**M S Ramaiah Institute of Technology**

**(Autonomous Institute, Affiliated to VTU)**

**Department of Information Science and Engineering**

**Programme: B. E. in Information Science and Engineering**

|  |  |  |  |
| --- | --- | --- | --- |
| Term: | **17.08.2016 to 17.12.2016** | Course Code: | **IS52A1** |
| Course: | **Digital Image Processing** | Semester: | **V** |
| CIE: | **Test – 3** | Max Marks: | **30** |
| Date: |  | Time: | **1hr** |

**Portions for Test:** Unit-3,4,5

**Instructions to Candidates**: **Answer any two questions.**

Note: **Mobiles are strictly prohibited**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl#** | **Question** | **Marks** | **Bloom’s Level** | **CO** |
| 1 | a)Suppose the type of tumor is identified on the medical image based on its border characteristics. How the border of a tumor can be represented and described in this application using border following algorithm and simple descriptors? Explain. | 10 | Analyze | CO3 |
| b) Describe the two approaches used to implement full color-image processing. | 5 | Remember | CO1 |
| 2 | a) Explain how the minimum distance classifier and template matching methods can be used to identify the type of object in the given image. | 10 | Analyze | CO3 |
| b) What are topological descriptors? Explain any two descriptors with an example. | 5 | Remember | CO1 |
| 3 | a)Why HSI color model is considered suitable for human interpretation? Write the procedure for converting RGB to HSI model. | 10 | Analyze | CO3 |
| b) What is object recognition? Explain the following terms with respect to the neural network: i) Patterns ii) Pattern classes iii) Training set iv) Testing set | 5 | Remember | CO1 |