



**Faculty of Engineering & Technology**

**B. Tech.**

**(Electrical Engineering)**

**(2015-16)**

**Program Structure**

# B.Tech. (EE) Course Structure (2015-16)

## Semester - I

| THEORY PAPERS               |   | No. of Teaching Hours |   |    | Marks Allocation |           |       |         |
|-----------------------------|---|-----------------------|---|----|------------------|-----------|-------|---------|
| Code                        | Subject/Paper                                       | L                     | T | P  | IA               | EA        | Total | Credits |
| BT 101                      | Engineering Physics-I                               | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BT 102                      | Introduction to Computers Fundamental and IT*       | 3                     | - | -  | 30               | 70        | 100   | 3       |
| BT 103                      | Applied Mathematics-I                               | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BT 104                      | Introduction to Electrical & Electronic Engineering | 3                     | - | -  | 30               | 70        | 100   | 3       |
| BT 105                      | English & Communication Skills                      | 3                     | - | -  | 30               | 70        | 100   | 3       |
| BT 106                      | Engineering Chemistry                               | 3                     | - | -  | 30               | 70        | 100   | 3       |
|                             |   |                       |   |    |                  |           |       |         |
| <i>PRACTICALS/VIVA-VOCE</i> |   | No. of Teaching Hours |   |    | Sessional        | Practical | Total | Credits |
| BT 107                      | Electrical & Electronics Lab-I                      | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 108                      | Engineering Physics Lab-I                           | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 109                      | IT Fundamental Lab*                                 | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 110                      | Engineering Chemistry Lab                           | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 111                      | Engineering Workshop                                | -                     | - | 2  | 30               | 20        | 50    | 1       |
| <b>TOTAL</b>                |   | 18                    | 2 | 10 | 330              | 520       | 850   | 25      |

**Semester - II**

| <b>THEORY PAPERS</b>        |  | <b>No. of Teaching Hours</b> |          |           | <b>Marks Allocation</b> |                  |              |                |
|-----------------------------|--|------------------------------|----------|-----------|-------------------------|------------------|--------------|----------------|
| <b>Code</b>                 | <b>Subject/Paper</b>                   | <b>L</b>                     | <b>T</b> | <b>P</b>  | <b>IA</b>               | <b>EA</b>        | <b>Total</b> | <b>Credits</b> |
| BT 201                      | Engineering Physics-II                 | 3                            | 1        | -         | 30                      | 70               | 100          | 4              |
| BT 202                      | Introduction to Computer Programming * | 3                            | -        | -         | 30                      | 70               | 100          | 3              |
| BT 203                      | Engineering Mechanics*                 | 3                            | 1        | -         | 30                      | 70               | 100          | 4              |
| BT 204                      | Digital Electronics                    | 3                            | -        | -         | 30                      | 70               | 100          | 3              |
| BT 205                      | Applied Mathematics-II                 | 3                            | -        | -         | 30                      | 70               | 100          | 3              |
| BT 206                      | Environmental Sciences                 | 3                            | -        | -         | 30                      | 70               | 100          | 3              |
|                             |  |                              |          |           |                         |                  |              |                |
| <b>PRACTICALS/VIVA-VOCE</b> |  | <b>No. of Teaching Hours</b> |          |           | <b>Sessional</b>        | <b>Practical</b> | <b>Total</b> | <b>Credits</b> |
| BT 207                      | Electrical & Electronic Lab-II         | -                            | -        | 2         | 30                      | 20               | 50           | 1              |
| BT 208                      | Engineering Physics-II                 | -                            | -        | 2         | 30                      | 20               | 50           | 1              |
| BT 209                      | Computer Programming Lab*              | -                            | -        | 2         | 30                      | 20               | 50           | 1              |
| BT 210                      | Engineering Drawing                    | -                            | -        | 2         | 30                      | 20               | 50           | 1              |
| BT 211                      | Communication Skill Lab*               | -                            | -        | 2         | 30                      | 20               | 50           | 1              |
| <b>TOTAL</b>                |  | <b>18</b>                    | <b>2</b> | <b>10</b> | <b>330</b>              | <b>520</b>       | <b>850</b>   | <b>25</b>      |

### Semester - III

| THEORY PAPERS                |  |    |   |    |          |           |       |         |
|------------------------------|--|----|---|----|----------|-----------|-------|---------|
| Code                         | Subject/Paper                                | L  | T | P  | IA       | EA        | Total | Credits |
| BTEE301                      | Applied Mathematics-III                      | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE302                      | Circuit Analysis-I                           | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE303                      | Electrical Machine-I                         | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE304                      | Electronic Measurements & Instrumentation    | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE305                      | Generation of Electric Power                 | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE306                      | Object Oriented Programming                  | 3  | - | -  | 30       | 70        | 100   | 3       |
| <i>PRACTICALS /VIVA VOCE</i> |  |    |   |    |          |           |       |         |
|                              |  | L  | T | P  | Seasonal | Practical | Total | Credits |
| BTEE307                      | Electrical Machine Lab - I                   | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE308                      | Electronic Measurement & Instrumentation Lab | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE309                      | Object Oriented Programming Lab              | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE310                      | Electrical Circuit Lab                       | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE311                      | Humanities & Social Science                  | -  | - | 2  | 30       | 20        | 50    | 1       |
| <b>Total</b>                 |  | 18 | 2 | 10 | 330      | 520       | 850   | 25      |

## Semester - IV

| THEORY PAPERS                |  |    |   |    |          |           |       |         |
|------------------------------|--|----|---|----|----------|-----------|-------|---------|
| Code                         | Subject/Paper                          | L  | T | P  | IA       | EA        | Total | Credits |
| BTEE401                      | Analog Electronics                     | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE402                      | Circuit Analysis-II                    | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE403                      | Electric Machines-II                   | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE404                      | Non Conventional Energy Systems        | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE405                      | Data Base Management System            | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE406                      | Random Variable & Stochastic Processes | 3  | - | -  | 30       | 70        | 100   | 3       |
| <i>PRACTICALS/ VIVA VOCE</i> |  |    |   |    |          |           |       |         |
|                              |  | L  | T | P  | Seasonal | Practical | Total | Credits |
| BTEE407                      | Analog Electronics Lab                 | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE408                      | Electric Machine Lab-II                | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE409                      | Technical Seminar                      | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE410                      | Data Base Management System Lab        | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE411                      | GD & Soft Skill                        | -  | - | 2  | 30       | 20        | 50    | 1       |
|                              | <b>Total</b>                           | 18 | 2 | 10 | 330      | 520       | 850   | 25      |

### Semester - V

| Code                          | Subject/Paper                                 | L  | T | P  | IA       | EA        | Total | Credits |
|-------------------------------|---|----|---|----|----------|-----------|-------|---------|
| BTEE501                       | Industrial Electronics                        | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE502                       | Microprocessors & Interfaces                  | 3  | - | -  | 30       | 70        | 100   | 4       |
| BTEE503                       | Control System                                | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE504                       | Transmission & Distribution of Electric Power | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE505                       | High Voltage Engineering                      | 3  | - | -  | 30       | 70        | 100   | 3       |
|                               | <b>Elective (any one)</b>                     |    |   |    |          |           |       |         |
| BTEE506A                      | Materials in Electrical Systems               | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE566B                      | Switching Theory and Logic Design             | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE506C                      | Digital Signal Processing                     | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE506D                      | Communication Systems                         | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE506E                      | Electromagnetic Field Theory                  | 3  | - | -  | 30       | 70        | 100   | 3       |
| <b>PRACTICALS / VIVA VOCE</b> |   |    |   |    |          |           |       |         |
|                               |   | L  | T | P  | Seasonal | Practical | Total | Credits |
| BTEE507                       | Industrial Electronics Lab                    | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE508                       | Microprocessor Lab                            | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE509                       | MATLAB Programming Lab                        | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE510                       | Control System Lab                            | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE 511                      | Digital Signal Processing                     | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE 512                      | Training Viva                                 | -  | - | 0  | 30       | 20        | 50    | 2       |
|                               | <b>Total</b>                                  | 18 | 2 | 10 | 360      | 540       | 900   | 27      |

## Semester - VI

| THEORY PAPERS                 |                                       |    |   |   |          |           |       |         |
|-------------------------------|---------------------------------------|----|---|---|----------|-----------|-------|---------|
| Code                          | Subject/Paper                         | L  | T | P | IA       | EA        | Total | Credits |
| BTEE601                       | Advanced Power System                 | 3  | 1 | - | 30       | 70        | 100   | 4       |
| BTEE602                       | Switchgear & Protection               | 3  | - | - | 30       | 70        | 100   | 3       |
| BTEE603                       | Economic Operation of Power System    | 3  | - | - | 30       | 70        | 100   | 3       |
| BTEE604                       | Signals & Systems                     | 3  | 1 | - | 30       | 70        | 100   | 4       |
| BTEE605                       | Modern Control Theory                 | 3  | - | - | 30       | 70        | 100   | 3       |
|                               | <b>Elective (any one)</b>             |    |   |   |          |           |       |         |
| BTEE606A                      | Power Quality                         | 3  | - | - | 30       | 70        | 100   | 3       |
| BTEE606B                      | Power System Reliability              | 3  | - | - | 30       | 70        | 100   | 3       |
| BTEE606C                      | Power System Coordination and Control | 3  | - | - | 30       | 70        | 100   | 3       |
| BTEE606D                      | Advanced Microprocessors              | 3  | - | - | 30       | 70        | 100   | 3       |
| <b>PRACTICALS / VIVA VOCE</b> |                                       |    |   |   |          |           |       |         |
|                               |                                       | L  | T | P | Seasonal | Practical | Total | Credits |
| BTEE607                       | Power System Lab                      | -  | - | 2 | 30       | 20        | 50    | 1       |
| BTEE608                       | Advanced Power Electronics Lab        | -  | - | 2 | 30       | 20        | 50    | 1       |
| BTEE609                       | Power System Design Lab               | -  | - | 2 | 30       | 20        | 50    | 1       |
| BTEE610                       | Signal and Systems Lab                | -  | - | 2 | 30       | 20        | 50    | 1       |
| BTEE611                       | In House Workshop                     | -  | - | 0 | 30       | 20        | 50    | 1       |
| BTEE612                       | Minor Project-I                       | -  | - | 1 | 30       | 20        | 50    | 2       |
|                               | <b>Total</b>                          | 18 | 2 | 9 | 360      | 540       | 900   | 28      |

