

## COURSE STRUCTURE FOR B. TECH. ETC Engg

| <b><u>First Semester</u></b>      |      |   |                     |                 |          |          |           |                  |            |
|-----------------------------------|------|---|---------------------|-----------------|----------|----------|-----------|------------------|------------|
| Sl. No.                           | Type | Course Name   | Course code         | Class Load/Week |          |          | Credit    | Class load/ week | Marks      |
|                                   |      |   |                     | L               | T        | P        |           |                  |            |
| 1                                 | BSC  | Engineering Mathematics – I   | MA1101N             | 3               | 1        | 0        | 4         | 4                | 100        |
| 2                                 | BSC  | Engineering Chemistry   | CH1101N             | 3               | 0        | 0        | 3         | 3                | 100        |
| 3                                 | ESC  | Introduction to Computing   | CS1101N             | 3               | 0        | 0        | 3         | 3                | 100        |
| 4                                 | ESC  | Basic Electrical Engineering  | EE1101N             | 3               | 0        | 0        | 3         | 3                | 100        |
| 5                                 | VAC  | Well-being and happiness  | HU1102N             | 2               | 0        | 0        | 2         | 2                | 50         |
| 6                                 | HSC  | Professional communication in English   | HU1101N             | 2               | 1        | 0        | 3         | 3                | 100        |
|                                   |      | <b>Theory Sub-total</b>   |                     | <b>16</b>       | <b>2</b> | <b>0</b> | <b>18</b> | <b>18</b>        | <b>550</b> |
| 7                                 | ESC  | Workshop  | WS1171N             | 0               | 0        | 3        | 2         | 3                | 50         |
| 8                                 | ESC  | Basic Electrical Engineering Lab  | EE1171N             | 0               | 0        | 3        | 2         | 3                | 50         |
| 9                                 | ESC  | Computer Programming Practices  | CS1171N             | 0               | 0        | 3        | 2         | 3                | 50         |
| 10                                |      | NSS/NCC/PT/Yoga   | SA1171N             |                 |          |          | R*        |                  |            |
|                                   |      | <b>Practical Sub-total</b>  |                     | <b>0</b>        | <b>0</b> | <b>9</b> | <b>6</b>  | <b>9</b>         | <b>150</b> |
|                                   |      | <b>First Semester Total</b>   |                     | <b>16</b>       | <b>2</b> | <b>9</b> | <b>24</b> | <b>27</b>        | <b>700</b> |
| aired (Non-credit but with grade) |      |   |                     |                 |          |          |           |                  |            |
| <b><u>Second Semester</u></b>     |      |   |                     |                 |          |          |           |                  |            |
| Sl. No                            | Type | Course Name   | Course code         | Class Load/Week |          |          | Credit    | Class load/ Week | Marks      |
|                                   |      |   |                     | L               | T        | P        |           |                  |            |
| 1                                 | BSC  | Engineering Mathematics – II  | MA1201N             | 3               | 1        | 0        | 4         | 4                | 100        |
| 2                                 | BSC  | Engineering Physics   | PH1201N             | 3               | 0        | 0        | 3         | 3                | 100        |
| 3                                 | ESC  | Signals and Systems (for ETCE)  | EE1202N             | 3               | 0        | 0        | 3         | 3                | 100        |
| 4                                 | ESC  | Introduction to AI and ML   | CS1202N             | 3               | 0        | 0        | 3         | 3                | 100        |
| 5                                 | VAC  | Energy, Environment and Climate Change  | CE1201N             | 2               | 0        | 0        | 2         | 2                | 50         |
| 6                                 | ESC  | Basic Electronics (for Electrical Science)/Basic Electronics (for Non-Electrical Science) | ET1201N/<br>ET1202N | 3               | 0        | 0        | 3         | 3                | 100        |
|                                   |      | <b>Theory Sub-total</b>   |                     | <b>17</b>       | <b>1</b> | <b>0</b> | <b>18</b> | <b>18</b>        | <b>550</b> |
| 7                                 | ESC  | Engineering Graphics  | AM1271N             | 0               | 0        | 3        | 2         | 3                | 50         |
| 8                                 | BSC  | Engineering Physics Lab   | PH1271N             | 0               | 0        | 3        | 2         | 3                | 50         |
| 9                                 | PC   | Introduction to labs of the department  | ET1271N             | 0               | 0        | 3        | 2         | 3                | 50         |
| 10                                |      | NSS/NCC/PT/Yoga   | SA1271N             |                 |          |          | R*        |                  |            |
|                                   |      | <b>Practical Sub-total</b>  |                     | <b>0</b>        | <b>0</b> | <b>9</b> | <b>6</b>  | <b>9</b>         | <b>150</b> |
|                                   |      | <b>Second Semester Total</b>  |                     | <b>17</b>       | <b>1</b> | <b>9</b> | <b>24</b> | <b>27</b>        | <b>700</b> |
| aired (Non-credit but with grade) |      |   |                     |                 |          |          |           |                  |            |
| <b><u>Third Semester</u></b>      |      |   |                     |                 |          |          |           |                  |            |
| Sl. No                            | Type | Course Name   | Course              | Class Load      |          |          | Credit    | Class load       | Marks      |
|                                   |      |   |                     | L               | T        | P        |           |                  |            |
| 1                                 | BSC  | Engineering Mathematics-III   | MA2102N             | 3               | 0        | 0        | 3         | 3                | 100        |

