### Government College of Engineering, Karad

#### SCHEME OF INSTRUCTION

Programme: Mechanical Engineering

Scheme of Instructions: Third Year B. Tech. in Mechanical Engineering

Semester - V

| Sr. | Course   | Course | Course Title                | L  | T | P  | Contact  | Course  | EXAM SCHEME |      |       |     |       |  |
|-----|----------|--------|-----------------------------|----|---|----|----------|---------|-------------|------|-------|-----|-------|--|
| No. | Category | Code   |                             |    |   |    | Hrs / Wk | Credits | CT-1        | CT-2 | TA/CA | ESE | TOTAL |  |
| 1   | OEC      | ME2501 | Operations Research         | 3  | - | 1  | 3        | 3       | 15          | 15   | 10    | 60  | 100   |  |
| 2   | PCC      | ME2502 | Metrology & Quality Control | 3  | - | -  | 3        | 3       | 15          | 15   | 10    | 60  | 100   |  |
| 3   | PCC      | ME2503 | Heat Transfer               | 3  | - | -  | 3        | 3       | 15          | 15   | 10    | 60  | 100   |  |
| 4   | PCC      | ME2504 | Machine Design-I            |    | - | -  | 3        | 3       | 15          | 15   | 10    | 60  | 100   |  |
| 5   | PEC      | ME25*5 | Elective – I                | 3  | - | -  | 3        | 3       | 15          | 15   | 10    | 60  | 100   |  |
| 6   | OEC      | ME2506 | Operations Research Lab     | -  | - | 2  | 2        | 1       | -           | -    | 50    | -   | 50    |  |
| 7   | PCC      | ME2507 | Metrology & Quality Control |    | - | 2  | 2        | 1       | -           | -    | 25    | 25  | 50    |  |
|     |          |        | Lab                         |    |   |    |          |         |             |      |       |     |       |  |
| 8   | PCC      | ME2508 | Heat Transfer Lab           | ı  | - | 2  | 2        | 1       | -           | -    | 25    | 25  | 50    |  |
| 9   | PEC      | ME25*9 | Elective – I Lab            | ı  | - | 2  | 2        | 1       | -           | -    | 25    | -   | 25    |  |
| 10  | PCC      | ME2510 | Machine Design-I Lab        | -  | - | 2  | 2        | 1       |             |      | 25    | -   | 25    |  |
| 11  | P/S/IT   | ME2511 | Mini Project                | -  | - | 2  | 2        | 1       | -           | -    | 25    | 25  | 50    |  |
| 12  | P/S/IT   | ME2512 | Industrial Training         | i  | - | 1  | -        | 1       |             |      | 50    | -   | 50    |  |
|     |          |        | Total                       | 15 | - | 12 | 27       | 22      | 75          | 75   | 275   | 375 | 800   |  |

L- Lecture T-Tutorial P-Practical

CT1- Class Test 1 TA/CA- Teacher Assessment/Continuous Assessment

CT2- Class Test 2 ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | HSMC (Hum.,<br>Soc. Sc, Mgmt.) | BSC<br>(Basic Sc.) | ESC<br>(Engg. Sc.) | PCC (Programme<br>Core courses) | PEC (Programme<br>Elective courses) | OEC (Open<br>Elective courses<br>from other<br>discipline) | MCC (Mandatory<br>Courses) | Project / Seminar /<br>Industrial Training |
|-----------------|--------------------------------|--------------------|--------------------|---------------------------------|-------------------------------------|--|----------------------------|--|
| Credits         |                                |                    |                    | 12                              | 04                                  | 04   |                            | 02   |
| Cumulative Sum  | 07                             | 21                 | 23                 | 33                              | 04                                  | 08   | Yes                        | 03   |

**PROGRESSIVE TOTAL CREDITS: 77+22=99** 

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Professor and Head of that Dept. of Mechanical Engineering
Govt. College of Engineering, KARAD