### Semester - VII

| THEORY PAPERS   |                               | No. of Teaching Hours |   |   | Marks Allocation |            |            |           |
|-----------------|-------------------------------|-----------------------|---|---|------------------|------------|------------|-----------|
|                 |                               | L                     | T | P | IA               | EA         | Total      |           |
| <b>BTEE 701</b> | <b>Training &amp; Seminar</b> |                       |   |   | <b>540</b>       | <b>360</b> | <b>900</b> | <b>28</b> |

### Semester - VIII

| THEORY PAPERS   |  |            |           |           |             |             |             |            |
|---|--|------------|-----------|-----------|-------------|-------------|-------------|------------|
| Code  | Subject/Paper                                | L          | T         | P         | IA          | EA          | Total       | Credits    |
| <b>BTEE801</b>  | <b>Power System Analysis</b>                 | <b>3</b>   | <b>1</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>4</b>   |
| <b>BTEE802</b>  | <b>Power System Engineering</b>              | <b>3</b>   | <b>1</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>4</b>   |
| <b>BTEE803</b>  | <b>Electrical Machine Design</b>             | <b>3</b>   | <b>1</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>4</b>   |
| <b>BTEE804</b>  | <b>Electric Drives &amp; Their Control</b>   | <b>3</b>   | <b>1</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>4</b>   |
|   | <b>ELECTIVE(any one)</b>                     |            |           |           |             |             |             |            |
| <b>BTEE805A</b>   | <b>EHV AC/DC Transmission</b>                | <b>3</b>   | <b>-</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>3</b>   |
| <b>BTEE805B</b>   | <b>Intelligent and Smart Instrumentation</b> | <b>3</b>   | <b>-</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>3</b>   |
| <b>BTEE805C</b>   | <b>PLC and SCADA Systems</b>                 | <b>3</b>   | <b>-</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>3</b>   |
| <b>BTEE805D</b>   | <b>Power Line Carrier Communication</b>      | <b>3</b>   | <b>-</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>3</b>   |
|   | <b>ELECTIVE(any one)</b>                     |            |           |           |             |             |             |            |
| <b>BTEE806A</b>   | <b>Utilization of Electric Power</b>         | <b>3</b>   | <b>-</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>3</b>   |
| <b>BTEE806B</b>   | <b>Artificial Intelligence</b>               | <b>3</b>   | <b>-</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>3</b>   |
| <b>BTEE806C</b>   | <b>Power Plant Instrumentation</b>           | <b>3</b>   | <b>-</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>3</b>   |
| <b>BTEE806D</b>   | <b>Power Distribution System</b>             | <b>3</b>   | <b>-</b>  | <b>-</b>  | <b>30</b>   | <b>70</b>   | <b>100</b>  | <b>3</b>   |
| <b>PRACTICALS /VIVA VOCE</b>  |  |            |           |           |             |             |             |            |
|   |  | L          | T         | P         | Seasonal    | Practical   | Total       | Credits    |
| <b>BTEE807</b>  | <b>Electric Machine Design Lab</b>           | <b>-</b>   | <b>-</b>  | <b>2</b>  | <b>30</b>   | <b>20</b>   | <b>50</b>   | <b>1</b>   |
| <b>BTEE808</b>  | <b>Electric Drives &amp; Control Lab</b>     | <b>-</b>   | <b>-</b>  | <b>2</b>  | <b>30</b>   | <b>20</b>   | <b>50</b>   | <b>1</b>   |
| <b>BTEE809</b>  | <b>MAT Lab for Electrical Engineers</b>      | <b>-</b>   | <b>-</b>  | <b>2</b>  | <b>30</b>   | <b>20</b>   | <b>50</b>   | <b>1</b>   |
| <b>BTEE810</b>  | <b>Seminar</b>                               | <b>-</b>   | <b>-</b>  | <b>4</b>  | <b>90</b>   | <b>60</b>   | <b>150</b>  | <b>2</b>   |
|   |  |            |           |           |             |             |             |            |
|   | <b>Total</b>                                 | <b>18</b>  |           | <b>12</b> | <b>360</b>  | <b>540</b>  | <b>900</b>  | <b>27</b>  |
| Grand Total of credits  |  | <b>138</b> | <b>17</b> | <b>73</b> | <b>2820</b> | <b>4180</b> | <b>7000</b> | <b>210</b> |
| L- Lecture,T-Tutorial,P-Practical,IA-Internal Assessment,EA-External Assessment |  |            |           |           |             |             |             |            |





**Faculty of Engineering & Technology**

**B. Tech.**

**(Electrical Engineering)**

**(2016-17)**

**Program Structure**

## B.Tech. (EE) Course Structure (2016-17)

### Semester - I

| THEORY PAPERS               |   | No. of Teaching Hours |   |    | Marks Allocation |           |       |         |
|-----------------------------|---|-----------------------|---|----|------------------|-----------|-------|---------|
| Code                        | Subject/Paper                                       | L                     | T | P  | IA               | EA        | Total | Credits |
| BT 101                      | Engineering Physics-I                               | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BT 102                      | Introduction to Computers Fundamental and IT*       | 3                     | - | -  | 30               | 70        | 100   | 3       |
| BT 103                      | Applied Mathematics-I                               | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BT 104                      | Introduction to Electrical & Electronic Engineering | 3                     | - | -  | 30               | 70        | 100   | 3       |
| BT 105                      | English & Communication Skills                      | 3                     | - | -  | 30               | 70        | 100   | 3       |
| BT 106                      | Engineering Chemistry                               | 3                     | - | -  | 30               | 70        | 100   | 3       |
|                             |   |                       |   |    |                  |           |       |         |
| <i>PRACTICALS/VIVA-VOCE</i> |   | No. of Teaching Hours |   |    | Sessiona         | Practical | Total | Credits |
| BT 107                      | Electrical & Electronics Lab-I                      | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 108                      | Engineering Physics Lab-I                           | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 109                      | IT Fundamental Lab*                                 | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 110                      | Engineering Chemistry Lab                           | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 111                      | Engineering Workshop                                | -                     | - | 2  | 30               | 20        | 50    | 1       |
| <b>TOTAL</b>                |   | 18                    | 2 | 10 | 330              | 520       | 850   | 25      |

## Semester - II

| THEORY PAPERS               |  | No. of Teaching Hours |          |           | Marks Allocation |            |            |           |
|-----------------------------|--|-----------------------|----------|-----------|------------------|------------|------------|-----------|
| Code                        | Subject/Paper                          | L                     | T        | P         | IA               | EA         | Total      | Credits   |
| BT 201                      | Engineering Physics-II                 | 3                     | 1        | -         | 30               | 70         | 100        | 4         |
| BT 202                      | Introduction to computer Programming * | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BT 203                      | Engineering Mechanics*                 | 3                     | 1        | -         | 30               | 70         | 100        | 4         |
| BT 204                      | Digital Electronics                    | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BT 205                      | Applied Mathematics-II                 | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BT 206                      | Environmental Sciences                 | 3                     | -        | -         | 30               | 70         | 100        | 3         |
|                             |  |                       |          |           |                  |            |            |           |
| <i>PRACTICALS/VIVA-VOCE</i> |  | No. of Teaching Hours |          |           | Sessional        | Practical  | Total      | Credits   |
| BT 207                      | Electrical & Electronic Lab-II         | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BT 208                      | Engineering Physics Lab-II             | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BT 209                      | Computer Programming Lab*              | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BT 210                      | Engineering Drawing                    | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BT 211                      | Communication Skill Lab*               | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| <b>TOTAL</b>                |  | <b>18</b>             | <b>2</b> | <b>10</b> | <b>330</b>       | <b>520</b> | <b>850</b> | <b>25</b> |

### Semester - III

| THEORY PAPERS                |                                    |    |   |    |          |           |       |         |
|------------------------------|------------------------------------|----|---|----|----------|-----------|-------|---------|
| Code                         | Subject/Paper                      | L  | T | P  | IA       | EA        | Total | Credits |
| BTEE301                      | Electronic Devices & Circuits      | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE302                      | Circuit Analysis-I                 | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE303                      | Liner Integrated Circuits          | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE304                      | Object Oriented Programming        | 3  |   | -  | 30       | 70        | 100   | 3       |
| BTEE305                      | Electrical Machines-I              | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE306                      | Advanced Engineering Mathematics-I | 3  | - | -  | 30       | 70        | 100   | 3       |
| <b>PRACTICALS /VIVA VOCE</b> |                                    |    |   |    |          |           |       |         |
|                              |                                    | L  | T | P  | Seasonal | Practical | Total | Credits |
| BTEE307                      | Electronic Devices Lab             | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE308                      | Electrical Circuit Lab             | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE309                      | Electronics Engineering Design Lab | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE310                      | C++ Programming Lab                | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE311                      | Humanities & Social Science        | -  | - | -  | -        | -         | -     | -       |
|                              | <b>Total</b>                       | 18 | 2 | 10 | 330      | 520       | 850   | 25      |