| 2                             | ESC  | Electromagnetic Theory (for ETC Engg Dept)/<br>Electromagnetic Theory (other than ETC Engg Dept) | ET2101N/<br>ET2102N | 3               | 0 | 0  | 3      | 3                | 100   |
|-------------------------------|------|--|---------------------|-----------------|---|----|--------|------------------|-------|
| 3                             | PC   | Electronic Devices   | ET2103N             | 4               | 0 | 0  | 4      | 4                | 100   |
| 4                             | PC   | Analog and Digital Communications  | ET2103N             | 4               | 0 | 0  | 4      | 4                | 100   |
| 5                             | PC   | Network Theory   | ET2105N             | 3               | 1 | 0  | 4      | 4                | 100   |
|                               |      | <b>Theory Sub-total</b>  |                     | 17              | 1 | 0  | 18     | 18               | 500   |
| 6                             | PC   | Electronic Devices Lab   | ET2171N             | 0               | 0 | 3  | 2      | 3                | 50    |
| 7                             | PC   | Analog and Digital Communications Lab  | ET2172N             | 0               | 0 | 3  | 2      | 3                | 50    |
| 8                             | PC   | Network Theory Lab   | ET2173N             | 0               | 0 | 3  | 2      | 3                | 50    |
| 9                             | PC   | Modelling and Simulation Lab   | ET2174N             | 0               | 0 | 3  | 2      | 3                | 50    |
|                               |      | <b>Practical Sub-total</b>   |                     | 0               | 0 | 12 | 8      | 12               | 200   |
|                               |      | <b>Third Semester Total</b>  |                     | 17              | 1 | 12 | 26     | 30               | 700   |
|                               |      |  |                     |                 |   |    |        |                  |       |
| <b><u>Fourth Semester</u></b> |      |  |                     |                 |   |    |        |                  |       |
| Sl. No                        | Type | Course Name  | Course              | Class Load/Week |   |    | Credit | Class load/ week | Marks |
|                               |      |  | Code                | L               | T | P  |        |                  |       |
| 1                             | PC   | Analog Electronics   | ET2201N             | 4               | 0 | 0  | 4      | 4                | 100   |
| 2                             | PC   | Digital Electronics  | ET2202N             | 4               | 0 | 0  | 4      | 4                | 100   |
| 3                             | PC   | Transmission Lines and Antennas  | ET2203N             | 4               | 0 | 0  | 4      | 4                | 100   |
| 4                             | PSE  | Microelectronics Technology/ Electronic Instrumentation<br>and Control                           | ET2221N/<br>ET2222N | 3               | 0 | 0  | 3      | 3                | 100   |
| 5                             | OE   | Fundamentals of Electronic Communication Systems   | ET2261N             | 3               | 0 | 0  | 3      | 3                | 100   |
|                               |      | <b>Theory Sub-total</b>  |                     | 18              | 0 | 0  | 18     | 18               | 500   |
| 6                             | PC   | Analog Electronics Lab   | ET2271N             | 0               | 0 | 3  | 2      | 3                | 50    |
| 7                             | PC   | Digital Electronics Lab  | ET2272N             | 0               | 0 | 3  | 2      | 3                | 50    |
| 8                             | PC   | Transmission Lines and Antennas Lab  | ET2273N             | 0               | 0 | 3  | 2      | 3                | 50    |
| 9                             | PSE  | Microelectronics Technology Lab/ Electronic<br>Instrumentation and Control lab                   | ET2274N/<br>ET2275N | 0               | 0 | 3  | 2      | 3                | 50    |
|                               |      | <b>Practical Sub-total</b>   |                     | 0               | 0 | 12 | 8      | 12               | 200   |
|                               |      | <b>Fourth Semester Total</b>   |                     | 18              | 0 | 12 | 26     | 30               | 700   |
|                               |      |  |                     |                 |   |    |        |                  |       |
| <b><u>Fifth Semester</u></b>  |      |  |                     |                 |   |    |        |                  |       |
| Sl. No                        | Type | Course Name  | Course              | Class Load/Week |   |    | Credit | Class load/ week | Marks |
|                               |      |  | Code                | L               | T | P  |        |                  |       |
| 1                             | PC   | Integrated Circuits and Systems  | ET3101N             | 4               | 0 | 0  | 4      | 4                | 100   |
| 2                             | PC   | Digital Signal Processing  | ET3102N             | 4               | 0 | 0  | 4      | 4                | 100   |
| 3                             | PC   | Microprocessors and Microcontrollers   | ET3103N             | 3               | 0 | 0  | 3      | 3                | 100   |
| 4                             | PSE  | Microwave and Radar Engineering/ Optoelectronics and<br>Optical Communication                    | ET3121N/<br>ET3122N | 3               | 0 | 0  | 3      | 3                | 100   |
| 5                             | OE   | Mathematical Techniques in Signal Processing and<br>Communication                                | ET3161              | 3               | 0 | 0  | 3      | 3                | 100   |
|                               |      | <b>Theory Sub-total</b>  |                     | 17              | 0 | 0  | 17     | 17               | 500   |

