

Course structure for B. Tech I Year I Semester EEE (2018-19)

| Sl.No | Course code | Name of the Course | L | T | P | C | Max Marks | |
|-------|----------------------|--|----|---|----|-----|-----------|-----|
| | | | | | | | CIE | SEE |
| 1. | 7HC05 | Engineering Physics | 3 | 1 | 0 | 4 | 30 | 70 |
| 2. | 7FC01 | Problem Solving using C | 3 | 0 | 0 | 3 | 30 | 70 |
| 3. | 7HC06 | Engineering Mathematics – I | 3 | 1 | 0 | 4 | 30 | 70 |
| 4. | 7BC02 | Engineering Graphics & Design | 1 | 0 | 4 | 3 | 30 | 70 |
| 5. | 7HC02 | English (Oral communication skills) | 1 | 0 | 0 | 1 | 30 | 70 |
| 6 | 7HC20 (Mandatory) | Human Values and Professional Ethics in Higher Studies | 2 | 0 | 0 | 0 | 30 | 70 |
| 7 | 7HC65 | Engineering Physics lab | 0 | 0 | 3 | 1.5 | 30 | 70 |
| 8 | 7FC71 | Problem Solving using C Lab | 0 | 0 | 3 | 1.5 | 30 | 70 |
| 9 | 7HC62 | English (Oral communication skills) Lab | 0 | 0 | 2 | 1 | 30 | 70 |
| 10 | 7A191 | Technical Seminar - I | 0 | 0 | 2 | 1 | 100 | -- |
| | | Total | 11 | 2 | 14 | 20 | | |

Course structure for B.Tech I Year II Semester EEE (2018-19)

| Sl.No | Course Code | Name of the Course | L | T | P | C | Max Marks | |
|-------|-------------|---|----|---|----|-----|-----------|-----|
| | | | | | | | CIE | SEE |
| 1. | 7HC03 | Chemistry | 3 | 1 | 0 | 4 | 30 | 70 |
| 2. | 7A201 | Electrical Circuits and Networks-I | 3 | 0 | 0 | 3 | 30 | 70 |
| 3. | 7HC08 | Engineering Mathematics – II | 3 | 1 | 0 | 4 | 30 | 70 |
| 4. | 7BC01 | Workshop/Manufacturing practices(Theory) | 1 | 0 | 0 | 1 | 30 | 70 |
| 5. | 7HC63 | Chemistry lab | 0 | 0 | 3 | 1.5 | 30 | 70 |
| 6. | 7AC61 | Electrical Circuits and Networks Analysis Lab | 0 | 0 | 2 | 1 | 30 | 70 |
| 7 | 7HC01 | English (Reading, Listening and writing) | 1 | 0 | 0 | 1 | 30 | 70 |
| 8 | 7BC61 | Workshop/Manufacturing practices Lab | 0 | 0 | 3 | 1.5 | 30 | 70 |
| 9 | 7HC61 | English (Reading, Listening and writing) Lab | 0 | 0 | 2 | 1 | 30 | 70 |
| 10 | 7A292 | Technical Seminar - II | 0 | 0 | 2 | 1 | 100 | -- |
| | | Total | 11 | 2 | 12 | 19 | | |

II Year – I Semester

| S. No | Subject Code | Subject | L | T | P/D | C | Max Marks | |
|--------------|--------------|---|-----|-----|-----|-----------|-----------|-----|
| | | | | | | | CIE | SEE |
| 1 | 7HC13 | Transformation Techniques and Numerical methods | 2 | --- | --- | 2 | 30 | 70 |
| 2 | 7C302 | Digital Logic Design | 2 | 1 | --- | 3 | 30 | 70 |
| 3 | 7C301 | Electronic Devices and Circuits | 3 | --- | --- | 3 | 30 | 70 |
| 4 | 7A302 | Electro Magnetic Fields | 4 | --- | --- | 4 | 30 | 70 |
| 5 | 7A303 | Electrical Machines – I | 3 | --- | --- | 3 | 30 | 70 |
| 6 | 7A304 | Electrical Circuits & Networks – II | 3 | --- | --- | 3 | 30 | 70 |
| 7 | 7BC04 | Elements of Mechanical Engineering | 2 | --- | --- | 2 | 30 | 70 |
| 8 | 7HC21 | Environmental Science and Ecology | 2 | --- | --- | --- | 30 | 70 |
| 9 | 7C371 | Electronic Devices and Circuits Lab | --- | --- | 2 | 1 | 30 | 70 |
| 10 | 7A373 | Electrical Machines Lab – I | --- | --- | 2 | 1 | 30 | 70 |
| 11 | 7A393 | Technical Seminar - III | --- | --- | 2 | 1 | 100 | -- |
| Total | | | | | | 23 | | |

