

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
**B.E. in Electronics and Communication Engineering**  
**Scheme of Teaching and Examinations 2022**  
 Outcome Based Education (OBE) and Choice Based Credit System (CBCS)  
 (Effective from the academic year 2023-24)

| III SEMESTER |             |             |  |   |                      |          |                    |     |                   |            |            |             |         |
|--------------|-------------|-------------|--|---|----------------------|----------|--------------------|-----|-------------------|------------|------------|-------------|---------|
| Sl. No       | Course      | Course Code | Course Title   | Teaching Department (TD) and Question Paper Setting Board (PSB) | Teaching Hours /Week |          |                    |     | Examination       |            |            |             | Credits |
|              |             |             |  |   | Theory Lecture       | Tutorial | Practical/ Drawing | SDA | Duration in hours | CIE Marks  | SEE Marks  | Total Marks |         |
|              |             |             |  |   | L                    | T        | P                  | S   |                   |            |            |             |         |
| 1            | PCC         | BMATEC301   | AV Mathematics-III for EC Engineering                    | TD- Maths<br>PSB - Maths  | 3                    | 0        | 0                  |     | 03                | 50         | 50         | 100         | 3       |
| 2            | IPCC        | BEC302      | Digital System Design using Verilog                      | TD: ECE<br>PSB: ECE   | 3                    | 0        | 2                  |     | 03                | 50         | 50         | 100         | 4       |
| 3            | IPCC        | BEC303      | Electronic Principles and Circuits                       | TD: ECE<br>PSB: ECE   | 3                    | 0        | 2                  |     | 03                | 50         | 50         | 100         | 4       |
| 4            | PCC         | BEC304      | Network Analysis   | TD: ECE<br>PSB: ECE   | 3                    | 0        | 0                  |     | 03                | 50         | 50         | 100         | 3       |
| 5            | PCCL        | BECL305     | Analog and Digital Systems Design Lab                    | TD: ECE<br>PSB: ECE   | 0                    | 0        | 2                  |     | 03                | 50         | 50         | 100         | 1       |
| 6            | ESC         | BXX306x     | ESC/ETC/PLC  | TD:<br>PSB:   | 3                    | 0        | 0                  |     | 03                | 50         | 50         | 100         | 3       |
| 7            | UHV         | BSCK307     | Social Connect and Responsibility                        | Any Department  | 0                    | 0        | 2                  |     | 01                | 100        | ---        | 100         | 1       |
| 8            | AEC/<br>SEC | BXX358x     | Ability Enhancement Course/Skill Enhancement Course- III | If the course is a Theory                                       |                      |          |                    | 01  | 50                | 50         | 100        | 1           |         |
|              |             |             |  | 1   | 0                    | 0        |                    |     |                   |            |            |             |         |
|              |             |             |  | If a course is a laboratory                                     |                      |          |                    | 02  | 0                 | 0          | 2          |             |         |
| 0            | 0           | 2           |  |   |                      |          |                    |     |                   |            |            |             |         |
| 9            | MC          | BNSK359     | National Service Scheme (NSS)                            | NSS coordinator   | 0                    | 0        | 2                  |     |                   | 100        | ---        | 100         | 0       |
|              |             | BPEK359     | Physical Education (PE) (Sports and Athletics)           | Physical Education Director                                     |                      |          |                    |     |                   |            |            |             |         |
|              |             | BYOK359     | Yoga   | Yoga Teacher  |                      |          |                    |     |                   |            |            |             |         |
| <b>Total</b> |             |             |  |   |                      |          |                    |     | <b>550</b>        | <b>350</b> | <b>900</b> | <b>20</b>   |         |

**PCC:** Professional Core Course, **PCCL:** Professional Core Course laboratory, **UHV:** Universal Human Value Course, **MC:** Mandatory Course (Non-credit), **AEC:** Ability Enhancement Course, **SEC:** Skill Enhancement Course, **L:** Lecture, **T:** Tutorial, **P:** Practical **S= SDA:** Skill Development Activity, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Evaluation. **K:** This letter in the course code indicates common to all the stream of engineering. **ESC:** Engineering Science Course, **ETC:** Emerging

|   |                             |         |  |
|---|-----------------------------|---------|--|
| Technology Course, PLC: Programming Language Course   |                             |         |  |
| .   |                             |         |  |
| <b>Engineering Science Course (ESC/ETC/PLC)</b>   |                             |         |  |
| BEC306A   | Electronic Devices          | BEC306C | Computer Organization and Architecture     |
| BEC306B   | Sensors and Instrumentation | BEC306D | Applied Numerical Methods for EC Engineers |
| <b>Ability Enhancement Course – III</b>   |                             |         |  |
| BEC358A   | LABVIEW programming         | BEC358C | C++ Basics                                 |
| BEC358B   | MATLAB Programming          | BEC358D | IOT for Smart Infrastructure               |
| <p><b>Professional Core Course (IPCC):</b> Refers to Professional Core Course Theory Integrated with practical's of the same course. Credit for IPCC can be 04 and its Teaching– Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./B.Tech.) 2022-23 may please be referred.</p> <p><b>National Service Scheme /Physical Education/Yoga:</b> All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE)(Sports and Athletics), and Yoga(YOG) with the concerned coordinator of the course during the first week of III semesters. Activities shall be carried out between III semester to the VI semester (for 4 semesters). Successful completion of the registered course and requisite CIE score is mandatory for the award of the degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the course is mandatory for the award of degree.</p> |                             |         |  |