### Semester - IV

| <i>THEORY PAPERS</i>         |                                     |          |          |          |                 |                  |              |                |
|------------------------------|-------------------------------------|----------|----------|----------|-----------------|------------------|--------------|----------------|
| <i>Code</i>                  | <i>Subject/Paper</i>                | <b>L</b> | <b>T</b> | <b>P</b> | <b>IA</b>       | <b>EA</b>        | <b>Total</b> | <b>Credits</b> |
| BTEE401                      | Analog Electronics                  | 3        | -        | -        | 30              | 70               | 100          | 3              |
| BTEE402                      | Circuit Analysis-II                 | 3        | 1        | -        | 30              | 70               | 100          | 4              |
| BTEE403                      | Electrical Measurements             | 3        | -        | -        | 30              | 70               | 100          | 3              |
| BTEE404                      | Generation of Electrical Power      | 3        | -        | -        | 30              | 70               | 100          | 3              |
| BTEE405                      | Electrical Machines-II              | 3        | 1        | -        | 30              | 70               | 100          | 4              |
| BTEE406                      | Advanced Engineering Mathematics-II | 3        | -        | -        | 30              | 70               | 100          | 3              |
| <i>PRACTICALS/ VIVA VOCE</i> |                                     |          |          |          |                 |                  |              |                |
|                              |                                     | <b>L</b> | <b>T</b> | <b>P</b> | <b>Seasonal</b> | <b>Practical</b> | <b>Total</b> | <b>Credits</b> |
| BTEE407                      | Analog Electronics Lab              | -        | -        | 2        | 30              | 20               | 50           | 1              |
| BTEE408                      | Electrical Measurement Lab          | -        | -        | 2        | 30              | 20               | 50           | 1              |
| BTEE409                      | Power System Design Lab             | -        | -        | 2        | 30              | 20               | 50           | 1              |
| BTEE410                      | Electrical Machines Lab             | -        | -        | 2        | 30              | 20               | 50           | 1              |
| BTEE411                      | Electrical Machine Design Lab       | -        | -        | 2        | 30              | 20               | 50           | 1              |
|                              | <b>Total</b>                        | 18       | 2        | 10       | 330             | 520              | 850          | 25             |

## Semester - V

| THEORY PAPERS                |   |    |   |    |          |           |       |         |
|------------------------------|---|----|---|----|----------|-----------|-------|---------|
| Code                         | Subject/Paper                                   | L  | T | P  | IA       | EA        | Total | Credits |
| BTEE501                      | Power Electronics                               | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE502                      | Microprocessors & Computer Architecture         | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE503                      | Control Systems                                 | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE504                      | Data Base Management System                     | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE505                      | Transmission & Distribution of Electrical Power | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| <b>Elective (any one)</b>    |   |    |   |    |          |           |       |         |
| BTEE506A                     | Optimization Techniques                         | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE566B                     | Principle of Communication Systems              |    |   | -  |          |           |       |         |
| BTEE506C                     | Introduction to VLSI                            |    |   | -  |          |           |       |         |
| <b>PRACTICALS /VIVA VOCE</b> |   |    |   |    |          |           |       |         |
|                              |   | L  | T | P  | Seasonal | Practical | Total | Credits |
| BTEE507                      | Power Electronics Lab                           | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE508                      | Microprocessor Lab                              | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE509                      | System Programming Lab                          | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE510                      | DBMS Lab  | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE 511                     | Professional Ethics and Disaster Manage         | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE 512                     | Discipline & Extra Curricular Activity          | -  | - | -  |          | 50        | 50    | 1       |
| <b>Total</b>                 |   | 18 | 3 | 10 | 330      | 570       | 900   | 28      |

## Semester - VI

| THEORY PAPERS                 |  |    |   |    |          |           |       |         |
|-------------------------------|--|----|---|----|----------|-----------|-------|---------|
| Code                          | Subject/Paper                                | L  | T | P  | IA       | EA        | Total | Credits |
| BTEE601                       | Modern Control Theory                        | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE602                       | High Voltage Engineering                     | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE603                       | Switchgear & Protection                      | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE604                       | Advanced Power Electronics                   | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE605                       | Smart Grid Technology                        | 3  | - | -  | 30       | 70        | 100   | 3       |
|                               | <b>Elective (any one)</b>                    |    |   |    |          |           |       |         |
| BTEE606A                      | Advanced Microprocessors                     |    |   | -  |          |           |       |         |
| BTEE606B                      | Power System Instrumentation                 | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE606C                      | Digital Communication and Information Theory |    |   | -  |          |           |       |         |
| <i>PRACTICALS / VIVA VOCE</i> |  |    |   |    |          |           |       |         |
|                               |  | L  | T | P  | Seasonal | Practical | Total | Credits |
| BTEE607                       | Control System Lab                           | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE608                       | Power System Lab                             | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE609                       | Advanced Power Electronics Lab               | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE610                       | Smart Grid Lab                               | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE611                       | Entrepreneurship Development                 | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE612                       | Discipline & Extra Curricular Activity       | -  | - |    |          | 50        | 50    | 1       |
|                               | <b>Total</b>                                 | 18 | 4 | 10 | 330      | 570       | 900   | 28      |

## Semester – VII

| THEORY PAPERS                |  |    |   |    |          |           |       |         |
|------------------------------|--|----|---|----|----------|-----------|-------|---------|
| Code                         | Subject/Paper                                | L  | T | P  | IA       | EA        | Total | Credits |
| BTEE701                      | Power System Planning                        | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE702                      | Power System Analysis                        | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE703                      | Artificial Intelligence Techniques           | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE704                      | Non Conventional Energy Sources              | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE705                      | Power System Engineering                     | 3  | 1 | 1  | 30       | 70        | 100   | 4       |
| <b>ELECTIVE(any one)</b>     |  |    |   |    |          |           |       |         |
| BTEE706A                     | Electromagnetic Field Theory                 | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE706B                     | Computer Aided Design of Electrical Machines |    |   | -  |          |           |       |         |
| BTEE706C                     | Economic Operation of Power Systems          |    |   | -  |          |           |       |         |
| <b>PRACTICALS /VIVA VOCE</b> |  |    |   |    |          |           |       |         |
|                              |  | L  | T | P  | Seasonal | Practical | Total | Credits |
| BTEE707                      | Power System Planning Lab                    | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE708                      | Power System Modelling & Simulation lab      | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE709                      | Industrial Economics & Management            | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE710                      | Practical Training & Industrial Visit        | -  | - | 2  | -        | 50        | 50    | 1       |
| BTEE711                      | Project-I                                    | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE712                      | Discipline & Extra Curricular Activity       |    |   |    |          | 50        | 50    | 1       |
|                              | <b>Total</b>                                 | 18 | 3 | 10 | 300      | 600       | 900   | 27      |



## Semester - VIII

| THEORY PAPERS                |  |    |   |    |          |           |       |         |
|------------------------------|--|----|---|----|----------|-----------|-------|---------|
| Code                         | Subject/Paper                            | L  | T | P  | IA       | EA        | Total | Credits |
| BTEE 801                     | EHV AC/DC Transmission                   | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE 802                     | Electric Drives and Their Control        | 3  | 1 | -  | 30       | 70        | 100   | 4       |
| BTEE 803                     | Protection of Power System               | 3  |   |    | 30       | 70        | 100   | 3       |
|                              | <b>Elective (any one)</b>                |    |   |    |          |           |       |         |
| BTEE804A                     | Utilization of Electrical Power          |    |   |    |          |           |       |         |
| BTEE804B                     | FACTS Devices & Their Applications       | 3  | - | -  | 30       | 70        | 100   | 3       |
| BTEE804C                     | Power System Transients                  |    |   |    |          |           |       |         |
|                              |  |    |   |    |          |           |       |         |
| <i>PRACTICALS /VIVA VOCE</i> |  |    |   |    |          |           |       |         |
|                              |  | L  | T | P  | Seasonal | Practical | Total | Credits |
| BTEE 805                     | Computer Based Power System Lab          | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE806                      | Electrical Drives and Control Lab        | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE807                      | High Voltage Engineering Lab             | -  | - | 2  | 30       | 20        | 50    | 1       |
| BTEE808                      | Project-II                               |    |   | 4  | 60       | 40        | 100   | 2       |
| BTEE809                      | Seminar                                  |    |   | 4  | 60       | 40        | 100   | 2       |
| BTEE810                      | Discipline & Extra Curricular Activities |    |   |    |          | 50        | 50    | 1       |
|                              | <b>Total</b>                             | 12 | 2 | 14 | 330      | 470       | 800   | 22      |



**Faculty of Engineering & Technology**

**B. Tech.**

**(Electrical Engineering)**

**(2017-18)**

**Program Structure**

## B.Tech. (EE) Course Structure (2017-18)

### Semester - I

| THEORY PAPERS               |   | No. of Teaching Hours |   |    | Marks Allocation |           |       |         |
|-----------------------------|---|-----------------------|---|----|------------------|-----------|-------|---------|
|                             |   | L                     | T | P  | IA               | EA        | Total | Credits |
| BT 101                      | Engineering mathematics-I                         | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BT 102                      | Communication Skills                              | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BT 103                      | Engineering Physics                               | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BT 104                      | Computer Programming-I                            | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BT 105                      | Environmental Engineering and Disaster Management | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
|                             |   |                       |   |    |                  |           |       |         |
| <i>PRACTICALS/VIVA VOCE</i> |   | No. of Teaching Hours |   |    | Session 1        | Practical | Total | Credits |
| BT 107                      | Communication Skills Lab                          | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 108                      | Engineering Physics Lab                           | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 109                      | Computer Programming Lab                          | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 110                      | Computer Aided Engineering Graphics               | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BT 111                      | Mechanical Workshop Practice                      | -                     | - | 2  | 30               | 20        | 50    | 1       |
| TOTAL                       |   | 15                    | 5 | 10 | 300              | 450       | 750   | 25      |

