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AA—16—2019

FACULTY OF COMPUTER STUDIES

B.Sc. (Third Year) (Fifth Semester) EXAMINATION

OCTOBER/NOVEMBER, 2019

(Revised Course)

COMPUTER SCIENCE

(Digital Image Processing)

(Monday, 14-10-2019)

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

Time—3 Hours

Maximum Marks—80

- N.B. :—*
- (i) All questions are compulsory.*
 - (ii) Figures to the right indicate full marks.*
 - (iii) Assume suitable data, if necessary.*
 - (iv) Draw neat and well labelled diagrams wherever necessary.*

1. Attempt the following : 20

- (i) What are elements of visual perception ?*
- (ii) Explain Digital Image Representation.*
- (iii) What is Histogram Processing ?*
- (iv) Explain disadvantages of MATLAB.*

2. *(a) Explain image types in Digital Image Processing.* 8

(b) Describe Intensity Transformation Function. 7

Or

(c) Explain color representation concept with suitable example. 8

(d) Explain spatial filtering concept. 7

P.T.O.

3. (a) Explain 2D-discrete Fourier transform. 8
- (b) Describe MATLAB Environment in detail. 7
- Or*
- (c) Explain Noise Models. 8
- (d) Describe Adoption and Discrimination concept in detail. 7
4. (a) Explain Geometric Transformation concept. 8
- (b) Explain elements of Digital Image Processing System. 7
- Or*
- (c) Explain filtering in frequency domain with examples. 8
- (d) Explain procedure for reading and writing images in detail. 7
5. Write short notes on (any *three*) : 15
- (a) Statistical background
- (b) M function programming
- (c) Image Registration
- (d) Data classes
- (e) Scalar and Array operations.