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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

**Supplementary Examination – June – 2017**

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|  |  |  |  |
| **Code :** | **14EC2057** | **Duration :** | **3hrs** |
| **Sub. Name :** | **DIGITAL 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. | Summarize the basic steps in processing the digital images with neat block diagram. | CO1 | 10 |
| b. | Categorize the applications of Digital Image processing with examples. | CO1 | 10 |
| (OR) | | | | |
| 2. |  | Differentiate spatial and intensity resolution. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Name the sensors available for digital image acquisition and explain its working principle. | CO1 | 20 |
| (OR) | | | | |
| 4. |  | Comment briefly on the concepts of sampling and quantization in dital image processing. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Define adjacency, connectivity, regions and boundaries in a digital image with an example. | CO2 | 12 |
|  | b. | Discriminate the color image processing from grey image processing. | CO2 | 8 |
| (OR) | | | | |
| 6. |  | Expain the process of image sharpening using frequency domain filters? Support your answer with necessary mathematical equations. | CO2 | 20 |
|  |  |  |  |  |
| 7. | a. | Outline the image restoration process with neat block diagram. | CO2 | 10 |
|  | b. | Discuss the use of various grey level transformations on digital images. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Illustrate the need for image compression with an example. | CO3 | 10 |
|  | b. | Point out the use of wavelets in image compression. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Tell the need for thresholding operator in digital image processing. | CO3 | 10 |
|  | b. | Comment briefly on the edge operators used in processing of digital images. | CO3 | 10 |

ALL THE BEST