## Semester - II

| THEORY PAPERS               |   | No. of Teaching Hours |          |           | Marks Allocation |            |            |           |
|-----------------------------|---|-----------------------|----------|-----------|------------------|------------|------------|-----------|
|                             |   | L                     | T        | P         | IA               | EA         | Total      | Credits   |
| BT 201                      | Engineering Mathematics-II                  | 3                     | 1        | -         | 30               | 70         | 100        | 4         |
| BT 202                      | Human Values                                | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BT 203                      | Engineering Chemistry                       | 3                     | 1        | -         | 30               | 70         | 100        | 4         |
| BT 204                      | Computer Programming-II                     | 3                     | -        | -         | 30               | 70         | 100        | 3         |
|                             | <b>Elective (any two)*</b>                  |                       |          |           |                  |            |            |           |
| BT 205A                     | Basic Electrical and Electronic Engineering | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BT 205B                     | Basic Civil Engineering                     | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BT 205C                     | Basic Mechanical Engineering                | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BT 205D                     | Engineering Mechanics                       | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| <i>PRACTICALS/VIVA VOCE</i> |   | No. of Teaching Hours |          |           | Sessional        | Practical  | Total      | Credits   |
| BT 206                      | Human Values: Activities                    | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BT 207                      | Engineering Chemistry Lab                   | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BT 208                      | Computer Programming-II Lab                 | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BT 209                      | Computer Aided Machine Drawing              | -                     | -        | 2         | 30               | 20         | 50         | 1         |
|                             | <b>TOTAL</b>                                | <b>18</b>             | <b>2</b> | <b>10</b> | <b>330</b>       | <b>520</b> | <b>800</b> | <b>24</b> |

### Semester - III

| THEORY PAPERS               |   | No. of Teaching Hours |          |           | Marks Allocation |            |            |           |
|-----------------------------|---|-----------------------|----------|-----------|------------------|------------|------------|-----------|
| Code                        | Subject/Paper                                 | L                     | T        | P         | IA               | EA         | Total      | Credits   |
| BTEE 301                    | Advance Mathematics                           | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 302                    | Managerial Economics and Financial Accounting | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 303                    | Power Generation Process                      | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 304                    | Electrical Circuit Analysis                   | 3                     | 1        | -         | 30               | 70         | 100        | 4         |
| BTEE 305                    | Analog Electronics                            | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 306                    | Electrical Machine-I                          | 3                     | 1        | -         | 30               | 70         | 100        | 4         |
| BTEE 307                    | Electromagnetic Field                         | 3                     | -        | -         | 30               | 70         | 100        | 3         |
|                             |   |                       |          |           |                  |            |            |           |
| <i>PRACTICALS/VIVA-VOCE</i> |   | No. of Teaching Hours |          |           | Sessional        | Practical  | Total      | Credits   |
| BTEE 308                    | Analog Electronics Lab                        | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEE 309                    | Electrical Machine-I Lab                      | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEE 310                    | Electrical Circuit Design Lab                 | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEE 311                    | Seminar                                       | -                     | -        | -         | -                | -          | 50         | 1         |
| BTEE 312                    | Mini Project                                  | -                     | -        | -         | -                | -          | 50         | 1         |
| <b>TOTAL</b>                |   | <b>21</b>             | <b>2</b> | <b>10</b> | <b>300</b>       | <b>550</b> | <b>950</b> | <b>28</b> |

### Semester - IV

| THEORY PAPERS               |   | No. of Teaching Hours |          |          | Marks Allocation |                  |              |                |
|-----------------------------|---|-----------------------|----------|----------|------------------|------------------|--------------|----------------|
| Code                        | Subject/Paper   | L                     | T        | P        | IA               | EA               | Total        | Credits        |
| BTEE 401                    | Biology   | 3                     | -        | -        | 30               | 70               | 100          | 3              |
| BTEE 402                    | Technical Communication                                   | 3                     | -        | -        | 30               | 70               | 100          | 3              |
| BTEE 403                    | Electronic Measurement & Instrumentation                  | 3                     | -        | -        | 30               | 70               | 100          | 3              |
| BTEE 404                    | Electrical Machine – II                                   | 3                     | 1        | -        | 30               | 70               | 100          | 4              |
| BTEE 405                    | Power Electronics   | 3                     | 1        | -        | 30               | 70               | 100          | 4              |
| BTEE 406                    | Signals & Systems   | 3                     | 1        | -        | 30               | 70               | 100          | 4              |
| BTEE 407                    | Digital Electronics                                       | 3                     | 1        | -        | 30               | 70               | 100          | 4              |
| <b>PRACTICALS/VIVA-VOCE</b> |   |                       |          |          | <b>Sessional</b> | <b>Practical</b> | <b>Total</b> | <b>Credits</b> |
| BTEE 408                    | Electrical Machine - II Lab                               | -                     | -        | 2        | 30               | 20               | 50           | 1              |
| BTEE 409                    | Power Electronics Lab                                     | -                     | -        | 2        | 30               | 20               | 50           | 1              |
| BTEE 410                    | Digital Electronics Lab                                   | -                     | -        | 2        | 30               | 20               | 50           | 1              |
| BTEE 411                    | Measurement Lab   | -                     | -        | 2        | 30               | 20               | 50           | 1              |
| BTEE 412                    | Social Outreach, Discipline & Extra Curricular Activities | -                     | -        | -        | -                | -                | 50           | 1              |
| <b>TOTAL</b>                |   | <b>21</b>             | <b>4</b> | <b>8</b> | <b>330</b>       | <b>570</b>       | <b>950</b>   | <b>30</b>      |

## Semester - V

| THEORY PAPERS                            |  | No. of Teaching Hours |          |           | Marks Allocation |            |            |           |
|--|--|-----------------------|----------|-----------|------------------|------------|------------|-----------|
| Code                                     | Subject/Paper  | L                     | T        | P         | IA               | EA         | Total      | Credits   |
| BTEE 501                                 | Electrical Materials                                     | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 502                                 | Power System – I   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 503                                 | Control System   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 504                                 | Microprocessor   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 505                                 | Electrical Machine Design                                | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| <b>Professional Elective I (any one)</b> |  |                       |          |           |                  |            |            |           |
| BTEE 506A                                | Restructured Power System.                               | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEE 506B                                | Electromagnetic Wave                                     |                       |          |           |                  |            |            |           |
| BTEE 506C                                | Digital Control System                                   |                       |          |           |                  |            |            |           |
| Sub Total                                |  | 18                    | 0        | 0         | 180              | 420        | 600        | 18        |
| <i>PRACTICALS/VIVA-VOCE</i>              |  | No. of Teaching Hours |          |           | Sessional        | Practical  | Total      | Credits   |
| BTEE 507                                 | Power System-I Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEE 508                                 | Control System Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEE 509                                 | Microprocessor Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEE 510                                 | System Programming Lab                                   | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEE 511                                 | Industrial Training                                      |                       |          | 2         | 60               | 40         | 100        | 2         |
| BTEE 512                                 | Social Outreach, Discipline & Extra Curricular Activates | -                     | -        | -         | -                | 50         | 50         | 1         |
| <b>Sub Total</b>                         |  | 0                     | 0        | 09        | 180              | 170        | 350        | 7         |
| <b>TOTAL OF V SEMESTER</b>               |  | <b>18</b>             | <b>0</b> | <b>09</b> | <b>360</b>       | <b>590</b> | <b>950</b> | <b>25</b> |

## Semester - VI

| THEORY PAPERS                            |  | No. of Teaching Hours        |   |   | Marks Allocation |                  |              |                |
|--|--|------------------------------|---|---|------------------|------------------|--------------|----------------|
| Code                                     | Subject/Paper  | L                            | T | P | IA               | EA               | Total        | Credits        |
| BTEE 601                                 | Computer Architecture                                    | 3                            | 1 | 1 | 30               | 70               | 100          | 3              |
| BTEE 602                                 | Power System-II  | 3                            | 1 | 1 | 30               | 70               | 100          | 3              |
| BTEE 603                                 | Power System Protection                                  | 3                            | 1 | 1 | 30               | 70               | 100          | 3              |
| BTEE 604                                 | Electrical Energy Conversion and Auditing                | 3                            | 1 | 1 | 30               | 70               | 100          | 3              |
| BTEE 605                                 | Electric Drives  | 3                            | 1 | 1 | 30               | 70               | 100          | 3              |
| <b>Professional Elective I (any one)</b> |  |                              |   |   |                  |                  |              |                |
| BTEE 606A                                | Power System Planning                                    | 3                            | 1 | 1 | 30               | 70               | 100          | 3              |
| BTEE 606B                                | Digital Signal Processing                                |                              |   |   |                  |                  |              |                |
| BTEE 606C                                | Electrical and Hybrid Vehicles                           |                              |   |   |                  |                  |              |                |
| Sub Total                                |  | 18                           | 0 | 0 | 180              | 420              | 600          | 18             |
| <b>PRACTICALS/VIVA-VOCE</b>              |  | <b>No. of Teaching Hours</b> |   |   | <b>Sessional</b> | <b>Practical</b> | <b>Total</b> | <b>Credits</b> |
| BTEE 607                                 | Power System-II Lab                                      | 1                            | 1 | 2 | 30               | 20               | 50           | 1              |
| BTEE 608                                 | Electric Drives Lab                                      | 1                            | 1 | 2 | 30               | 20               | 50           | 1              |
| BTEE 609                                 | Power System Protection Lab                              | 1                            | 1 | 2 | 30               | 20               | 50           | 1              |
| BTEE 610                                 | Modelling and Simulation lab                             | 1                            | 1 | 2 | 30               | 20               | 50           | 1              |
| BTEE 611                                 | Social Outreach, Discipline & Extra Curricular Activates | 1                            | 1 | 1 | 1                | 50               | 50           | 1              |
| <b>Sub Total</b>                         |  | 0                            | 0 | 8 | 120              | 130              | 250          | 5              |
| <b>TOTAL OF VI SEMESTER</b>              |  | 18                           | 0 | 8 | 300              | 550              | 850          | 23             |



