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| **Specialist Diploma In Industrial Internet of Things**  **Engineering Analytics & Machine Learning (ECSE202)** | | | Description: C:\Users\rajahk\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\Z7A7LSNK\big (2).jpg |
|  | | |  |
| **Name:** | **Class:** | | |
| **Admin No:** |  | | |

**Practical Test 2 (Practice Question)**

**Instructions to Candidates:**

* The duration of the practical test is 1 hour.
* This paper consists of 4 pages (including cover page)
* Answer ALL questions in this paper.
* You are to write all your answers on this set of question paper.

|  |  |
| --- | --- |
| **QUESTION ANSWERED** | **EXAMINER’S USE ONLY** |
| **MARKS** |
| **1** | **/ 5** |
| **2** | **/ 5** |
| **3** | **/ 5** |
| **TOTAL** | **/ 15** |

1. Load the human activity data from the file ‘har\_activity1.csv’.Perform the follows tasks:

[5 marks]

|  |  |
| --- | --- |
| Task | Verification by Tutor |
| Read in the csv file and show the first 5 rows of data. Also show that there is no missing/NA value in the data. |  |
| Used Scikit preprocessing.LabelEncoder() method to encode attributes ‘gender’ and ‘class’ to numerical |  |

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1. Based on the data in **Question 1**, perform the tasks below to prepare the data for training and classification using Linear Method.

[5 marks]

|  |  |
| --- | --- |
| Attribute | Verification by Tutor |
| Prepared the following data as input features to the scikitlearn model:   * body\_mass\_index * x1 * y1 * z1 * x2 * y2 * z2 * x3 * y3 * z3 * x4 * y4 * z4 |  |
| Prepared the attribute ‘class’ as the target vector |  |
| Split the data to training and testing with ratio of 80% as training. (Set random state as 43) |  |

5

1. Based on the data in **Question 2**, perform the tasks below to train and classify the data using Linear Method.

[5 marks]

|  |  |
| --- | --- |
| Attribute | Verification by Tutor |
| Train the data with LinearSVC |  |
| Test the trained model with test data. |  |
| Plot the confusion matrix |  |

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