

**Government College of Engineering, Karad**  
**SCHEME OF INSTRUCTION & SYLLABI**  
**Scheme of Instruction for First Year of M. Tech. (PG) Degree in Computer Science and Engineering**  
**Semester – I (W.E.F. AY. 2025-26)**

| Sr. No. | Course Category | Course Code | Course Title                                          | L  | T | P | Contact Hrs./Wk | Credits | EXAM SCHEME |     |     |       |
|---------|-----------------|-------------|-------------------------------------------------------|----|---|---|-----------------|---------|-------------|-----|-----|-------|
|         |                 |             |                                                       |    |   |   |                 |         | MSE         | ISE | ESE | TOTAL |
| 1       | PCC             | CS2101      | Mathematical foundations of Computer Science          | 3  | - | - | 3               | 3       | 20          | 20  | 60  | 100   |
| 2       | PCC             | CS2110      | Advanced Data Structures and Algorithms               | 3  | - | - | 3               | 3       | 20          | 20  | 60  | 100   |
| 3       | PEC             | CS21*3      | Program Elective I                                    | 3  | - | - | 3               | 3       | 20          | 20  | 60  | 100   |
| 4       | PEC             | CS21*4      | Program Elective II                                   | 3  | - | - | 3               | 3       | 20          | 20  | 60  | 100   |
| 5       | MDC             | RM2105      | Research Methodology                                  | 2  | - | - | 2               | 2       | 20          | 20  | 60  | 100   |
| 6       | PCC             | CS2111      | Laboratory 1(Advanced Data Structures and Algorithms) | -  | - | 4 | 4               | 2       | -           | 25  | 25  | 50    |
| 7       | PEC             | CS2112      | Laboratory 2 (Based on Elective I & II)               | -  | - | 4 | 4               | 2       | -           | 50  | -   | 50    |
| 8       | OEC             | OE21*8      | Open Elective                                         | 3  | - | - | 3               | 3       | 20          | 20  | 60  | 100   |
| 9       | MNC             | AU21*9      | Audit Course I                                        | 2  | - | - | 2               | Audit   | -           | -   | -   | -     |
| Total   |                 |             |                                                       | 19 | - | 8 | 27              | 21      | 120         | 195 | 385 | 700   |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE- In Semester Evaluation

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

\*- Program Elective- I and II, Audit Course I, Open Elective list is provided at the end of structure.



*Key B. Kulkarni*

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### SCHEME OF INSTRUCTION & SYLLABI

Scheme of Instruction for First Year of M. Tech. (PG) Degree in Computer Science and Engineering

Semester – II (W.E.F. AY. 2025-26)

| Sr. No. | Course Category | Course Code | Course Title                              | L  | T | P  | Contact Hrs/Wk | Credits | EXAM SCHEME |     |     |       |
|---------|-----------------|-------------|-------------------------------------------|----|---|----|----------------|---------|-------------|-----|-----|-------|
|         |                 |             |                                           |    |   |    |                |         | MSE         | ISE | ESE | TOTAL |
| 1       | PCC             | CS2210      | Advanced Computer Networks                | 3  | - | -  | 3              | 3       | 20          | 20  | 60  | 100   |
| 2       | PCC             | CS2211      | Soft Computing                            | 3  | - | -  | 3              | 3       | 20          | 20  | 60  | 100   |
| 3       | PEC             | CS22*3      | Program Elective III                      | 3  | - | -  | 3              | 3       | 20          | 20  | 60  | 100   |
| 4       | PEC             | CS22*4      | Program Elective IV                       | 3  | - | -  | 3              | 3       | 20          | 20  | 60  | 100   |
| 5       | PEC             | CS22*5      | Program Elective V                        | 3  | - | -  | 3              | 3       | 20          | 20  | 60  | 100   |
| 6       | PCC             | CS2212      | Laboratory 3 (Based on cores)             | -  | - | 4  | 4              | 2       | -           | 25  | 25  | 50    |
| 7       | PCC             | CS2216      | Laboratory 4 (Based on Elective III & IV) | -  | - | 4  | 4              | 2       | -           | 50  | -   | 50    |
| 8       | P/S/IT          | CS2208      | Seminar                                   | -  | - | 4  | 4              | 2       | -           | 100 | -   | 100   |
| 9       | MNC             | AU22*9      | Audit Course II                           | 2  | - | -  | 2              | Audit   | -           | -   | -   | -     |
| Total   |                 |             |                                           | 17 | - | 12 | 29             | 21      | 100         | 225 | 325 | 700   |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE- In Semester Evaluation

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

\*- Program Elective- III, IV and V, Audit Course II list is provided at the end of structure.



