

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: First Year B. Tech. in Electrical Engineering

Semester – I(w.e.f. 2023-24)

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|--------------|-----------------|-------------|-------------------------------------|-----------|----------|-----------|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | BSC | EE3101 | EngineeringChemistry | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 2 | BSC | EE3102 | Linear algebra and Calculus | 3 | 1 | -- | 4 | 4 | 20 | 20 | 60 | 100 |
| 3 | ESC | EE3103 | Basic Electronics Engineering | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 4 | ESC | EE3104 | Programming for problem solving | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 5 | ESC | EE3105 | Design Thinking | 1 | -- | 2 | 3 | 2 | -- | 50 | -- | 50 |
| 6 | BSC | EE3106 | EngineeringChemistryLab | -- | -- | 2 | 2 | 1 | - | 50 | - | 50 |
| 7 | ESC | EE3107 | Programming for problem solving Lab | -- | -- | 2 | 2 | 1 | - | 25 | 25 | 50 |
| 8 | HSSM | EE3108 | Professional Communication Skills | 1 | -- | 2 | 3 | 2 | - | 50 | 25 | 75 |
| 9 | VSEC | EE3109 | Electrical Workshop | -- | -- | 2 | 2 | 1 | - | 50 | 25 | 75 |
| 10 | CCA | EE3110 | Yoga | -- | -- | 2 | 2 | 1 | - | 50 | - | 50 |
| 11 | ESC | EE3111 | Basic Electronics Engineering Lab | -- | -- | 2 | 2 | 1 | | 25 | 25 | 50 |
| Total | | | | 14 | 1 | 14 | 29 | 22 | 80 | 380 | 340 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular program (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | 08 | 10 | - | - | - | 01 | 02 | - | 01 |
| Cumulative Sum | 08 | 10 | - | - | - | 01 | 02 | - | 01 |

PROGRESSIVE TOTAL CREDITS: 00+22 =22

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: First Year B. Tech. in Electrical Engineering

Semester – II (w.e.f. 2023-24)

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|--------------|-----------------|-------------|--|-----------|----------|-----------|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | BSC | EE3201 | Differential and Integral Calculus | 3 | 1 | -- | 4 | 4 | 20 | 20 | 60 | 100 |
| 2 | BSC | EE3202 | Engineering Physics | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 3 | ESC | EE3203 | Engineering Mechanics | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 4 | PCC | EE3204 | DC and AC Circuits | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 5 | HSSM | EE3205 | Indian Knowledge Systems(MOOC) | - | - | - | - | 2 | - | - | - | 100 |
| 6 | ESC | EE3206 | Computer Aided Design and Drafting Lab | -- | -- | 2 | 2 | 1 | | 50 | - | 50 |
| 7 | BSC | EE3207 | Engineering Physics Lab | - | - | 2 | 2 | 1 | - | 25 | 25 | 50 |
| 8 | PCC | EE3208 | DC and AC Circuits Lab | -- | -- | 2 | 2 | 1 | - | 25 | 25 | 50 |
| 9 | VSEC | EE3209 | Experiential Learning Lab | - | -- | 4 | 4 | 2 | - | 50 | - | 50 |
| 10 | CCA | EE3210 | NCC/NSS/CSP | -- | -- | 2 | 2 | 1 | - | 50 | - | 50 |
| 11 | VSEC | EE3211 | Programming language C++ | - | -- | 2 | 2 | 1 | | 25 | 25 | 50 |
| Total | | | | 12 | 1 | 14 | 27 | 22 | 80 | 305 | 340 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular program (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | 08 | 04 | 04 | - | - | 03 | 02 | - | 01 |
| Cumulative Sum | 16 | 14 | 04 | - | - | 04 | 04 | - | 02 |

