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BJ—12—2016

FACULTY OF COMPUTER STUDIES

BCS (Third Year) (Fifth Semester) EXAMINATION

OCTOBER/NOVEMBER, 2016

(Revised Course)

COMPUTER SCIENCE

Paper (S5.5)

(Digital Image Processing)

(Monday, 21-11-2016)

Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—80

N.B. :— All questions are compulsory.

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| 1. | Attempt the following : | 20 |
| (a) | Explain elements of visual perception. | |
| (b) | Explain image types of DIP. | |
| (c) | Explain noise models. | |
| (d) | Explain read, display and writing images. | |
| 2. | (a) Explain M-function programming in DIP. | 8 |
| | (b) Explain Intensity transformation function. | 7 |
| | <i>Or</i> | |
| | (c) Explain Histogram processing and function plotting. | 8 |
| | (d) Explain 2D-discrete Fouries transform. | 7 |
| 3. | (a) Explain Spatial filtering in detail. | 8 |
| | (b) Explain filtering in frequency domain. | 7 |
| | <i>Or</i> | |
| | (c) Explain how frequency domain filters from spatial filters. | 8 |
| | (d) Explain geometric transformation and image registration. | 7 |

P.T.O.

4. (a) Explain model of Image Degradation/Restoration process. 8
- (b) Explain advantages and disadvantages of MATLAB in detail. 7
- Or*
- (c) Explain MATLAB environment with an example. 8
- (d) Explain digital image representation in detail. 7
5. Write short notes on (any *three*) : 15
- (a) Using matlab as scratch pad
- (b) Statistical background
- (c) Multidimensional arrays
- (d) Color representation
- (e) Brightness and adaption.