A

LABORATORY MANUAL

On

**“Laboratory Practice II”**

**SEMESTER–(II)**

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**NAME OF LABORATORY: Laboratory Practice II**

**DEPARTMENT OF COMPUTER ENGINEERING**

**Nashik District Maratha Vidya Prasarak Samaj’s**

**Karmaveer Adv. Baburao GanpatraoThakare College of Engineering**

**Nashik**

**A.Y. 2022-23**

**Vision and Mission**

## Vision of Computer Department

To be the center for excellence for training the world-class engineers to work with multidisciplinary domain based on the state-of-the-art of technology enabled academic system blended with industrial and business practices.

## Mission of Computer Department

To educate and train undergraduate students in Computer Engineering by instilling excellence to fulfill professional and social requirements in business and industry on the platform of scientifically designed academic processes.

## Program Educational Objectives

1. To inculcate computational and programming skills in the field of Computer Engineering.

2. To prepare the graduates to fulfill professional requirements in industry.

3. To develop the graduates to solve problems related to the society

**Program Outcomes**

|  |  |
| --- | --- |
| PO1 | Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. |
| PO2 | Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. |
| PO3 | Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. |
| PO4 | Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. |
| PO5 | Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. |
| PO6 | The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. |
| PO7 | Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. |
| PO8 | Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. |
| PO9 | Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. |
| PO10 | Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. |
| PO11 | Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. |
| PO12 | Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. |

**Program Specific Outcomes**

|  |  |
| --- | --- |
| PSO1 | To apply mathematical and Computer Engineering fundamentals. |
| PSO2 | To apply standard practices and strategies for software development and project management |
| PSO3 | To adapt programming languages, modern computer tools and technologies and soft skills for career enrichment. |

**Course Outcomes**

|  |  |
| --- | --- |
| CO1 | Design a system using different informed search / uninformed search or heuristic approaches |
| CO2 | Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning |
| CO3 | Design and develop an interactive AI application |
| CO4 | Use tools and techniques in the area of Cloud Computing |
| CO5 | Use cloud computing services for problem solving |
| CO6 | Design and develop applications on cloud |

**CO and Assignment mapping**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course outcomes** | **After successful Completion of the course, student will be able to** | **Bloom’s**  **Taxonomy**  **Level** | **Experiments**  **Mapped** | **Target**  **Set** |
| CO1 | Design a system using different informed search / uninformed search or heuristic approaches | L3 | 1,2 | 60% |
| CO2 | Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning | L3 | 3,4 | 60% |
| CO3 | Design and develop an interactive AI application | L3 | 5,6 | 60% |
| CO4 | Use tools and techniques in the area of Cloud Computing | L3 | 7 | 60% |
| CO5 | Use cloud computing services for problem solving | L3 | 8 | 60% |
| CO6 | Design and develop applications on cloud | L3 | 9,10,11,12 | 60% |

**Rubrics for term work**

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| --- | --- | --- | --- | --- | --- |
| Sr. No. | Criteria | Good | Average | Below Average | Marks (10) |
| 1 | Timely completion, punctuality | Submitted within deadline (2) | Late submission (1) | Late submission (1) | 2 |
| 2 | Performance, involvement, efficient codes | Followed proper steps accurately with indentation and neat formatting, comments at proper places, sufficient use of language features, Logical thinking, Overall understanding  (5-6) | Followed steps partially, but with less indentation / formatting, no comments, insufficient use of language features, Logical  thinking, Overall understanding  (3-4) | Not followed proper steps, no indentation and formatting, no comments, less use of language features, Logical thinking, Overall understanding  (1-2) | 6 |
| 3 | Documentation, neatness | Proper documentation and neatness followed (2) | Documentation not proper or neatness not observed (1) | Documentation not proper or neatness not observed (1) | 2 |