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| IV SEMESTER   |                        |         |   |   |                         |          |                    |            |                   |            |            |             |         |
|---|------------------------|---------|---|---|-------------------------|----------|--------------------|------------|-------------------|------------|------------|-------------|---------|
| Sl. No  | Course and Course Code |         | Course Title  | Teaching Department (TD) and Question Paper Setting Board (PSB) | Teaching Hours /Week    |          |                    |            | Examination       |            |            |             | Credits |
|   |                        |         |   |   | Theory Lecture          | Tutorial | Practical/ Drawing | Self-Study | Duration in hours | CIE Marks  | SEE Marks  | Total Marks |         |
|   |                        |         |   |   | L                       | T        | P                  | S          |                   |            |            |             |         |
| 1   | PCC                    | BEC401  | Engineering Electromagnetics                            | ECE   | 3                       | 0        | 0                  |            | 03                | 50         | 50         | 100         | 3       |
| 2   | IPCC                   | BEC402  | Basic signal Processing                                 | ECE   | 3                       | 0        | 2                  |            | 03                | 50         | 50         | 100         | 4       |
| 3   | IPCC                   | BEC403  | Principles of Communication Systems                     | ECE   | 3                       | 0        | 2                  |            | 03                | 50         | 50         | 100         | 4       |
| 4   | PCCL                   | BECL404 | Communication laboratory                                | ECE   | 0                       | 0        | 2                  |            | 03                | 50         | 50         | 100         | 1       |
| 5   | ESC                    | BEC405x | ESC/ETC/PLC   |   | 3                       | 0        | 0                  |            | 03                | 50         | 50         | 100         | 3       |
| 6   | AEC/ SEC               | BXX456x | Ability Enhancement Course/Skill Enhancement Course- IV | TD and PSB: Concerned department                                | If the course is Theory |          |                    |            | 01                | 50         | 50         | 100         | 1       |
|   |                        |         |   |   | 1                       | 0        | 0                  |            |                   |            |            |             |         |
|   |                        |         |   |   | If the course is a lab  |          |                    |            | 02                |            |            |             |         |
| 0   | 0                      | 2       |   |   |                         |          |                    |            |                   |            |            |             |         |
| 4   | BSC                    | BBOK407 | Biology For Engineers                                   | TD / PSB: BT, CHE,  | 3                       | 0        | 0                  |            | 03                | 50         | 50         | 100         | 3       |
| 7   | UHV                    | BUHK408 | Universal human values course                           | Any Department  | 1                       | 0        | 0                  |            | 01                | 50         | 50         | 100         | 1       |
| 9   | MC                     | BNSK459 | National Service Scheme (NSS)                           | NSS coordinator   | 0                       | 0        | 2                  |            |                   | 100        | ---        | 100         | 0       |
|   |                        | BPEK459 | Physical Education (PE) (Sports and Athletics)          | Physical Education Director                                     |                         |          |                    |            |                   |            |            |             |         |
|   |                        | BYOK459 | Yoga  | Yoga Teacher  |                         |          |                    |            |                   |            |            |             |         |
| <b>Total</b>  |                        |         |   |   |                         |          |                    |            | <b>500</b>        | <b>400</b> | <b>900</b> | <b>20</b>   |         |
| <b>PPC:</b> Professional Core Course, <b>PCCL:</b> Professional Core Course laboratory, <b>UHV:</b> Universal Human Value Course, <b>MC:</b> Mandatory Course (Non-credit), <b>AEC:</b> Ability Enhancement Course, <b>SEC:</b> Skill Enhancement Course, <b>L:</b> Lecture, <b>T:</b> Tutorial, <b>P:</b> Practical <b>S= SDA:</b> Skill Development Activity, <b>CIE:</b> Continuous Internal Evaluation, <b>SEE:</b> Semester End Evaluation. <b>K :</b> This letter in the course code indicates common to all the stream of engineering. |                        |         |   |   |                         |          |                    |            |                   |            |            |             |         |

| <b>Engineering Science Course (ESC/ETC/PLC)</b>  |                        |         |                                       |
|--|------------------------|---------|---------------------------------------|
| BEC405A  | 8051 Microcontroller   | BEC405C | Operating Systems                     |
| BEC405B  | Industrial Electronics | BEC405D | Control Systems                       |
| <b>Ability Enhancement Course / Skill Enhancement Course - IV</b>  |                        |         |                                       |
| BEC456A  | Embedded C basics      | BEC456C | DAQ using LabVIEW                     |
| BEC456B  | PCB Design             | BEC456D | Risk Management in IOT Implementation |
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