### Semester – VII

| THEORY PAPERS                            |   | No. of Teaching Hours |          |          | Marks Allocation |            |            |           |
|--|---|-----------------------|----------|----------|------------------|------------|------------|-----------|
| <b>Professional Elective I (any one)</b> |   |                       |          |          |                  |            |            |           |
| Code                                     | Subject/Paper   | L                     | T        | P        | IA               | EA         | Total      | Credits   |
| BTEE 701A                                | Wind & Solar Energy Systems                               |                       |          |          |                  |            |            |           |
| BTEE 701B                                | Power Quality and FACTS                                   | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEE 701C                                | Control System Design                                     |                       |          |          |                  |            |            |           |
| <b>Open Elective I (any one)</b>         |   |                       |          |          |                  |            |            |           |
| BTEE 702A                                | Principle of Electronic Communication                     |                       |          |          |                  |            |            |           |
| BTEE 702B                                | Water Pollution Control Engineering                       | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEE 702C                                | Micro and Smart System Technology                         |                       |          |          |                  |            |            |           |
| Sub Total                                |   | 6                     | 0        | 0        | 60               | 140        | 200        | 6         |
| <b>PRACTICALS/VIVA-VOCE</b>              |   | No. of Teaching Hours |          |          | Sessional        | Practical  | Total      | Credits   |
| BTEE 703                                 | Embedded System Lab                                       | -                     | -        | 4        | 60               | 40         | 100        | 2         |
| BTEE 704                                 | Advanced Control System Lab                               | -                     | -        | 4        | 60               | 40         | 100        | 2         |
| BTEE 705                                 | Industrial Training                                       | 1                     | -        | 0        | 30               | 20         | 50         | 1         |
| BTEE 706                                 | Seminar   | 2                     | -        | 0        | 30               | 20         | 50         | 1         |
| BTEE 707                                 | Social Outreach, Discipline & Extra Curricular Activities | 1                     | 1        | 0        | 1                | 1          | 50         | 1         |
| Sub Total                                |   | 3                     | 0        | 8        | 180              | 120        | 350        | 7         |
| <b>TOTAL OF VII SEMESTER</b>             |   | <b>9</b>              | <b>0</b> | <b>8</b> | <b>240</b>       | <b>260</b> | <b>550</b> | <b>13</b> |

**Semester - VIII**

| THEORY PAPERS                            |  | No. of Teaching Hours        |          |          | Marks Allocation  |                   |              |                 |
|--|--|------------------------------|----------|----------|-------------------|-------------------|--------------|-----------------|
| <b>Professional Elective I (any one)</b> |  |                              |          |          |                   |                   |              |                 |
| Code                                     | Subject/Paper  | L                            | T        | P        | IA                | EA                | Total        | Credits         |
| BTEE 801A                                | HVDC Transmission System                                 |                              |          |          |                   |                   |              |                 |
| BTEE 801B                                | Line Commutated & Active Rectifiers                      | 3                            | -        | -        | 30                | 70                | 100          | 3               |
| BTEE 801C                                | Advanced Electric Drives                                 |                              |          |          |                   |                   |              |                 |
| <b>Open Elective I (any one)</b>         |  |                              |          |          |                   |                   |              |                 |
| BTEE 802A                                | Electrical & Electronic Ceramics                         |                              |          |          |                   |                   |              |                 |
| BTEE 802B                                | Robotics and Control                                     | 3                            | -        | -        | 30                | 70                | 100          | 3               |
| BTEE 802C                                | Composite Materials                                      |                              |          |          |                   |                   |              |                 |
| Sub Total                                |  | 6                            | 0        | 0        | 60                | 140               | 200          | 6               |
| <b>PRACTICALS/VIVA-VOCE</b>              |  | <b>No. of Teaching Hours</b> |          |          | <b>Sessi onal</b> | <b>Pract ical</b> | <b>Total</b> | <b>Cre dits</b> |
| BTEE 803                                 | Energy System Lab  | 1                            | 1        | 4        | 60                | 40                | 100          | 2               |
| BTEE 804                                 | Project  | 3                            | -        | -        | 120               | 80                | 200          | 4               |
| BTEE 805                                 | Social Outreach, Discipline & Extra Curricular Activates | 1                            |          | 1        | 1                 | 1                 | 50           | 1               |
| Sub Total                                |  | 3                            | 0        | 4        | 180               | 160               | 350          | 7               |
| <b>TOTAL OF VIII SEMESTER</b>            |  | <b>9</b>                     | <b>0</b> | <b>4</b> | <b>240</b>        | <b>260</b>        | <b>600</b>   | <b>13</b>       |



**Faculty of Engineering & Technology**

**B. Tech.**

**(Electrical Engineering)**

**(2018-19)**

**Program Structure**

## B.Tech. (EE) Course Structure (2018-19)

### Semester – I

| THEORY PAPERS             |   | No. of Teaching Hours |   |    | Marks Allocation |           |       | Credits |
|---------------------------|---|-----------------------|---|----|------------------|-----------|-------|---------|
| Code                      | Subject/Paper   | L                     | T | P  | IA               | EA        | Total |         |
| BTBSC 101                 | Engineering Mathematics-I   | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BTBSC 102                 | Engineering Physics   | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BTHSMC 103                | Communication Skills  | 2                     | - | -  | 30               | 70        | 100   | 2       |
| BTESC 104                 | Programming for Problem Solving   | 2                     | - | -  | 30               | 70        | 100   | 2       |
| BTESC 105A/<br>BTESC 105B | Basic Electrical Engineering/ Basic Civil Engineering                     | 2                     | - | -  | 30               | 70        | 100   | 2       |
| PRACTICALS/<br>VIVA VOCE  |   | No. of Teaching Hours |   |    | Sessional        | Practical | Total | Credits |
| BTBSC 106                 | Engineering Physics Lab   | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTHSMC 107                | Language Lab  | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTESC 108                 | Computer Programming Lab  | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTESC109A/<br>BTESC109B   | Basic Electrical Electronics Engineering Lab/ Basic Civil Engineering Lab | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTESC 110                 | Computer Aided Engineering Graphics Lab                                   | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTSODECA111               | Discipline  | -                     | - | -  | -                | -         | 50    | 1       |
| <b>Total</b>              |   | 12                    | 2 | 10 | 300              | 450       | 800   | 20      |

## Semester - II

| THEORY PAPERS            |   | No. of Teaching Hours |   |    | Marks Allocation |           |       |         |
|--------------------------|---|-----------------------|---|----|------------------|-----------|-------|---------|
| Code                     | Subject/Paper   | L                     | T | P  | IA               | EA        | Total | Credits |
| BTBSC 201                | Engineering Mathematics-II                                    | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BTBSC 202                | Engineering Chemistry   | 3                     | 1 | -  | 30               | 70        | 100   | 4       |
| BTHSMC 203               | Human Values  | 2                     | - | -  | 30               | 70        | 100   | 2       |
| BTESC 204                | Basic Mechanical Engineering                                  | 2                     | - | -  | 30               | 70        | 100   | 2       |
| BTESC205A/<br>BTESC205B  | Basic Civil Engineering/ Basic Electrical Engineering         | 2                     | - | -  | 30               | 70        | 100   | 2       |
| BTHSMC 206               | Advanced English  | 2                     | - | -  | 30               | 70        | 100   | 2       |
| PRACTICALS/<br>VIVA VOCE |   | No. of Teaching Hours |   |    | Sessional        | Practical | Total | Credits |
| BTBSC 207                | Engineering Chemistry Lab                                     | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTHSMC 208               | Human Values Activities                                       | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTESC 209                | Manufacturing Practices Workshop                              | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTESC210A/<br>BTESC 210B | Basic Civil Engineering Lab/ Basic Electrical Engineering Lab | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTESC 211                | Computer Aided Machine Drawing Lab                            | -                     | - | 2  | 30               | 20        | 50    | 1       |
| BTSODECA212              | Discipline  | -                     | - | -  | -                | -         | 50    | 1       |
|                          | Total   | 14                    | 2 | 10 | 330              | 520       | 900   | 22      |

### Semester - III

| THEORY PAPERS                |  | No. of Teaching Hours |          |          | Marks Allocation |            |            |           |
|------------------------------|--|-----------------------|----------|----------|------------------|------------|------------|-----------|
| Code                         | Subject/Paper  | L                     | T        | P        | IA               | EA         | Total      | Credits   |
| BTEEBSC301                   | Advance Mathematics                                      | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEEHSMC302                  | Managerial Economics and Financial Accounting            | 2                     | -        | -        | 30               | 70         | 100        | 2         |
| BTEEESC303                   | Power generation Process                                 | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEEPCC304                   | Electrical Circuit Analysis                              | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEEPCC305                   | Analog Electronics                                       | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEEPCC306                   | Electrical Machine-I                                     | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEEPCC307                   | Electromagnetic Field                                    | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| Sub Total                    |  | 20                    | 0        | 0        | 210              | 490        | 700        | 20        |
| <i>PRACTICALS/VIVA-VOCE</i>  |  | No. of Teaching Hours |          |          | Sessional        | Practical  | Total      | Credits   |
| BTEEPCC308                   | Analog Electronics Lab                                   | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPCC309                   | Electrical Machine-I Lab                                 | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPCC310                   | Electrical Circuit Design Lab                            | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPSIT311                  | Industrial Training / Seminar                            | -                     | -        | 2        | -                | -          | 50         | 1         |
| BTEESODECA312                | Social Outreach, Discipline & Extra Curricular Activates | -                     | -        | -        | -                | -          | 50         | 1         |
| Sub Total                    |  | 0                     | 0        | 8        | 90               | 60         | 250        | 5         |
| <b>TOTAL OF III SEMESTER</b> |  | <b>20</b>             | <b>0</b> | <b>8</b> | <b>300</b>       | <b>550</b> | <b>950</b> | <b>25</b> |