II Year – II Semester

| S. No. | Subject Code | Subject | L | T | P/D | C | Max Marks | | | |
|--------------|--------------|---|----------------------------------|-----|-----|-----------|-----------|-----|--|--|
| | | | | | | | CIE | SEE | | |
| 1 | 7HC15 | Probability Theory and Statistics | 2 | -- | --- | 2 | 30 | 70 | | |
| 2 | 7A405 | Electrical Machines – II | 3 | -- | --- | 3 | 30 | 70 | | |
| 3 | 7A406 | Power System – I | 3 | -- | --- | 3 | 30 | 70 | | |
| 4 | 7AC07 | Control Systems | 3 | -- | --- | 3 | 30 | 70 | | |
| 5 | 7C405 | Analog Circuits | 3 | -- | --- | 3 | 30 | 70 | | |
| 6 | 7ZC01 | Management Science and Financial Accounting | 2 | -- | --- | 2 | 30 | 70 | | |
| 7 | 7A475 | Control Systems & Simulation Lab | -- | -- | 2 | 1 | 30 | 70 | | |
| 8 | 7C474 | Analog Circuits Lab | --- | --- | 2 | 1 | 30 | 70 | | |
| 9 | 7A494 | Technical Seminar - IV | --- | --- | 2 | 1 | 100 | -- | | |
| 10 | 7A472 | Comprehensive Viva - I | --- | --- | -- | 1 | 50 | 50 | | |
| 11 | | Summer Industry Internship - I | Evaluated in III-year I-Semester | | | | | | | |
| Total | | | | | | 20 | | | | |

III Year – I Semester

| S. No | Subject Code | Subject | L | T | P/D | C | Max Marks | |
|--------------|--------------|------------------------------------|-----|-----|-----|-----------|-----------|-----|
| | | | | | | | CIE | SEE |
| 1 | 7C508 | IC Applications | 3 | -- | --- | 3 | 30 | 70 |
| 2 | 7A508 | Electrical Machines – III | 3 | -- | -- | 3 | 30 | 70 |
| 3 | 7A509 | Power Electronics | 3 | 1 | -- | 4 | 30 | 70 |
| 4 | 7A510 | Power Systems – II | 3 | 1 | -- | 4 | 30 | 70 |
| 5 | | Open Elective – I | 3 | -- | -- | 3 | 30 | 70 |
| 6 | 7H518 | Quantitative Aptitude | 1 | 1 | -- | 2 | 30 | 70 |
| 7 | 7CC76 | IC Applications Lab | - | - | 4 | 2 | 30 | 70 |
| 8 | 7A578 | Power Electronics & Simulation Lab | -- | -- | 2 | 1 | 30 | 70 |
| 9 | 7A577 | Electrical Machines Lab – II | -- | -- | 2 | 1 | 30 | 70 |
| 10 | 7A586 | Summer Industry Internship – I | -- | -- | -- | 1 | 30 | 70 |
| 11 | 7A595 | Technical Seminar - V | --- | --- | 2 | 1 | 100 | -- |
| Total | | | | | | 25 | | |

Open Elective – I

| Subject Code | Name of the subject | Stream |
|--------------|--|------------------|
| 7EC01 | Data Structures | Computer |
| 7ZC22 | Basics of Entrepreneurship | Entrepreneurship |
| 7ZC05 | Banking, Insurance and Risk Management | Finance |
| 7ZC25 | Basics of Indian Economy | Social Sciences |

III Year – II Semester

| S. No | Subject Code | Subject | L | T | P/D | C | Max Marks | |
|--------------|--------------|---|----------------------------------|-----|-----|-----------|-----------|-----|
| | | | | | | | CIE | SEE |
| 1 | 7DC05 | Microprocessors and Microcontrollers | 3 | -- | -- | 3 | 30 | 70 |
| 2 | 7A611 | Switch Gear and Protection | 3 | -- | --- | 3 | 30 | 70 |
| 3 | 7A612 | Measurements & Instrumentation | 3 | 1 | -- | 4 | 30 | 70 |
| 4 | 7BC56 | Elements of Fluid Mechanics and Hydraulic Machinery | 2 | 1 | --- | 3 | 30 | 70 |
| 5 | | Open Elective – II | 3 | -- | --- | 3 | 30 | 70 |
| 6 | 7HC63 | Soft Skills | -- | -- | 2 | 1 | 30 | 70 |
| 7 | 7H619 | Logical Reasoning | 1 | 1 | -- | 2 | 30 | 70 |
| 8 | 7A681 | Electrical workshop | -- | -- | 2 | 1 | 30 | 70 |
| 9 | 7DC71 | Microprocessors and Microcontrollers Lab | -- | -- | 2 | 1 | 30 | 70 |
| 10 | 7BC82 | FM and HM Lab | -- | -- | 2 | 1 | 30 | 70 |
| 11 | 7A674 | Group Project | --- | --- | 4 | 2 | 30 | 70 |
| 12 | 7A676 | Comprehensive Viva - II | --- | --- | --- | 1 | 50 | 50 |
| 13 | | Summer Industry Internship – II (IOMP) | To be evaluated in IV-year I-Sem | | | | | |
| Total | | | | | | 25 | | |