| 6                              | PC   | Integrated Circuits and Systems Lab  | ET3171N                         | 0               | 0 | 3  | 2      | 3                 | 50    |
|--------------------------------|------|--|---------------------------------|-----------------|---|----|--------|-------------------|-------|
| 7                              | PC   | Digital Signal Processing Lab  | ET3172N                         | 0               | 0 | 3  | 2      | 3                 | 50    |
| 8                              | PC   | Microprocessors and Microcontrollers Lab   | ET3173N                         | 0               | 0 | 3  | 2      | 3                 | 50    |
| 9                              | PSE  | Microwave and Radar Engineering Lab/ Optoelectronics and Optical Communication Lab | ET3174N/<br>ET3175N             | 0               | 0 | 3  | 2      | 3                 | 50    |
|                                |      | <b>Practical Sub-total</b>   |                                 | 0               | 0 | 12 | 8      | 12                | 200   |
|                                |      | <b>Fifth Semester Total</b>  |                                 | 17              | 0 | 12 | 25     | 29                | 700   |
|                                |      |  |                                 |                 |   |    |        |                   |       |
| <b><u>Sixth Semester</u></b>   |      |  |                                 |                 |   |    |        |                   |       |
| Sl. No                         | Type | Course Name  | Course                          | Class Load/Week |   |    | Credit | Class load/ week  | Marks |
|                                |      |  | Code                            | L               | T | P  |        |                   |       |
| 1                              | PC   | VLSI and CAD   | ET3201N                         | 4               | 0 | 0  | 4      | 4                 | 100   |
| 2                              | PC   | Wireless and Mobile Communications   | ET3202N                         | 3               | 0 | 0  | 3      | 3                 | 100   |
| 3                              | PC   | Digital Image Processing and Computer Vision                                       | ET3203N                         | 3               | 0 | 0  | 3      | 3                 | 100   |
| 4                              | VAC  | Sociology & Professional Ethics  | HU3261N                         | 3               | 0 | 0  | 3      | 3                 | 100   |
| 5                              | OE   | Fundamentals of Sensors and Actuators  | ET3261N                         | 3               | 0 | 0  | 3      | 3                 | 100   |
|                                |      | <b>Theory Sub-total</b>  |                                 | 16              | 0 | 0  | 16     | 16                | 500   |
| 6                              | PC   | VLSI and CAD Lab   | ET3271N                         | 0               | 0 | 3  | 2      | 3                 | 50    |
| 7                              | PC   | Wireless and Mobile Communications Lab   | ET3272N                         | 0               | 0 | 3  | 2      | 3                 | 50    |
| 8                              | PC   | Digital Image Processing and Computer Vision Lab                                   | ET3273N                         | 0               | 0 | 3  | 2      | 3                 | 50    |
|                                |      | <b>Practical Sub-total</b>   |                                 | 0               | 0 | 9  | 6      | 9                 | 150   |
|                                |      | <b>Sixth Semester Total</b>  |                                 | 16              | 0 | 9  | 22     | 25                | 650   |
|                                |      |  |                                 |                 |   |    |        |                   |       |
| <b><u>Seventh Semester</u></b> |      |  |                                 |                 |   |    |        |                   |       |
| Sl. No                         | Type | Course Name  | Course Code                     | Class Load/Week |   |    | Credit | Class load/ week  | Marks |
|                                |      |  |                                 | L               | T | P  |        |                   |       |
| 1                              | PSE  | Computer and Communication Networks/ Computer Organization and Architecture        | ET4121N<br>/ET4122N             | 3               | 0 | 0  | 3      | 3                 | 100   |
| 2                              | PSE  | Adaptive Signal Processing/Green Communications/ IoT and Embedded Systems          | ET4123N<br>/ET4124N/<br>ET4125N | 3               | 0 | 0  | 3      | 3                 | 100   |
| 3                              | HSC  | Finance Economics and Management for Engineers                                     | HU4101N                         | 3               | 0 | 0  | 3      | 3                 | 100   |
| 4                              | OE   | Satellite Communications   | ET4161N                         | 3               | 0 | 0  | 3      | 3                 | 100   |
|                                |      | <b>Theory Sub-total</b>  |                                 | 12              | 0 | 0  | 12     | 12                | 400   |
| 5                              |      |  |                                 | 0               | 0 | 0  | 0      | 0                 | 0     |
| 7                              | I    | Internship   | ET4191N                         | 0               | 0 | 0  | 2      | 0                 | 50    |
|                                |      | <b>Practical Sub-total</b>   |                                 | 0               | 0 | 0  | 2      | 0                 | 50    |
|                                |      | <b>Seventh Semester Total</b>  |                                 | 12              | 0 | 0  | 14     | 12                | 450   |
|                                |      |  |                                 |                 |   |    |        |                   |       |
| <b><u>Eighth Semester</u></b>  |      |  |                                 |                 |   |    |        |                   |       |
| Sl. No                         | Type | Course Name  | Course                          | Class Load/Week |   |    | Credit | Class load / week | Marks |
|                                |      |  | Code                            | L               | T | P  |        |                   |       |