**Semester – IV**

| <b>THEORY PAPERS</b>         |  | <b>No. of Teaching Hours</b> |          |          | <b>Marks Allocation</b> |                  |              |                |
|------------------------------|--|------------------------------|----------|----------|-------------------------|------------------|--------------|----------------|
| <b>Code</b>                  | <b>Subject/Paper</b>                                     | <b>L</b>                     | <b>T</b> | <b>P</b> | <b>IA</b>               | <b>EA</b>        | <b>Total</b> | <b>Credits</b> |
| BTEEBSC401                   | Biology  | 2                            | 1        | 1        | 30                      | 70               | 100          | 2              |
| BTEEHSMC402                  | Technical Communication                                  | 2                            | 1        | 1        | 30                      | 70               | 100          | 2              |
| BTEE ESC 403                 | Electronic Measurement & Instrumentation                 | 3                            | 1        | 1        | 30                      | 70               | 100          | 3              |
| BTEE PCC 404                 | Electrical Machine-II                                    | 3                            | 1        | 1        | 30                      | 70               | 100          | 3              |
| BTEE PCC 405                 | Power Electronics  | 3                            | 1        | 1        | 30                      | 70               | 100          | 3              |
| BTEE PCC 406                 | Signals & Systems  | 3                            | 1        | 1        | 30                      | 70               | 100          | 3              |
| BTEE PCC 407                 | Digital Electronics                                      | 3                            | 1        | 1        | 30                      | 70               | 100          | 3              |
| <b>Sub Total</b>             |  | <b>19</b>                    | <b>0</b> | <b>0</b> | <b>210</b>              | <b>490</b>       | <b>700</b>   | <b>19</b>      |
| <b>PRACTICALS/VIVA-VOCE</b>  |  |                              |          |          | <b>Sessional</b>        | <b>Practical</b> | <b>Total</b> | <b>Credits</b> |
| BTEE PCC 408                 | Electrical Machine-II Lab                                | 1                            | 1        | 2        | 30                      | 20               | 50           | 1              |
| BTEE PCC 409                 | Power Electronics Lab                                    | 1                            | 1        | 2        | 30                      | 20               | 50           | 1              |
| BTEE PCC 410                 | Digital Electronics Lab                                  | 1                            | 1        | 2        | 30                      | 20               | 50           | 1              |
| BTEE PCC 411                 | Measurement Lab  | 1                            | 1        | 2        | 30                      | 20               | 50           | 1              |
| BTEESODECA412                | Social Outreach, Discipline & Extra Curricular Activates | 1                            | 1        | 1        | 1                       | 1                | 50           | 1              |
| <b>Sub Total</b>             |  | <b>0</b>                     | <b>0</b> | <b>8</b> | <b>120</b>              | <b>80</b>        | <b>250</b>   | <b>5</b>       |
| <b>TOTAL OF IV SEMEESTER</b> |  | <b>19</b>                    | <b>0</b> | <b>8</b> | <b>330</b>              | <b>570</b>       | <b>950</b>   | <b>24</b>      |

**Semester – V**

| THEORY PAPERS                            |  | No. of Teaching Hours |          |           | Marks Allocation |            |            |           |
|--|--|-----------------------|----------|-----------|------------------|------------|------------|-----------|
| Code                                     | Subject/Paper  | L                     | T        | P         | IA               | EA         | Total      | Credits   |
| BTEEESC501                               | Electrical Materials                                     | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPCC502                               | Power System – I   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPCC503                               | Control System   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPCC504                               | Microprocessor   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPCC505                               | Electrical Machine Design                                | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| <b>Professional Elective I (any one)</b> |  |                       |          |           |                  |            |            |           |
| BTEEPEC506A                              | Restructured Power System                                | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPEC506B                              | Electromagnetic Wave                                     |                       |          |           |                  |            |            |           |
| BTEEPEC506C                              | Digital Control System                                   |                       |          |           |                  |            |            |           |
| Sub Total                                |  | 18                    | 0        | 0         | 180              | 420        | 600        | 18        |
| <b>PRACTICALS/VIVA-VOCE</b>              |  | No. of Teaching Hours |          |           | Sessional        | Practical  | Total      | Credits   |
| BTEEPCC507                               | Power System-I Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEEPCC508                               | Control System Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEEPCC509                               | Microprocessor Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEEPCC510                               | System Programming Lab                                   | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEEPSIT511                              | Industrial Training                                      |                       |          | 2         | 60               | 40         | 100        | 2         |
| BTEESODECA512                            | Social Outreach, Discipline & Extra Curricular Activates | -                     | -        | -         | -                | -          | 50         | 1         |
| Sub Total                                |  | 0                     | 0        | 10        | 180              | 120        | 350        | 7         |
| <b>TOTAL OF V SEMESTER</b>               |  | <b>18</b>             | <b>0</b> | <b>10</b> | <b>360</b>       | <b>540</b> | <b>950</b> | <b>25</b> |



**Semester – VI**

| THEORY PAPERS                            |   | No. of Teaching Hours |          |          | Marks Allocation |            |            |           |
|--|---|-----------------------|----------|----------|------------------|------------|------------|-----------|
| Code                                     | Subject/Paper   | L                     | T        | P        | IA               | EA         | Total      | Credits   |
| BTEEESC601                               | Computer Architecture                                     | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEEPCC602                               | Power System-II   | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEEPCC603                               | Power System Protection                                   | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEEPCC604                               | Electrical Energy Conversion and Auditing                 | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEEPCC605                               | Electric Drives   | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| <b>Professional Elective I (any one)</b> |   |                       |          |          |                  |            |            |           |
| BTEEPEC606A                              | Power System Planning                                     | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEEPEC606B                              | Digital Signal Processing                                 |                       |          |          |                  |            |            |           |
| BTEEPEC606C                              | Electrical and Hybrid Vehicles                            |                       |          |          |                  |            |            |           |
| Sub Total                                |   | 18                    | 0        | 0        | 180              | 420        | 600        | 18        |
| <i>PRACTICALS/VIVA-VOCE</i>              |   | No. of Teaching Hours |          |          | Sessional        | Practical  | Total      | Credits   |
| BTEEPCC607                               | Power System-II Lab                                       | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPCC608                               | Electric Drives Lab                                       | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPCC609                               | Power System Protection Lab                               | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPCC610                               | Modelling and Simulation Lab                              | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEESODECA611                            | Social Outreach, Discipline & Extra Curricular Activities | -                     | -        | -        | -                | -          | 50         | 1         |
| Sub Total                                |   | 0                     | 0        | 8        | 120              | 80         | 250        | 5         |
| <b>TOTAL OF VI SEMESTER</b>              |   | <b>18</b>             | <b>0</b> | <b>8</b> | <b>300</b>       | <b>500</b> | <b>850</b> | <b>23</b> |

### Semester – VII

| THEORY PAPERS                            |  | No. of Teaching Hours |   |   | Marks Allocation |           |       |         |
|--|--|-----------------------|---|---|------------------|-----------|-------|---------|
| <b>Professional Elective I (any one)</b> |  |                       |   |   |                  |           |       |         |
| Code                                     | Subject/Paper  | L                     | T | P | IA               | EA        | Total | Credits |
| BTEEPEC701A                              | Wind & Solar Energy Systems.                             | 3                     |   |   |                  |           |       |         |
| BTEEPEC701B                              | Power Quality and FACTS                                  |                       |   |   |                  |           |       |         |
| BTEEPEC701C                              | Control System Design                                    |                       | - | - | 30               | 70        | 100   | 3       |
| <b>Open Elective I (any one)</b>         |  |                       |   |   |                  |           |       |         |
| BTEEOEC702A                              | Principle of Electronic Communication                    |                       |   |   |                  |           |       |         |
| BTEEOEC702B                              | Water Pollution Control Engineering                      |                       |   |   |                  |           |       |         |
| BTEEOEC702C                              | Micro and Smart System Technology                        | 3                     | - | - | 30               | 70        | 100   | 3       |
| Sub Total                                |  | 6                     | 0 | 0 | 60               | 140       | 200   | 6       |
|  |  | No. of Teaching Hours |   |   | Sessional        | Practical | Total | Credits |
| <b>PRACTICALS/VIVA-VOCE</b>              |  |                       |   |   |                  |           |       |         |
| BTEEPCC703                               | Embedded System Lab                                      | -                     | - | 4 | 60               | 40        | 100   | 2       |
| BTEEPCC704                               | Advanced Control System Lab                              | -                     | - | 4 | 60               | 40        | 100   | 2       |
| BTEEPSIT705                              | Industrial Training                                      | 1                     | - | 0 | 30               | 20        | 50    | 1       |
| BTEEPSIT706                              | Seminar  | 2                     | - | 0 | 30               | 20        | 50    | 1       |
| BTEESODECA707                            | Social Outreach, Discipline & Extra Curricular Activates | -                     | - | 0 | -                | -         | 50    | 1       |
| <b>Sub Total</b>                         |  | 3                     | 0 | 8 | 180              | 120       | 350   | 7       |
| <b>TOTAL OF VII SEMESTER</b>             |  | 9                     | 0 | 8 | 240              | 260       | 550   | 13      |