PROGRESSIVE TOTAL CREDITS: 22+22 =44

Exit Course

| Exit option : Award of UG Certificate in Major with 44 credits and an additional 8 credits from following Exit Courses | | | | |
|--|-------------|--|--|---------|
| Sr. No | Course Code | Course Title | Mode | Credits |
| 1 | EE-EC-0101 | Building Electrification | Online/offline certification Course or project | 8 |
| OR | | | | |
| 2 | EE-EC-0102 | Repairing and maintenance of Electrical Appliances | | 8 |
| OR | | | | |
| 3 | EE-EC-0103 | Electrical Panel Design and erection | | 8 |
| OR | | | | |
| 4 | EE-EC-0104 | Installation of household and industrial wiring | | 8 |

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: Second Year B. Tech. in Electrical Engineering

Semester – III

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|--------------|-----------------|-------------|--|-----------|----------|----------|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | PCC | EE3301 | Signals & Systems | 3 | 1 | - | 4 | 4 | 20 | 20 | 60 | 100 |
| 2 | PCC | EE3302 | DC Machines and Transformer | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 3 | PCC | EE3303 | Measurement and Instrumentation | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 4 | PCC | EE3304 | Measurement and Instrumentation Lab | -- | -- | 2 | 2 | 1 | -- | 50 | 25 | 75 |
| 5 | MDM | EE3305 | Multi-disciplinary Minor – 01 | 2 | -- | -- | 2 | 2 | 20 | 20 | 60 | 100 |
| 6 | OE | EE3306 | Open Elective -01 | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 7 | HSSM | EE3307 | Industrial Organization Structure and Acts | 2 | -- | -- | 2 | 2 | - | 50 | - | 50 |
| 8 | PCC | EE3308 | DC Machines and Transformer Lab | -- | -- | 2 | 2 | 1 | - | 50 | 25 | 75 |
| 9 | HSSM | EE3309 | Universal Human Values | 2 | -- | -- | 2 | 2 | - | 50 | - | 50 |
| 10 | OE | EE3310 | Open Elective -01 Lab | -- | -- | 2 | 2 | 1 | - | 25 | 25 | 50 |
| Total | | | | 18 | 1 | 6 | 25 | 22 | 100 | 325 | 375 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | -- | - | 12 | - | 06 | - | 04 | - | - |
| Cumulative Sum | 16 | 14 | 16 | - | 06 | 04 | 08 | - | 02 |

PROGRESSIVE TOTAL CREDITS: 44+22 =66

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: Second Year B. Tech. in Electrical Engineering

Semester – IV

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|---------|-----------------|-------------|------------------------------------|-----------|----------|----------|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | PCC | EE3401 | AC Machines | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 2 | PCC | EE3402 | Analog and Digital Electronics | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 3 | PCC | EE3403 | Power Electronics | 3 | 1 | -- | 4 | 4 | 20 | 20 | 60 | 100 |
| 4 | MDM | EE3404 | Multi-disciplinary Minor – 02 | 2 | -- | -- | 2 | 2 | 20 | 20 | 60 | 100 |
| 5 | OE | EE3405 | Open Elective -02 | 2 | -- | -- | 2 | 2 | 20 | 20 | 60 | 100 |
| 6 | HSSM | EE3406 | Strategic Management | 2 | -- | -- | 2 | 2 | - | 50 | - | 50 |
| 7 | HSSM | EE3407 | Professional Ethics | 2 | -- | -- | 2 | 2 | - | 25 | - | 25 |
| 8 | PCC | EE3408 | AC Machines Lab | -- | -- | 2 | 2 | 1 | - | 50 | 25 | 75 |
| 9 | PCC | EE3409 | Analog and Digital Electronics Lab | -- | -- | 2 | 2 | 1 | - | 25 | 25 | 50 |
| 10 | PCC | EE3410 | Power Electronics Lab | -- | -- | 2 | 2 | 1 | -- | 25 | 25 | 50 |
| 11 | BSC | EE3411 | Environmental Science | 2 | -- | -- | 2 | Audit | 20 | 20 | 60 | 100 |
| 12 | VSEC | EE3412 | Numerical Computational Methods | -- | -- | 2 | 2 | 1 | | 50 | -- | 50 |
| | | | Total | 19 | 1 | 8 | 28 | 22 | 120 | 345 | 435 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular program (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | - | - | 12 | - | 04 | 01 | 04 | 01 | - |
| Cumulative Sum | 16 | 14 | 28 | - | 10 | 05 | 12 | 01 | 02 |

