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

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**End Semester Examination – Nov/Dec– 2017**

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| **Code :** | **17EC3064** | **Duration :** | **3hrs** |
| **Sub. Name :** | **EMBEDDED 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. | Discuss in detail about the elements of visual perception with neat diagram. | CO1 | 10 |
| b. | Describe briefly about Image sampling and Quantization. | CO2 | 10 |
| (OR) | | | | |
| 2. | a. | Describe the Gray level transformation functions used for image enhancement. | CO3 | 10 |
| b. | Explain briefly about the histogram processing technique. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Discuss in detail about the image smoothing and sharpening filter with its model in the spatial domain. | CO3 | 10 |
| b. | Differentiate spatial domain filtering and frequency domain filtering. | CO2 | 10 |
| (OR) | | | | |
| 4. |  | Describe in following in detail.  i. Linear, Position invariant degradation. ii. Inverse filtering. | CO4 | 20 |
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| 5. | a. | Describe in detail about the HSI color image model. | CO4 | 10 |
|  | b. | Discuss about the different noise distribution model in detail. | CO4 | 10 |
| (OR) | | | | |
| 6. |  | Write notes on following Transformation Techniques.  i. Geometric Transformation. ii. Plane to plane transformation. | CO5 | 20 |
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| 7. | a. | Describe about region based image segmentation techniques. Compare with threshold region based techniques. | CO5 | 10 |
|  | b. | Discuss in detail about the Extraction of connected components morphological algorithm in image processing. | CO6 | 10 |
| (OR) | | | | |
| 8. | a. | Illustrate the concept of edge linking by local processing in biomedical image processing. | CO4 | 10 |
|  | b. | Propose a morphological procedure to clear the edge artifacts of the image given in (a) such that the image in (b) is obtained. Clearly state the structuring element(s) and number of iterations that you would use in your procedure. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. |  | Discuss the various Functions and Modules of python programming used in image enhancement techniques. | CO5 | 20 |