design for Quality and Reliability | 2 | 0 | 2 | DES |
| 2 | Product Management | 2 | 0 | 2 | HMC |
| 3 | Digital IC Design | 3 | 0 | 3 | PEC |
| 4 | Electromagnetic Interference and Compatibility | 3 | 0 | 3 | PEC |
| 5 | Elective-I | 3 | 0 | 3 | ELE |
| 6 | Elective-II | 3 | 0 | 3 | ELE |
| 7 | Electromagnetic Interference and Compatibility Practice | 0 | 3 | 2 | PEC |
| 8 | System on Programmable Chip Practice | 1 | 3 | 3 | PEC |
| 9 | Product Design Practice | 0 | 2 | 2 | DES |
| | Total Credits | | | 23 | |
| Semester 7 | | | | | |
| 1 | Data Analytics | 2 | 0 | 2 | HMC |
| 2 | Analog IC Design | 3 | 0 | 3 | PEC |
| 3 | Mechanical Design of Electronic Systems | 3 | 0 | 3 | PEC |
| 4 | Digital System Testing and Testable Design | 3 | 0 | 3 | PEC |
| 5 | Elective-III | 3 | 0 | 3 | ELE |
| 6 | Free Elective-I | 3 | 0 | 3 | ELE |
| 7 | Analog and Digital IC Design Practice | 0 | 3 | 2 | PEC |
| 8 | Digital System Testing and Testable Design Practice | 0 | 3 | 2 | PEC |
| | Total Credits | | | 21 | |

| Semester 8 | | | | | |
|--------------------|---------------------------------|---|---|------------|-----|
| 1 | Innovation Management | 2 | 0 | 2 | HMC |
| 2 | VLSI System Design | 3 | 0 | 3 | PEC |
| 3 | Digital Systems Engineering | 3 | 0 | 3 | PEC |
| 4 | Elective-IV | 3 | 0 | 3 | ELE |
| 5 | Elective-V | 3 | 0 | 3 | ELE |
| 6 | Free Elective-II | 3 | 0 | 3 | ELE |
| 7 | Embedded System Design Practice | 0 | 3 | 2 | PEC |
| 8 | VLSI System Design Practice | 0 | 3 | 2 | PEC |
| 9 | Comprehensive Viva-voce | | | 2 | PEC |
| | Total Credits | | | 23 | |
| Semester 9 | | | | | |
| 1 | Elective-VI | 3 | 0 | 3 | ELE |
| 2 | Internship | | | 5 | PCD |
| 3 | Design Project | | | 6 | DES |
| | Total Credits | | | 14 | |
| Semester 10 | | | | | |
| 1 | Project | | | 18 | PCD |
| | Total Credits | | | 18 | |
| | | | | 210 | |