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BT—12—2016

FACULTY OF COMPUTER STUDIES

M.Sc. (Fourth Semester) EXAMINATION

OCTOBER/NOVEMBER, 2016

(Revised Course)

SOFTWARE ENGINEERING

(Digital Image Processing)

(Saturday, 19-11-2016)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—100

N.B. :— (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if necessary.

1. (a) Explain components of DIP system. 10

(b) Explain digital image representation in Matlab. 10

Or

(a) Explain visual perception concept. 10

(b) Explain image types in detail. 10

2. (a) Explain gamma transformation. 10

(b) Explain noise models in detail. 10

Or

(a) Describe imhist() function in brief. 10

(b) Explain image degradation/restoration model. 10

3. (a) Explain high-pass filtering. 10

(b) Explain 2D-DFT and its inverse. 10

Or

(a) Describe color models in detail. 10

(b) Explain wavelet decomposition structures in detail. 10

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4. (a) Explain color image representation. 10
(b) Describe low-pass filtering. 10
- Or*
- (a) Explain linear spatial filtering. 10
(b) Explain how to read and display an image in Matlab. 10
5. Write short notes on (any four) : 20
- (a) Non-linear spatial filtering
(b) Applications of DIP
(c) Inverse fast Wavelet transform
(d) $\log(\)$ function
(e) Image arithmetic functions
(f) Lights and electromagnetic spectrum.

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