## Government College of Engineering, Karad

#### SCHEME OF INSTRUCTION

Programme: Mechanical Engineering

Scheme of Instructions: Third Year B. Tech. in Mechanical Engineering

Semester - VI

| Sr. | Sr. Course Course |        | Course Title   |    | T  | P  | Contact  | Course  |      | EXAM SCHEME |       |     |       |
|-----|-------------------|--------|--|----|----|----|----------|---------|------|-------------|-------|-----|-------|
| No. | Category          | Code   |  |    |    |    | Hrs / Wk | Credits | CT-1 | CT-2        | TA/CA | ESE | TOTAL |
| 1   | PCC               | ME2601 | Control Engineering  | 3  | -  | ı  | 3        | 3       | 15   | 15          | 10    | 60  | 100   |
| 2   | OEC               | ME2602 | Internal Combustion Engines                                      | 3  | -  | -  | 3        | 2       | 15   | 15          | 10    | 60  | 100   |
| 3   | PEC               | ME26*3 | Elective – II  | 3  | -  | ı  | 3        | 3       | 15   | 15          | 10    | 60  | 100   |
| 4   | PCC               | ME2604 | Dynamics of Machine  | 3  | -  | -  | 3        | 3       | 15   | 15          | 10    | 60  | 100   |
| 5   | PCC               | ME2605 | Manufacturing Engineering@                                       | 3  | 1  | ı  | 4        | 3       | 15   | 15          | 10    | 60  | 100   |
| 6   | PCC               | ME2606 | Control Engineering Lab  | -  | -  | 2  | 2        | 1       | -    | -           | 25    | 25  | 50    |
| 7   | OEC               | ME2607 | Internal Combustion Engines                                      | -  | -  | 2  | 2        | 1       | -    | -           | 25    | -   | 25    |
|     |                   |        | Lab  |    |    |    | _        | _       |      |             |       |     |       |
| 8   | PCC               | ME2608 | Dynamics of Machine Lab  | -  | -  | 2  | 2        | 1       | -    | -           | 25    | -   | 25    |
| 9   | PCC               | ME2609 | Computer Integrated Manufacturing Lab and Workshop Practice - IV | -  | -  | 2  | 2        | 1       |      |             | 50    | -   | 50    |
| 10  | ESC               | ME2610 | CAD Lab-I  | -  | -  | 2  | 2        | 1       | -    | -           | 25    | _   | 25    |
| 11  | HSMC              | ME2611 | Technical Training & Technical Presentation                      |    | -  |    | 1        | 1       | -    | -           | 25    | -   | 25    |
| 12  | HSMC              | ME2612 | Industrial Psychology  | 3  | -  | -  | 3        | 3       | 15   | 15          | 10    | 60  | 100   |
|     |                   |        | Total  | 18 | 01 | 10 | 30       | 23      | 90   | 90          | 235   | 385 | 800   |

L- Lecture T-Tutorial P-Practical

CT1- Class Test 1 TA/CA- Teacher Assessment/Continuous Assessment

CT2- Class Test 2 ESE- End Semester Examination (For Laboratory End Semester performance)

| Course Category | HSMC (Hum.,<br>Soc. Sc, Mgmt.) | BSC<br>(Basic Sc.) | ESC (Engg. Sc.) | PCC (Programme<br>Core courses) | PEC (Programme<br>Elective courses) | OEC (Open<br>Elective courses<br>from other<br>discipline) | MCC (Mandatory<br>Courses) | Project / Seminar /<br>Industrial Training |
|-----------------|--------------------------------|--------------------|-----------------|---------------------------------|-------------------------------------|--|----------------------------|--|
| Credits         | 04                             |                    | 01              | 12                              | 03                                  | 03   |                            |  |
| Cumulative Sum  | 11                             | 21                 | 24              | 45                              | 07                                  | 11   | Yes                        | 03   |

PROGRESSIVE TOTAL CREDITS: 99+23=122

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#### List of PROGRAM ELECTIVE courses:

| Semester V  Elective – I  (Theory and Lab) |  | Semester VI<br>Elective – II |                                    |        | Semes  | ster VII                        |                                   | Semester VIII                    |                            |  |  |
|--|--|------------------------------|------------------------------------|--------|--|---------------------------------|-----------------------------------|----------------------------------|----------------------------|--|--|
|  |  |                              |                                    |        | ctive – III<br>ry and Lab)                         | Ele                             | ctive – IV                        | Elective – V<br>(Theory and Lab) |                            |  |  |
| ME2515 Non-<br>Conventional<br>Machining   |  | ME2613                       | Additive<br>Manufacturing          | ME2712 | Refrigeration & Air conditioning                   | ME2713 Total Quality Management |                                   | ME2812                           | MEMS and NEMS              |  |  |
| ME2525                                     | Industrial<br>Automation               | ME2623                       | Welding<br>Technology              | ME2722 | Maintenance Engineering & Condition Monitoring     | ME2723                          | Industrial<br>Engineering         | ME2822                           | Tribology                  |  |  |
| ME2535                                     | Computational<br>Fluid Dynamics        | ME2633                       | Energy and<br>Power<br>Engineering | ME2732 | Industrial<br>Fluid Power                          | ME2733                          | Advanced<br>Casting<br>Technology | ME2832                           | Automobile Engineering     |  |  |
| ME2519                                     | Non-<br>Conventional<br>Machining lab  |                              |                                    | ME2717 | Refrigeration<br>& Air<br>conditioning<br>lab      |                                 |                                   | ME2816                           | MEMS and NEMS lab          |  |  |
| ME2529                                     | Industrial<br>Automation lab           |                              |                                    | ME2727 | Maintenance Engineering & Condition Monitoring lab |                                 |                                   | ME2826                           | Tribology lab              |  |  |
| ME2539                                     | Computational<br>Fluid Dynamics<br>lab |                              |                                    | ME2737 | Industrial<br>Fluid Power<br>lab                   | Jain                            | <u> </u>                          | ME2836                           | Automobile Engineering lab |  |  |

#### **COMMON INSTRUCTIONS**

Departments shall suggest & execute

# Professor and Head of the Dept. of Mechanical Engineering

Govt. College of Engineering, KARAD

- 1. <u>Bridge courses</u> for the <u>Students Admitting to Direct Second year via Lateral Entry scheme in the III semester</u>. (Diploma students)
- 2. <u>Bridge courses</u> for the students who may be <u>Admitted in Autonomous mode from University mode</u>.
- 3. <u>MOOCs</u> for students adapting <u>Industry Mode</u> to fulfil the credit requirements. Copy of certificates / grade card shall be submitted to Controller of Examinations, GCE Karad through Program Coordinator prior to ESE.