**Professional Masters in IT (PMIT-6307); Class Test-02; Marks-10; Time-30 Minutes**

1. Consider the following output for a dog classification problem generated by a classification algorithm: [4]

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Actual | Dog | Dog | Dog | Dog | Cat | Dog | Cat | Dog | Cat | Dog |
| Predicted | Dog | Cat | Dog | Dog | Cat | Dog | Dog | Dog | Cat | Dog |

Calculate accuracy, precision, recall & F\_score for this algorithm.

1. Generate a decision tree from the following training dataset considering the ID3 algorithm [6]

|  |  |  |  |
| --- | --- | --- | --- |
| Home Owner | Marital Status | Income (>80k) | Defaulter |
| Yes | S | Yes | No |
| No | M | Yes | No |
| No | S | No | No |
| Yes | M | Yes | No |
| No | D | Yes | Yes |
| No | M | No | No |
| Yes | D | Yes | No |
| No | S | Yes | Yes |
| No | M | No | No |
| No | S | Yes | Yes |