### Semester – VIII

| THEORY PAPERS                            |  | No. of Teaching Hours |   |   | Marks Allocation |           |       |         |
|--|--|-----------------------|---|---|------------------|-----------|-------|---------|
| <b>Professional Elective I (any one)</b> |  |                       |   |   |                  |           |       |         |
| Code                                     | Subject/Paper  | L                     | T | P | IA               | EA        | Total | Credits |
| BTEEPEC801A                              | HVDC Transmission System                                 | 3                     |   |   |                  |           |       |         |
| BTEEPEC801B                              | Line Commutated & Active Rectifiers                      |                       |   |   |                  |           |       |         |
| BTEEPEC801C                              | Advanced Electric Drives.                                |                       |   | - | -                | 30        | 70    | 100     |
| <b>Open Elective I (any one)</b>         |  |                       |   |   |                  |           |       |         |
| BTEEOEC802A                              | Electrical & Electronic Ceramics                         | 3                     |   |   |                  |           |       |         |
| BTEEOEC802B                              | Robotics and Control                                     |                       |   |   |                  |           |       |         |
| BTEEOEC802C                              | Composite Materials                                      |                       |   | - | -                | 30        | 70    | 100     |
| Sub Total                                |  | 6                     | 0 | 0 | 60               | 140       | 200   | 6       |
|  |  | No. of Teaching Hours |   |   | Sessional        | Practical | Total | Credits |
| <i>PRACTICALS/VIVA-VOCE</i>              |  |                       |   |   |                  |           |       |         |
| BTEEPCC803                               | Energy System Lab  |                       |   | 4 | 60               | 40        | 100   | 2       |
| BTEEPSIT804                              | Project  | 3                     |   |   | 120              | 80        | 200   | 4       |
| BTEESODECA805                            | Social Outreach, Discipline & Extra Curricular Activates |                       |   |   |                  |           | 50    | 1       |
| <b>Sub Total</b>                         |  | 3                     | 0 | 4 | 180              | 120       | 350   | 7       |
| <b>TOTAL OF VIII SEMESTER</b>            |  | 9                     | 0 | 4 | 240              | 260       | 600   | 13      |



**Faculty of Engineering & Technology**

**B. Tech.**

**(Electrical Engineering)**

**(2019-20)**

**Program Structure**

## B.Tech. (EE) Course Structure (2019-20)

### Semester – I

| THEORY PAPERS             |  | No. of Teaching Hours |   |    | Marks Allocation |           |       |         |
|---------------------------|--|-----------------------|---|----|------------------|-----------|-------|---------|
| Code                      | Subject/Paper  | L                     | T | P  | IA               | EA        | Total | Credits |
| BTBSC 101                 | Engineering Mathematics-I  | 3                     | 1 | 1  | 30               | 70        | 100   | 4       |
| BTBSC 102                 | Engineering Physics  | 3                     | 1 | 1  | 30               | 70        | 100   | 4       |
| BTHSMC 103                | Communication Skills   | 2                     | 1 | 1  | 30               | 70        | 100   | 2       |
| BTESC 104                 | Programming for Problem Solving                                  | 2                     | 1 | 1  | 30               | 70        | 100   | 2       |
| BTESC 105A/<br>BTESC 105B | Basic Electrical Engineering/<br>Basic Civil Engineering         | 2                     | 1 | 1  | 30               | 70        | 100   | 2       |
| PRACTICAL S/ VIVA VOCE    |  | No. of Teaching Hours |   |    | Sessional        | Practical | Total | Credits |
| BTBSC 106                 | Engineering Physics Lab  | 1                     | 1 | 2  | 30               | 20        | 50    | 1       |
| BTHSMC 107                | Language Lab   | 1                     | 1 | 2  | 30               | 20        | 50    | 1       |
| BTESC 108                 | Computer Programming Lab   | 1                     | 1 | 2  | 30               | 20        | 50    | 1       |
| BTESC109A/<br>BTESC109B   | Basic Electrical Engineering Lab/<br>Basic Civil Engineering Lab | 1                     | 1 | 2  | 30               | 20        | 50    | 1       |
| BTESC 110                 | Computer Aided Engineering Graphics                              | 1                     | 1 | 2  | 30               | 20        | 50    | 1       |
| BTSODECA1<br>11           | Social Outreach, Discipline &<br>Extra Curricular Activities     | 1                     | 1 | 1  | 1                | 1         | 50    | 1       |
| <b>Total</b>              |  | 12                    | 2 | 10 | 300              | 450       | 800   | 20      |

## Semester - II

| THEORY PAPERS            |  | No. of Teaching Hours |   |   | Marks Allocation |           |       |         |
|--------------------------|--|-----------------------|---|---|------------------|-----------|-------|---------|
| Code                     | Subject/Paper  | L                     | T | P | IA               | EA        | Total | Credits |
| BTBSC 201                | Engineering Mathematics-II                                       | 3                     | 1 | - | 30               | 70        | 100   | 4       |
| BTBSC 202                | Engineering Chemistry  | 3                     | 1 | - | 30               | 70        | 100   | 4       |
| BTHSMC 203               | Human Values   | 2                     | - | - | 30               | 70        | 100   | 2       |
| BTESC 204                | Basic Mechanical Engineering                                     | 2                     | - | - | 30               | 70        | 100   | 2       |
| BTESC205A/<br>BTESC205B  | Basic Civil Engineering/<br>Basic Electrical Engineering         | 2                     | - | - | 30               | 70        | 100   | 2       |
| BTHSMC 206               | Advanced English   | 2                     | - | - | 30               | 70        | 100   | 2       |
| PRACTICALS/<br>VIVA VOCE |  | No. of Teaching Hours |   |   | Sessional        | Practical | Total | Credits |
| BTBSC 207                | Engineering Chemistry Lab  | -                     | - | 2 | 30               | 20        | 50    | 1       |
| BTHSMC 208               | Human Values Activities  | -                     | - | 2 | 30               | 20        | 50    | 1       |
| BTESC 209                | Manufacturing Practices Workshop                                 | -                     | - | 2 | 30               | 20        | 50    | 1       |
| BTESC210A/<br>BTESC 210B | Basic Civil Engineering Lab/<br>Basic Electrical Engineering Lab | -                     | - | 2 | 30               | 20        | 50    | 1       |
| BTESC 211                | Computer Aided Machine Drawing                                   | -                     | - | 2 | 30               | 20        | 50    | 1       |
| BTSODECA212              | Social Outreach, Discipline & Extra Curricular Activities        | -                     | - | - | -                | -         | 50    | 1       |

### Semester – III

| THEORY PAPERS                |  | No. of Teaching Hours |   |   | Marks Allocation |               |       |         |
|------------------------------|--|-----------------------|---|---|------------------|---------------|-------|---------|
| Code                         | Subject/Paper  | L                     | T | P | IA               | EA            | Total | Credits |
| BTEEBSC301                   | Advance Mathematics                                      | 3                     | - | - | 30               | 70            | 100   | 3       |
| BTEEHSMC302                  | Managerial Economics and Financial Accounting            | 2                     | - | - | 30               | 70            | 100   | 2       |
| BTEEESC303                   | Power generation Process                                 | 3                     | - | - | 30               | 70            | 100   | 3       |
| BTEEPCC304                   | Electrical Circuit Analysis                              | 3                     | - | - | 30               | 70            | 100   | 3       |
| BTEEPCC305                   | Analog Electronics                                       | 3                     | - | - | 30               | 70            | 100   | 3       |
| BTEEPCC306                   | Electrical Machine-I                                     | 3                     | - | - | 30               | 70            | 100   | 3       |
| BTEEPCC307                   | Electromagnetic Field                                    | 3                     | - | - | 30               | 70            | 100   | 3       |
| Sub Total                    |  | 20                    | 0 | 0 | 210              | 490           | 700   | 20      |
| <i>PRACTICALS/VIVA-VOCE</i>  |  | No. of Teaching Hours |   |   | Sessio<br>nal    | Pract<br>ical | Total | Credits |
| BTEEPCC308                   | Analog Electronics Lab                                   | -                     | - | 2 | 30               | 20            | 50    | 1       |
| BTEEPCC309                   | Electrical Machine-I Lab                                 | -                     | - | 2 | 30               | 20            | 50    | 1       |
| BTEEPCC310                   | Electrical Circuit Design Lab                            | -                     | - | 2 | 30               | 20            | 50    | 1       |
| BTEEPSIT311                  | Industrial Training / Seminar                            | -                     | - | 2 | -                | -             | 50    | 1       |
| BTEESODECA3<br>12            | Social Outreach, Discipline & Extra Curricular Activates | -                     | - | - | -                | -             | 50    | 1       |
| Sub Total                    |  | 0                     | 0 | 8 | 90               | 60            | 250   | 5       |
| <b>TOTAL OF III SEMESTER</b> |  | 20                    | 0 | 8 | 300              | 550           | 950   | 25      |

### Semester – IV

| THEORY PAPERS                |  | No. of Teaching Hours |          |          | Marks Allocation |            |            |           |
|------------------------------|--|-----------------------|----------|----------|------------------|------------|------------|-----------|
| Code                         | Subject/Paper  | L                     | T        | P        | IA               | EA         | Total      | Credits   |
| BTEEBSC401                   | Biology  | 2                     | 1        | 1        | 30               | 70         | 100        | 2         |
| BTEEHSMC402                  | Technical Communication                                  | 2                     | 1        | 1        | 30               | 70         | 100        | 2         |
| BTEE ESC 403                 | Electronic Measurement & Instrumentation                 | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEE PCC 404                 | Electrical Machine-II                                    | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEE PCC 405                 | Power Electronics  | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEE PCC 406                 | Signals & Systems  | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEE PCC 407                 | Digital Electronics                                      | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| <b>Sub Total</b>             |  | <b>19</b>             | <b>0</b> | <b>0</b> | <b>210</b>       | <b>490</b> | <b>700</b> | <b>19</b> |
| <i>PRACTICALS/VIVA-VOCE</i>  |  |                       |          |          | Sessional        | Practical  | Total      | Credits   |
| BTEE PCC 408                 | Electrical Machine-II Lab                                | 1                     | 1        | 2        | 30               | 20         | 50         | 1         |
| BTEE PCC 409                 | Power Electronics Lab                                    | 1                     | 1        | 2        | 30               | 20         | 50         | 1         |
| BTEE PCC 410                 | Digital Electronics Lab                                  | 1                     | 1        | 2        | 30               | 20         | 50         | 1         |
| BTEE PCC 411                 | Measurement Lab  | 1                     | 1        | 2        | 30               | 20         | 50         | 1         |
| BTEESODECA412                | Social Outreach, Discipline & Extra Curricular Activates | 1                     | 1        | 1        | 1                | 1          | 50         | 1         |
| <b>Sub Total</b>             |  | <b>0</b>              | <b>0</b> | <b>8</b> | <b>120</b>       | <b>80</b>  | <b>250</b> | <b>5</b>  |
| <b>TOTAL OF IV SEMEESTER</b> |  | <b>19</b>             | <b>0</b> | <b>8</b> | <b>330</b>       | <b>570</b> | <b>950</b> | <b>24</b> |