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**Government College of Engineering, Karad**  
**SCHEME OF INSTRUCTION & SYLLABI**  
**Scheme of Instruction for Second Year of M. Tech. (PG) Degree in Computer Science and Engineering**  
**Semester – III (W.E.F. AY. 2025-26)**

| Sr. No. | Course Category | Course Code | Course Title                     | L  | T  | P  | Contact Hrs/Wk | Credits | EXAM SCHEME |     |     |       |
|---------|-----------------|-------------|----------------------------------|----|----|----|----------------|---------|-------------|-----|-----|-------|
|         |                 |             |                                  |    |    |    |                |         | MSE         | ISE | ESE | TOTAL |
| 1       | P/S/IT          | CS2301      | Dissertation Phase-I             | -  | -  | 14 | 14             | 07      | -           | 100 | 100 | 200   |
| 2       | MOOC            | CS2302      | MOOCs / OPEN COURSE (8-12 weeks) | -  | -  | -  | -              | 03      | -           | -   | 100 | 100   |
| Total   |                 |             |                                  | 00 | 00 | 14 | 14             | 10      | -           | 100 | 200 | 300   |

Note:

1. CS2302 will be decided by respective Guide in Consultation with Program Coordinator. Course is mandatory for student and candidate dissertation phase I will be considered incomplete without this Mandatory MOOC Course.
2. In Case, the courses offered online are not completely relevant with the topic of dissertation then any course suggested by NASSCOM on recent technologies can be opted by candidate.

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE- In Semester Evaluation

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



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### SCHEME OF INSTRUCTION & SYLLABI

Scheme of Instruction for Second Year of M. Tech. (PG) Degree in Computer Science and Engineering

Semester – IV (W.E.F. AY. 2025-26)

| Sr. No. | Course Category | Course Code | Course Title          | L | T | P  | Contact Hrs/Wk | Credits | EXAM SCHEME |     |     |       |
|---------|-----------------|-------------|-----------------------|---|---|----|----------------|---------|-------------|-----|-----|-------|
|         |                 |             |                       |   |   |    |                |         | MSE         | ISE | ESE | TOTAL |
| 1       | P/S/IT          | CS2401      | Dissertation phase-II | - | - | 32 | 32             | 16      | -           | 100 | 200 | 300   |
|         |                 |             | Total                 | - | - | 32 | 32             | 16      | -           | 100 | 200 | 300   |

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE- In Semester Evaluation

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



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### SCHEME OF INSTRUCTION & SYLLABI

Scheme of Instruction for First and Second Year of M. Tech. (PG) Degree in Computer Science and Engineering

### List of Electives

| Program Elective I<br>Semester - I          | Program Elective II<br>Semester - I  | Program Elective III<br>Semester - II | Program Elective IV<br>Semester - II    | Program Elective V<br>Semester - II |
|---------------------------------------------|--------------------------------------|---------------------------------------|-----------------------------------------|-------------------------------------|
| CS2143: Advanced Machine Learning           | CS2144: Data Engineering             | CS2243: Big Data Analytics            | CS2214: Human Computer Interaction      | CS2245: Deep Learning               |
| CS2153: Cloud Computing and Applications    | CS2124: Advanced Distributed Systems | CS2253: Block Chain Technology        | CS2224: GPU Computing                   | CS2255: Gen AI and Explainable AI   |
| CS2133: Introduction to Intelligent Systems | CS2134: Internet of Things           | CS2263: Computer Vision               | CS2244: Cryptography and Cyber Security | CS2235: Optimization Techniques     |

| Audit Course I<br>Semester - I           | Audit Course II<br>Semester - II                                  | Open Elective<br>Semester - I                   |
|------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------|
| AU2119: Research Paper Writing           | AU2219: Constitution of India                                     | OE2118: Business Analytics                      |
| AU2129: Disaster Management              | AU2229: Pedagogy Studies                                          | OE2128: Industrial Safety                       |
| AU2139: Sanskrit for Technical Knowledge | AU2239: Stress Management by Yoga                                 | OE2138: Operations Research                     |
| AU2149: Value Education                  | AU2249: Personality Development through Life Enlightenment Skills | OE2148: Cost Management of Engineering Projects |
|                                          |                                                                   | OE2158: Composite Materials                     |
|                                          |                                                                   | OE2168: Waste to Energy                         |



  
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