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M.Tech.(IT) (2015 & Onwards)/(CSE Engg.) (2015 to 2017) (Sem.-1)**DIGITAL IMAGE PROCESSING****Subject Code : MTCS-105****M.Code : 72633****Time : 3 Hrs.****Max. Marks : 100****INSTRUCTIONS TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

Q1. List the various characteristics of the following :

- (a) Three dimensional image processing
- (b) Digital image representation

Q2. Explain the following concepts with suitable examples :

- (a) Removal of blur caused by uniform linear motion
- (b) Redundancy and fidelity criteria in image compression

Q3. Differentiate between the following :

- (a) Slant transform and KL Transform
- (b) Constrained and Unconstrained image restoration

Q4. Write short notes on the following :

- (a) Image subtraction and image averaging in image enhancement
- (b) Hit and miss algorithms in image segmentation

Q5. Discuss the various application areas of the following :

- (a) Color image processing
- (b) Image segmentation



- Q6. Explain the various limitations of the following :
- (a) 2D orthogonal and unitary transforms
 - (b) RGB model
- Q7. Discuss the implementation details of the following :
- (a) Sampling and quantization
 - (b) 2D linear space invariant systems
- Q8. Write the development stages of :
- (a) Arithmetic coding techniques for image compression
 - (b) Algebraic approach to restoration

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.