**Semester – V**

| THEORY PAPERS                            |  | No. of Teaching Hours |          |           | Marks Allocation |            |            |           |
|--|--|-----------------------|----------|-----------|------------------|------------|------------|-----------|
| Code                                     | Subject/Paper  | L                     | T        | P         | IA               | EA         | Total      | Credits   |
| BTEEESC501                               | Electrical Materials                                     | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPCC502                               | Power System – I   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPCC503                               | Control System   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPCC504                               | Microprocessor   | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPCC505                               | Electrical Machine Design                                | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| <b>Professional Elective I (any one)</b> |  |                       |          |           |                  |            |            |           |
| BTEEPEC506A                              | Restructured Power System                                | 3                     | -        | -         | 30               | 70         | 100        | 3         |
| BTEEPEC506B                              | Electromagnetic Wave                                     |                       |          |           |                  |            |            |           |
| BTEEPEC506C                              | Digital Control System                                   |                       |          |           |                  |            |            |           |
| Sub Total                                |  | 18                    | 0        | 0         | 180              | 420        | 600        | 18        |
| <b>PRACTICALS/VIVA-VOCE</b>              |  | No. of Teaching Hours |          |           | Sessional        | Practical  | Total      | Credits   |
| BTEEPCC507                               | Power System-I Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEEPCC508                               | Control System Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEEPCC509                               | Microprocessor Lab                                       | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEEPCC510                               | System Programming Lab                                   | -                     | -        | 2         | 30               | 20         | 50         | 1         |
| BTEEPSIT511                              | Industrial Training                                      |                       |          | 2         | 60               | 40         | 100        | 2         |
| BTEESODECA512                            | Social Outreach, Discipline & Extra Curricular Activates | -                     | -        | -         | -                | -          | 50         | 1         |
| Sub Total                                |  | 0                     | 0        | 10        | 180              | 120        | 350        | 7         |
| <b>TOTAL OF V SEMESTER</b>               |  | <b>18</b>             | <b>0</b> | <b>10</b> | <b>360</b>       | <b>540</b> | <b>950</b> | <b>25</b> |

**Semester – VI**

| THEORY PAPERS                            |   | No. of Teaching Hours |          |          | Marks Allocation |            |            |           |
|--|---|-----------------------|----------|----------|------------------|------------|------------|-----------|
| Code                                     | Subject/Paper   | L                     | T        | P        | IA               | EA         | Total      | Credits   |
| BTEEESC601                               | Computer Architecture                                     | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEEPCC602                               | Power System-II   | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEEPCC603                               | Power System Protection                                   | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEEPCC604                               | Electrical Energy Conversion and Auditing                 | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| BTEEPCC605                               | Electric Drives   | 3                     | 1        | 1        | 30               | 70         | 100        | 3         |
| <b>Professional Elective I (any one)</b> |   |                       |          |          |                  |            |            |           |
| BTEEPEC606A                              | Power System Planning                                     | 3                     | -        | -        | 30               | 70         | 100        | 3         |
| BTEEPEC606B                              | Digital Signal Processing                                 |                       |          |          |                  |            |            |           |
| BTEEPEC606C                              | Electrical and Hybrid Vehicles                            |                       |          |          |                  |            |            |           |
| Sub Total                                |   | 18                    | 0        | 0        | 180              | 420        | 600        | 18        |
| <i>PRACTICALS/VIVA-VOCE</i>              |   | No. of Teaching Hours |          |          | Sessional        | Practical  | Total      | Credits   |
| BTEEPCC607                               | Power System-II Lab                                       | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPCC608                               | Electric Drives Lab                                       | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPCC609                               | Power System Protection Lab                               | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEEPCC610                               | Modelling and Simulation Lab                              | -                     | -        | 2        | 30               | 20         | 50         | 1         |
| BTEESODECA611                            | Social Outreach, Discipline & Extra Curricular Activities | -                     | -        | -        | -                | -          | 50         | 1         |
| Sub Total                                |   | 0                     | 0        | 8        | 120              | 80         | 250        | 5         |
| <b>TOTAL OF VI SEMESTER</b>              |   | <b>18</b>             | <b>0</b> | <b>8</b> | <b>300</b>       | <b>500</b> | <b>850</b> | <b>23</b> |

### Semester – VII

| THEORY PAPERS                            |  | No. of Teaching Hours |   |   | Marks Allocation |           |       |         |
|--|--|-----------------------|---|---|------------------|-----------|-------|---------|
| <b>Professional Elective I (any one)</b> |  |                       |   |   |                  |           |       |         |
| Code                                     | Subject/Paper  | L                     | T | P | IA               | EA        | Total | Credits |
| BTEEPEC701A                              | Wind & Solar Energy Systems.                             | 3                     |   |   |                  |           |       |         |
| BTEEPEC701B                              | Power Quality and FACTS                                  |                       |   |   |                  |           |       |         |
| BTEEPEC701C                              | Control System Design                                    |                       | - | - | 30               | 70        | 100   | 3       |
| <b>Open Elective I (any one)</b>         |  |                       |   |   |                  |           |       |         |
| BTEEOEC702A                              | Principle of Electronic Communication                    |                       |   |   |                  |           |       |         |
| BTEEOEC702B                              | Water Pollution Control Engineering                      |                       |   |   |                  |           |       |         |
| BTEEOEC702C                              | Micro and Smart System Technology                        | 3                     | - | - | 30               | 70        | 100   | 3       |
| Sub Total                                |  | 6                     | 0 | 0 | 60               | 140       | 200   | 6       |
|  |  | No. of Teaching Hours |   |   | Sessional        | Practical | Total | Credits |
| <b>PRACTICALS/VIVA-VOCE</b>              |  |                       |   |   |                  |           |       |         |
| BTEEPCC703                               | Embedded System Lab                                      | -                     | - | 4 | 60               | 40        | 100   | 2       |
| BTEEPCC704                               | Advanced Control System Lab                              | -                     | - | 4 | 60               | 40        | 100   | 2       |
| BTEEPSIT705                              | Industrial Training                                      | 1                     | - | 0 | 30               | 20        | 50    | 1       |
| BTEEPSIT706                              | Seminar  | 2                     | - | 0 | 30               | 20        | 50    | 1       |
| BTEESODECA707                            | Social Outreach, Discipline & Extra Curricular Activates | -                     | - | 0 | -                | -         | 50    | 1       |
| <b>Sub Total</b>                         |  | 3                     | 0 | 8 | 180              | 120       | 350   | 7       |
| <b>TOTAL OF VII SEMESTER</b>             |  | 9                     | 0 | 8 | 240              | 260       | 550   | 13      |

### Semester – VIII

| THEORY PAPERS                            |   | No. of Teaching Hours |   |   | Marks Allocation |           |       |         |
|--|---|-----------------------|---|---|------------------|-----------|-------|---------|
| <b>Professional Elective I (any one)</b> |   |                       |   |   |                  |           |       |         |
| Code                                     | Subject/Paper   | L                     | T | P | IA               | EA        | Total | Credits |
| BTEEPEC801A                              | HVDC Transmission System                                  | 3                     |   |   |                  |           |       |         |
| BTEEPEC801B                              | Line Commutated & Active Rectifiers                       |                       |   |   |                  |           |       |         |
| BTEEPEC801C                              | Advanced Electric Drives.                                 |                       |   |   |                  | 30        | 70    | 100     |
| <b>Open Elective I (any one)</b>         |   |                       |   |   |                  |           |       |         |
| BTEEOEC802A                              | Electrical & Electronic Ceramics                          | 3                     |   |   |                  |           |       |         |
| BTEEOEC802B                              | Robotics and Control                                      |                       |   |   |                  |           |       |         |
| BTEEOEC802C                              | Composite Materials                                       |                       |   |   |                  | 30        | 70    | 100     |
| Sub Total                                |   | 6                     | 0 | 0 | 60               | 140       | 200   | 6       |
|  |   | No. of Teaching Hours |   |   | Sessional        | Practical | Total | Credits |
| <i>PRACTICALS/VIVA-VOCE</i>              |   |                       |   |   |                  |           |       |         |
| BTEEPCC803                               | Energy System Lab   |                       |   | 4 | 60               | 40        | 100   | 2       |
| BTEEPSIT804                              | Project   | 3                     |   |   | 120              | 80        | 200   | 4       |
| BTEESODECA805                            | Social Outreach, Discipline & Extra Curricular Activities |                       |   |   |                  |           | 50    | 1       |
| <b>Sub Total</b>                         |   | 3                     | 0 | 4 | 180              | 120       | 350   | 7       |
| <b>TOTAL OF VIII SEMESTER</b>            |   | 9                     | 0 | 4 | 240              | 260       | 600   | 13      |