PROGRESSIVE TOTAL CREDITS: 66+22 =88

Exit Course

| Exit option : Award of UG Diploma in Major with 88 credits and an additional 8 credits from following Exit Courses | | | | |
|--|-------------|--|-------------------------------------|---------|
| Sr. No | Course Code | Course Title | Mode | Credits |
| 1 | EE-EC-0201 | Autocad for Electrical | Online/offline certification Course | 8 |
| | | OR | | |
| 2 | EE-EC-0202 | Industrial Electrical systems installation and maintenance | | 8 |

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: Third Year B. Tech. in Electrical Engineering

Semester – V

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|--------------|-----------------|-------------|----------------------------------|-----------|-----------|-----------|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | PCC | EE3501 | Elements of Power System | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 2 | PCC | EE3502 | Control System Analysis | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 3 | PCC | EE3503 | Microcontroller | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 4 | PEC | EE35*4 | Program Elective-01 | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 5 | MDM | EE3505 | Multi-disciplinary Minor – 03 | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 6 | OE | EE3506 | Open Elective -03 | 2 | -- | -- | 2 | 2 | 20 | 20 | 60 | 100 |
| 7 | PCC | EE3507 | Control System Analysis Lab | -- | -- | 2 | 2 | 1 | - | 25 | 25 | 50 |
| 8 | PCC | EE3508 | Microcontroller Lab | -- | -- | 2 | 2 | 1 | - | 25 | 25 | 50 |
| 9 | PEC | EE3509 | Program Elective Lab | -- | -- | 2 | 2 | 1 | - | 25 | -- | 25 |
| 10 | MDM | EE3510 | Multi-disciplinary Minor– 03 Lab | -- | -- | 2 | 2 | 1 | - | 50 | -- | 50 |
| 11 | EL | EE3410 | Community Engagement Project | -- | -- | 2 | 2 | 1 | - | 25 | -- | 25 |
| Total | | | | 17 | -- | 10 | 27 | 22 | 120 | 270 | 410 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular program (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | - | - | 12 | 04 | 06 | - | - | - | - |
| Cumulative Sum | 16 | 14 | 40 | 04 | 16 | 05 | 12 | 01 | 02 |

PROGRESSIVE TOTAL CREDITS: 88+22=110

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: Third Year B. Tech. in Electrical Engineering

Semester – VI

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|--------------|-----------------|-------------|-------------------------------|-----------|----------|----------|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | PCC | EE3601 | Control System Design | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 2 | PCC | EE3602 | Power system Analysis | 3 | 1 | -- | 4 | 4 | 20 | 20 | 60 | 100 |
| 3 | PCC | EE3603 | Electrical Drives | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 4 | PEC | EE36*4 | Program Elective -02 | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 5 | PEC | EE36*5 | Programme Elective-03 | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 6 | MDM | EE3606 | Multi-disciplinary Minor – 04 | 2 | -- | -- | 2 | 2 | 20 | 20 | 60 | 100 |
| 7 | PCC | EE3607 | Electrical Drives Lab | -- | -- | 2 | 2 | 1 | - | 50 | 25 | 75 |
| 8 | PCC | EE3608 | Control System Design Lab | -- | -- | 2 | 2 | 1 | - | 50 | 25 | 75 |
| 9 | EL | EE3609 | Project-I | -- | -- | 4 | 4 | 2 | - | 50 | -- | 50 |
| Total | | | | 17 | 1 | 8 | 26 | 22 | 120 | 270 | 410 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | - | - | 12 | 06 | 02 | -- | - | 02 | - |
| Cumulative Sum | 16 | 14 | 52 | 10 | 18 | 05 | 12 | 03 | 02 |

