Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May– 2017**

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| **Code :** | **14EC2062** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MACHINE LEARNING ALGORITHMS FOR IMAGE PROCESSING** | **Max. marks:** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Categorize the different approaches for developing statistical pattern recognition and explain any of them in detail. | CO1 | 15 |
| b. | Interpret the abstract representation of pattern mappings. | CO1 | 5 |
| (OR) | | | | |
| 2. |  | Summarize the learning and testing in pattern recognition system. | CO1 | 20 |
| 3. | a. | Differentiate difference and similarity in patterns. | CO1 | 5 |
|  | b. | Outiline the basic steps involved in developing a machine intelligent system. | CO1 | 15 |
| (OR) | | | | |
| 4. | a. | Summarize the application and advantages of nearest neighbour approach for pattern classification. | CO1 | 15 |
|  | b. | Write short notes on decision trees. | CO2 | 5 |
| 5. | a. | Tell the procedure to estimate mean of Gaussian using Maximum likelihood estimation. | CO2 | 5 |
|  | b. | Analyze the performance of a pattern classifier with respect to error and risk involved in the system. | CO2 | 15 |
| (OR) | | | | |
| 6. | a. | Explain about interpolation function in Parzen windows. | CO2 | 5 |
|  | b. | Assess the performance of Bayesian parameter estimation approach with an example. | CO2 | 15 |
| 7. | a. | Justify the reason for adopting a neural computational architecture. | CO2 | 5 |
|  | b. | Explain about Fisher’s Linear Discriminant with an example. | CO3 | 15 |
| (OR) | | | | |
| 8. |  | Design a linear classifier for Image processing application. | CO3 | 20 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Differentiate physical neural network and artificial neural network. | CO3 | 8 |
|  | b. | Explain about Unsupervised Learning in Neural Pattern Recognition. | CO3 | 12 |

ALL THE BEST