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| Faculty of Engineering and Technology | | | |
| Ramaiah University of Applied Sciences | | | |
| Department | Computer Science and Engineering | Programme | B. Tech. in MC |
| Semester/Batch | 07/2021 | | |
| Course Code | 20CSE405A | Course Title | Pattern Recognition |
| Course Leader | Dr Nayana B R | | |

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| Sections | Marking Scheme | | Marks | | |
| Max Marks | First Examiner | Moderator |
| Question 1 |  | | | | |
| **1.1** | Consider a classification dataset and demonstrate the concept of underfitting and overfitting along with bias Vs Variance trade off’s with necessary visualizations | **10** |  |  |
| **1.2** | Consider a regression dataset and perform Baysian regression or Gaussian regression (as per the data trend requirement) and demonstrate how LS regularization is leveraging the performance. | **10** |  |  |
| **1.3** | Summarize your observations and learnings from the above 2 implementations | **5** |  |  |
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|  | **Question 1 Max Marks** | **25** |  |  |
| Question 2 |  | | | | |
| **2.1** | Consider a classification/regression dataset and implement SVM in different modes and illustrate the happenings | **10** |  |  |
| **2.2** | Provide an comparative analysis of dimensionality reduction by PCA, FDA, MDA and LLE on a suitable dataset | **10** |  |  |
| **2.3** | Summarize your observations and learnings from the above 2 implementations | **5** |  |  |
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|  | **Question 2 Max Marks** | **25** |  |  |
| **Total Assignment Marks** | | | 50 |  |  |

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| Assignment | | | | | | | | |
| Reg. No. | |  | | | Name of Student |  | | |
| **Course Marks Tabulation** | | | | | | | | |
| **Component** | | **First Examiner** | **Remarks** | | | **Moderator** | **Remarks** | |
| **1** | |  |  | | |  |  | |
| **2** | |  |  | | |  |  | |
| **Marks (out of 25 )** | |  |  | | |  |  | |
| **Signature of First Examiner Signature of Moderator** | | | | | | | | |

**Instructions to students**

1. The assignment consists of 2 questions:
2. Maximum marks is **25**.
3. The assignment has to be neatly word processed as per the prescribed format.
4. The maximum number of pages should be restricted to **15**.
5. The printed assignment must be submitted to the course leader.
6. **Submission Date: 16 Jan 2025**
7. **Submission after the due date is not permitted.**
8. **IMPORTANT**: It is essential that all the sources used in preparation of the assignment must be suitably referenced in the text.
9. Marks will be awarded only to the sections and subsections clearly indicated as per the problem statement/exercise/question
10. Documental evidence for all the components/parts of the assessment such as the reports, photographs, laboratory exam / tool tests are required to be attached to the assignment report in a proper order.

---End of Assignment---