

This question paper contains 2 printed pages]

**E—14—2019**

**FACULTY OF SCIENCE**

**B.Sc. (Fifth Semester) EXAMINATION**

**MARCH/APRIL, 2019**

**(Revised Course)**

**COMPUTER SCIENCE**

**(S.5.5)**

**(Digital Image Processing)**

**(Tuesday, 16-4-2019)**

**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.**

1. Attempt the following : 20
- (i) What are elements of DIP ?
  - (ii) Describe operators in MATLAB.
  - (iii) What is spatial filtering ?
  - (iv) Explain advantage of MATLAB.
2. (a) Write short note on Data class. 7
- (b) Describe M-function in detail. 8
- Or*
- (c) What are different image types ? 7
- (d) Explain procedure for reading and displaying of image in detail. 8
3. (a) Describe intensity transformation function in detail. 7
- (b) What is Histogram process ? Describe with function plotting in detail. 8
- Or*
- (c) Explain 2D-Discrete Fourier transform in detail. 7
- (d) What is frequency Domain processing ? Discuss in detail. 8

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E-14-2019

4. (a) Describe model of image degradation Restoration process. 7  
(b) Describe cell array and its structure in detail. 8
- Or*
- (c) Discuss MATLAB Environment in detail. 7  
(d) Explain Geometric transformation in detail. 8
5. Write short notes on (any three) : 15
- (i) Elements of visual perceptions  
(ii) M-files  
(iii) Noise models  
(iv) Disadvantage of MATLAB  
(v) IPT functions.

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