Open Elective – II

| Subject Code | Name of the subject | Stream |
|--------------|--|------------------|
| 7FC03 | Python Programming | Computer |
| 7ZC24 | Innovation and Design Thinking | Entrepreneurship |
| 7ZC19 | Entrepreneurship Project Management and Structured Finance | Finance |

| | | |
|---|---------------------------------|-----------------|
| 7ZC26 | Ecology and Disaster Management | Social Sciences |
| | SWAYAM MOOCS Course* | |
| *The department will identify the MOOCS Course from the available courses in SWAYAM portal for the semester | | |

IV Year – I Semester

| S.No | Subject Code | Subject | L | T | P/D | C | Max Marks | |
|--------------|--------------|------------------------------------|----|----|-----|----|-----------|-----|
| | | | | | | | CIE | SEE |
| 1 | 7A714 | Power Systems Analysis and Control | 3 | 1 | -- | 4 | 30 | 70 |
| 2 | | Professional Elective -I | 3 | -- | --- | 3 | 30 | 70 |
| 3 | | Professional Elective -II | 3 | -- | --- | 3 | 30 | 70 |
| 4 | | Professional Elective -III | 3 | -- | --- | 3 | 30 | 70 |
| 5 | | Open Elective - III | 3 | -- | -- | 3 | 30 | 70 |
| 6 | | Project –I | -- | -- | 4 | 2 | 30 | 70 |
| 7 | 7A787 | Summer Industry Internship – II | -- | -- | -- | 1 | 30 | 70 |
| 8 | 7A782 | Measurements & Instrumentation Lab | -- | -- | 2 | 1 | 30 | 70 |
| 9 | 7A783 | Power Systems Lab | -- | -- | 2 | 1 | 30 | 70 |
| 10 | 7A784 | Power Systems Simulation Lab | -- | -- | 2 | 1 | 30 | 70 |
| Total | | | | | | 23 | | |

Professional Elective –I

| Subject Code | Name of the subject | Stream |
|--------------|----------------------------------|-------------------|
| 7CC03 | Signals And Systems | Electronics |
| 7A725 | Advanced Control Systems | Control Systems |
| 7A716 | Utilization of Electrical Energy | Power Systems |
| 7A734 | HVDC and FACTS | Power Electronics |

Professional Elective –II

| Subject Code | Name of the subject | Stream |
|--------------|----------------------------|-------------------|
| 7A715 | Renewable Energy Sources | Power Systems |
| 7CC11 | Digital Signal Processing | Electronics |
| 7A724 | Digital Control Systems | Control Systems |
| 7A737 | Advanced Power Electronics | Power Electronics |

Professional Elective – III

| Subject Code | Name of the subject | Stream |
|--------------|-----------------------------|-------------------|
| 7A729 | Power System Deregulation | Power Systems |
| 7A713 | Power Semi Conductor Drives | Power Electronics |
| 7A739 | Optimal Control Systems | Control Systems |
| 7CC34 | Communication Theory | Electronics |

Open Elective – III

| Subject Code | Name of the subject | Stream |
|--------------|---------------------|----------|
| 7FC23 | Data Base Systems | Computer |

| | | |
|-------|--|------------------|
| 7ZC30 | Advanced Entrepreneurship | Entrepreneurship |
| 7ZC15 | Financial Institutions, Markets and Services | Finance |
| 7ZC27 | Indian History, Geography and Culture | Social Sciences |

IV Year – II Semester

| S. No. | Subject Code | Subject | L | T | P/D | C | Max Marks | |
|--------------|--------------|----------------------------|-----|-----|-----|-----------|-----------|-----|
| | | | | | | | CIE | SEE |
| 1 | | Professional Elective – IV | 3 | -- | -- | 3 | 30 | 70 |
| 2 | | Professional Elective – V | 3 | -- | -- | 3 | 30 | 70 |
| 3 | 7A883 | Project –II | --- | --- | 10 | 5 | 50 | 150 |
| Total | | | 6 | | | 11 | 110 | 290 |

Professional Elective – IV

| Subject Code | Name of the subject | Stream |
|--------------|---|-------------------|
| 7A835 | Electrical and Hybrid Vehicles | Power Electronics |
| 7A817 | High Voltage Engineering | Power Systems |
| 7A827 | Reactive Power Control & Management | Control Systems |
| 7CC35 | Fundamentals of VLSI and Embedded Systems | Electronics |

Professional Elective – V

| Subject Code | Name of the subject | Stream |
|--------------|---------------------------------|-------------------|
| 7A820 | Electrical Distribution Systems | Power Systems |
| 7A826 | Programmable Logic Controllers | Control Systems |
| 7A833 | Switched Mode Power Conversion | Power Electronics |
| 7C831 | Artificial Neural Networks | Electronics |

L - Lectures; T - Tutorial; P/D - Practical / Drawing; C – Credit

Note: All End Examinations (Theory and Practical) are of **Three** hours duration.