PROGRESSIVE TOTAL CREDITS: 110+22 =132

Exit option : Award of B. Vocational in Major with 132 credits and an additional 8 credits from following Exit Courses

| Sr. No | Course Code | Course Title | Mode | Credits |
|---------------|--------------------|-------------------------------|-------------------------------------|----------------|
| 1 | EE-EC-0301 | Installation of Transformer | Online/offline certification Course | 8 |
| OR | | | | |
| 2 | EE-EC-0302 | Industrial Electrical Systems | | 8 |

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: Final Year B. Tech. in Electrical Engineering

Semester – VII

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|--------------|-----------------|-------------|-------------------------------|-----------|----------|-----------|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | PCC | EE3701 | Switchgear and Protection | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 2 | PCC | EE3702 | Embedded Systems | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 3 | PEC | EE37*3 | Program Elective -04 | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 4 | EL | EE3704 | Research Methodology | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 5 | MDM | EE3705 | Multi-disciplinary Minor – 05 | 2 | -- | -- | 2 | 2 | 20 | 20 | 60 | 100 |
| 6 | PCC | EE3706 | Switchgear and Protection Lab | - | - | 2 | 2 | 1 | | 25 | 25 | 50 |
| 7 | PCC | EE3707 | Embedded Systems Lab | - | - | 2 | 2 | 1 | | 25 | 25 | 50 |
| 8 | EL | EE3708 | Project Phase - II | -- | -- | 12 | 12 | 6 | - | 100 | 100 | 200 |
| Total | | | | 14 | 0 | 16 | 30 | 22 | 100 | 250 | 450 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular program (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | - | - | 08 | 03 | 02 | - | - | 09 | - |
| Cumulative Sum | 16 | 14 | 60 | 13 | 20 | 05 | 12 | 12 | 02 |

PROGRESSIVE TOTAL CREDITS: 132+22 =154

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: Final Year B. Tech. in Electrical Engineering

Semester – VIII (Academic Mode)

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|--------------|-----------------|-------------|----------------------------------|-----------|----------|-----------|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | PCC | EE3801 | Utilization and Traction | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 2 | PCC | EE3802 | Electric and hybrid vehicles | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 3 | PEC | EE38*3 | Program Elective -05 | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 4 | PEC | EE38*4 | Program Elective -06 | 3 | -- | -- | 3 | 3 | 20 | 20 | 60 | 100 |
| 5 | MDM | EE3805 | Multi-disciplinary Minor-06 | 2 | -- | -- | 2 | 2 | 20 | 20 | 60 | 100 |
| 6 | PCC | EE3806 | Electric and hybrid vehicles Lab | -- | -- | 2 | 2 | 1 | - | 50 | 50 | 100 |
| 7 | EL | EE3807 | Project Phase - III | -- | -- | 14 | 14 | 7 | - | 100 | 100 | 200 |
| Total | | | | 14 | 0 | 16 | 30 | 22 | 100 | 250 | 450 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular program (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | - | - | 07 | 06 | 02 | - | - | 07 | - |
| Cumulative Sum | 16 | 14 | 67 | 19 | 22 | 05 | 12 | 19 | 02 |

PROGRESSIVE TOTAL CREDITS = 176

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: Final Year B. Tech. in Electrical Engineering

Semester – VIII (Industry Mode)