|   |     |  |         |          |          |          |           |          |            |
|---|-----|--|---------|----------|----------|----------|-----------|----------|------------|
| 1 | OE  | Principles of Electromagnetic Interference | ET4261N | 3        | 0        | 0        | 3         | 3        | 100        |
|   |     | <b>Theory Sub-total</b>                    |         | 3        | 0        | 0        | 3         | 3        | 100        |
| 2 | I/P | One Semester Internship / Project          | ET4291N |          |          |          | 8         |          | 300        |
| 3 | O   | Grand viva                                 | ET4292N |          |          |          | 2         |          | 50         |
|   |     | <b>Practical Sub-total</b>                 |         | 0        | 0        | 0        | 10        | 0        | 350        |
|   |     | <b>Eighth Semester Total</b>               |         | <b>3</b> | <b>0</b> | <b>0</b> | <b>13</b> | <b>3</b> | <b>450</b> |
|   |     |  |         |          |          |          |           |          |            |
|   |     |  |         |          |          |          |           |          |            |

For Departments taking Basic Electronics in 1st Sem

|   |     |   |                     |   |   |   |   |   |     |
|---|-----|---|---------------------|---|---|---|---|---|-----|
| 6 | ESC | Basic Electronics (for Electrical Science)/Basic Electronics (for Non-Electrical Science) | ET1101N/<br>ET1102N | 3 | 0 | 0 | 3 | 3 | 100 |
|---|-----|---|---------------------|---|---|---|---|---|-----|





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