**MIT SCHOOL OF ENGINEERING, PUNE**

**STRUCTURE & SYLLABUS (160 CREDITS)**

**FOR**

# B. Tech. Electronics and

# Communication Engineering

**UNDER FACULTY OF TECHNOLOGY**

**(w.e.f. 2019-2020)**

**UNDER FACULTY OF TECHNOLOGY**

**M. Tech. Mechanical Engineering (Mechatronics)**

**2017-Course**

**Admin**

**Department of Electronics & Communication Engineering**

**MIT ART DESIGN & TECHNOLOGY UNIVERSITY, PUNE**

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**SEMESTER III**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Code**  | **Course Name**  | **Hours/week** | **Maximum Marks** |
| **Lecture** | **Tutorial** | **Practical** | **Credits** | **CA** | **FE** | **Total** |
| 18BTMT301 | Integral Calculus and Transform Techniques | 3 | 1 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC302 | Electronics Circuit Analysis  | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC303 | Signals & Systems | 3 | 1 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC304 | Digital Logic Design  | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC305 | Network Theory | 3 | 1 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC311 | Electronic Instrumentation Laboratory  | 0 | 0 | 2 | 1 | 40 | 60\*\* | 100 |
| 18BTEC312 | Circuit Analysis & Digital Logic Laboratory | 0 | 0 | 4 | 2 | 40 | 60\*\* | 100 |
| 19BTEC321 | Mini Project –I | 0 | 0 | 2 | 1 | 100 | -- | 100 |
| **Total** | **15** | **3** | **8** | **22** | **380** | **420** | **800** |

**SEMESTER-IV**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Code**  | **Course Name**  | **Hours/week** | **Maximum Marks** |
| **Lecture** | **Tutorial** | **Practical** | **Credits** | **CA** | **FE** | **Total** |
| 18BTEC401 | Data Structures and Algorithms | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC402 | Control Systems  | 3 | 1 | 0 | 4 | 40 | 60 | 100 |
| 19BTEC403 | Analog Communication | 4 | 0 | 0 | 4 | 40 | 60 | 100 |
| 19BTEC404 | Computer Organization  | 3 | 1 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC405 | Linear Integrated Circuits | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 19BTEC411 | Analog Communication and Linear Integrated Circuits Laboratory | 0 | 0 | 4 | 2 | 40 | 60\*\* | 100 |
| 18BTEC412 | Data Structures and Algorithms Laboratory | 0 | 0 | 2 | 1 | 40 | 60\*\* | 100 |
| 19BTEC421 | Mini Project-II | 0 | 0 | 2 | 1 | 100 | -- | 100 |
| **Total** | **16** | **2** | **8** | **22** | **380** | **420** | **800** |

**SEMESTER-V**

|  |  |  |  |
| --- | --- | --- | --- |
| Course Code  | Course Name  | Hours/week | Maximum Marks |
| Lecture | Tutorial | Practical | Credits | CA | FE | Total |
| 18BTEC501 | Power Electronics  | 4 | 0 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC502 | Digital Communication System | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC503 | Systems Programming  | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC504 | Microprocessors & Microcontrollers  | 4 | 0 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC505 | Electromagnetics Field Theory  | 3 | 1 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC511 | Digital Communication & Power Electronics Laboratory | 0 | 0 | 4 | 2 | 40 | 60\*\* | 100 |
| 18BTEC512 | System Programming & Microprocessor & Microcontrollers Laboratory | 0 | 0 | 4 | 2 | 40 | 60\*\* | 100 |
| 18BTEC521 | Mini Project –III | 0 | 0 | 2 | 1 | 100 | -- | 100 |
| **Total** | **17** | **1** | **10** | **23** | **380** | **420** | **800** |

**SEMESTER-VI**

|  |  |  |  |
| --- | --- | --- | --- |
| Course Code  | Course Name  | Hours/week | Maximum Marks |
| Lecture | Tutorial | Practical | Credits | CA | FE | Total |
| 18BTEC601 | Digital Signal Processing | 4 | 0 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC602 | Embedded Processors  | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC603 | Engineering Economics and Management | 4 | 0 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC6[31-33] | Elective-I | 3 | 1 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC6[34-36] | Elective-II | 4 | 0 | 0 | 4 | 40 | 60 | 100 |
| 18BTEC611 | Embedded Processor & Elective-II Laboratory | 0 | 0 | 4 | 2 | 40 | 60\*\* | 100 |
| 18BTEC612 | Digital Signal Processing Laboratory | 0 | 0 | 2 | 1 | 40 | 60\*\* | 100 |
| 18BTEC621 | Mini Project-IV | 0 | 0 | 2 | 1 | 100 | -- | 100 |
| **Total** | **18** | **1** | **8** | **23** | **380** | **420** | **800** |

**SEMESTER-VII**

|  |  |  |  |
| --- | --- | --- | --- |
| Course Code  | Course Name  | Hours/week | Maximum Marks |
| Lecture | Tutorial | Practical | Credits | CA | FE | Total |
| 18BTEC701 | Computer Networks  | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC702 | VLSI System Design | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC703 | Soft Computing | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC7 [31-34] | Elective-III | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC7 [35-40] | Elective-IV | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 18BTEC711 | Elective –III Laboratory | 0 | 0 | 2 | 1 | 40 | 60\*\* | 100 |
| 18BTEC712 | Computer Networks & VLSI Laboratory | 0 | 0 | 4 | 2 | 40 | 60\*\* | 100 |
| 18BTEC721 | Project Phase-I | 0 | 0 | 2 | 1 | 100 | -- | 100 |
| **Total** | **15** | **1** | **8** | **19** | **380** | **420** | **800** |

**SEMESTER-VIII**

|  |  |  |  |
| --- | --- | --- | --- |
| Course Code  | Course Name  | Hours/week | Maximum Marks |
| Lecture | Tutorial | Practical | Credits | CA | FE | Total |
| 18BTEC821 | Project Phase-II | 0 | 0 | 24 | 12 | 100 | 300 | 400 |
| 18BTEC801 | Management Courses using Online Platform | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| **Total** | **3** | **0** | **24** | **15** | **140** | **360** | **500** |

**LIST OF ELECTIVES**

|  |  |
| --- | --- |
| **Elective**  | **Course Name** |
|
| Elective-I | 18BTEC631 | Mechatronics |
| 18BTEC632 | Machine Learning with Python Programming |
| 18BTEC633 | Open Electives |
| Elective-II | 18BTEC634 | Information Theory and Coding |
| 18BTEC635 | Mobile Communication |
| 18BTEC636 | Open Electives |
| Elective-III | 18BTEC731 | Digital Image Processing |
| 18BTEC732 | Data science & Applications |
| 18BTEC733 | PLC and Automation |
| 18BTEC734 | Open Electives |
| Elective-IV | 18BTEC735 | Audio Video Engineering |
| 18BTEC736 | Internet of Things |
| 18BTEC737 | Software Defined Radio |
| 18BTEC738 | Biomedical Signal Processing |
| 18BTEC739 | Microwave & Satellite Communication |
| 18BTEC740 | Open Electives |