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|---------|-----------------|-------------|--------------------------------------|----|----|----|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | MOOC | EE3808 | MOOC - I | -- | -- | -- | - | 4 | -- | -- | 100 | 100 |
| 2 | MOOC | EE3809 | MOOC - II | - | - | - | - | 4 | -- | -- | 100 | 100 |
| 3 | MDM | EE3810 | Multi-disciplinary Minor – 06 (MOOC) | - | -- | -- | - | 2 | -- | - | 100 | 100 |
| 4 | EL | EE3811 | Internship | -- | -- | -- | - | 12 | - | 250 | 250 | 500 |
| | | | Total | - | - | - | - | 22 | -- | 250 | 550 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular program (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | - | - | 08(MOOC) | -- | 02 | - | - | 12 | - |
| Cumulative Sum | 16 | 14 | 68 | 13 | 22 | 05 | 12 | 24 | 02 |

PROGRESSIVE TOTAL CREDITS=176

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering

Proposed Scheme of Instructions: Final Year B. Tech. in Electrical Engineering

Semester – VIII (Research Mode)

| Sr. No. | Course Category | Course Code | Course Title | L | T | P | Contact Hrs/Wk | Course Credits | EXAM SCHEME | | | |
|---------|-----------------|-------------|------------------------------------|----|----|----|----------------|----------------|-------------|------------|------------|------------|
| | | | | | | | | | MSE | ISE/CA | ESE | TOTAL |
| 1 | MOOC | EE3812 | MOOC - I | -- | -- | -- | - | 4 | -- | -- | 100 | 100 |
| 2 | MOOC | EE3814 | MOOC - II | - | - | - | - | 4 | -- | -- | 100 | 100 |
| 5 | MDM | EE3815 | Multi-disciplinary Minor 06 (MOOC) | - | -- | -- | - | 2 | -- | - | 100 | 100 |
| 3 | EL | EE3816 | Research Project | -- | -- | -- | - | 12 | - | 250 | 250 | 500 |
| | | | Total | - | - | - | - | 22 | -- | 250 | 550 | 800 |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | Basic Science Courses (BSC) | Engineering Science Courses (ESC) | Programme Core Course (PCC) | Programme Elective Course (PEC) | Open Elective other than particular program (OE/MDM) | Vocational and Skill Enhancement Course (VSEC) | Humanities Social Science and Management (HSSM) | Experiential Learning (EL) | Co-curricular And Extracurricular Activities (CCA) |
|-----------------------|-----------------------------|-----------------------------------|-----------------------------|---------------------------------|--|--|---|----------------------------|--|
| Credits | - | - | 08(MOOC) | -- | 02 | - | - | 12 | - |
| Cumulative Sum | 16 | 14 | 68 | 13 | 22 | 05 | 12 | 24 | 02 |

PROGRESSIVE TOTAL CREDITS =176

List of Electives :

| Specialization | Automation and Control | Power Engineering | Power Electronics& Drives | Energy Systems |
|-----------------------|--|--|---|--|
| Elective-I | EE3514: Automation and Control | EE3524:Digital Protection | EE3534: High Power Converters | EE3544: Renewable Energy Systems |
| Elective-II | EE3614:Digital Control | EE3624:Power Plant Engineering | EE3634:Special purpose machines | EE3644:Energy Storage |
| Elective-III | EE3615:Intelligent Control | EE3625:Restructured Power system | EE3635:PE Converters for renewable Energy Integration | EE3645: Energy Audit |
| Elective-IV | EE3713:System modelling from control perspective | EE3723:Power Quality | EE3733:FACTS | EE3743:Design of Energy efficient machines |
| Elective-V | EE3813:Advanced Control System | EE3823: HV Engineering | EE3833:Advanced Electric Vehicles | EE3843:Generation planning and load Forecasting |
| Elective-VI | EE3814:AIML and it's applications in control systems | EE3824: Cyber security of power system | EE3834:AI-ML and it's applications in EV | EE3844:AIML and it's applications for Energy Systems |

List of Open Electives

| | |
|---------------------------------|--|
| Open Elective-I EE3306 | Sustainable Energy Systems |
| Open Elective-II EE3405 | Robotics and Automation |
| Open Elective-III EE3506 | Optimization Techniques or Electrical vehicle system |