

Enrollment No:- \_\_\_\_\_

Exam Seat No:- \_\_\_\_\_

# C.U.SHAH UNIVERSITY

Summer-2015

Subject Code: 4CS04IIM1 Subject Name: Digital Image Processing & Multimedia

Course Name: B.Sc. (IT)

Date: 16/5/2015

Semester:IV

Marks:70

Time:10:30 TO 01:30

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**Instructions:**

- 1) Attempt all Questions of both sections in same answer book/Supplementary.
  - 2) Use of Programmable calculator & any other electronic instrument prohibited.
  - 3) Instructions written on main answer book are strictly to be obeyed.
  - 4) Draw neat diagrams & figures (if necessary) at right places.
  - 5) Assume suitable & perfect data if needed.
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## SECTION- I

Q-1 Attempt the following. 7

- a) Define the term: Transform
- b) What is digital image processing?
- c) What is histogram?
- d) Define: Image Restoration
- e) What is filtering?
- f) Define the term: Image restoration
- g) What is digitization?

Q -2: Answer the following questions

- (A) What is Fourier transform? Explain its properties 5
- (B) What is KL transform? Explain its properties 5
- (C) Compare sampling and quantization 4

OR

Q- 2: Answer the following questions

- (A) Explain Image enhancement by point processing 5
- (B) Describe Color image processing 5
- (C) Explain inverse filtering 4

Q- 3: Answer the following questions

- (A) Explain region orientation segmentation 5

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16-5

- (B) Describe image reconstruction from projection 5  
(C) Explain lossy and Error free compression 4

OR

Q- 3: Answer the following questions

- (A) Describe image compression model 5  
(B) Explain various schemes for image representation 5  
(C) Write a note on: Application of digital image processing 4

## SECTION – II

Q- 4: Answer the following questions 7

- (A) What is data redundancy?  
(B) Define the term: Multimedia  
(C) List various applications of multimedia.  
(D) What is projection?  
(E) What is correlation?  
(F) What is property?  
(G) What is energy compaction?

Q-5: Answer the following questions

- (A) Explain cosine transform and its properties 5  
(B) List various authoring tools. Explain. 5  
(C) Describe non-linear filters in spatial domain 4

OR

Q- 5: Answer the following questions

- (A) Explain Walsh transform and its properties 5  
(B) Explain boundary and regional descriptors 5  
(C) Write short note on various steps to project design in multimedia 4

Q- 6: Answer the following questions

- (A) Describe geometric transformation 5  
(B) Explain least mean square error in image restoration 5  
(C) Write a short note on: Quality of Service 4

OR

Q- 6: Answer the following questions

- (A) Describe steps of digital image processing 5  
(B) Explain low pass filtering 5  
(C) Explain various input / output devices for multimedia system 4

