

Model Question Paper-1 with effect from 2019-20 (CBCS Scheme)

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Sixth Semester B.E. Degree Examination Digital Image Processing

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module – 1			
Q.1	(a)	Define Digital Image Processing. Explain the fundamental Steps in Digital Image Processing with a neat block diagram	10M
	(b)	Show at-least two examples of applications that use DIP.	04M
	(c)	Explain the Components of an Image Processing System with a neat diagram.	06M
OR			
Q.2	(a)	Explain the Process of Image Sensing and Acquisition	07M
	(b)	Illustrate Image Sampling and Quantization with an example.	06M
	(c)	Briefly Explain the Elements of Visual Perception	07M
Module – 2			
Q.3	(a)	Explain the following Basic Intensity Transformation: i) Image Negatives ii) Log Transformations	10M
	(b)	Describe Histogram Processing with at least two examples	10M
OR			
Q.4	(a)	Define 2D- DFT. Explain the following properties of 2D-DFT i) Translation ii) Rotation	10M
	(b)	Explain Image Smoothing and Image Sharpening Using Frequency Domain Filters.	10M
Module – 3			
Q.5	(a)	Illustrate Restoration in the Presence of Noise Only using Spatial Filtering	10M

	(b)	Explain Linear, Position-Invariant Degradations	10M
OR			
Q.6	(a)	Describe Minimum Mean Square Error (Wiener) Filtering with an example.	10M
	(b)	Explain Constrained Least Squares Filtering with an example.	10M
Module – 4			
Q.7	(a)	Explain the following Color Models i) The RGB Color Model ii) The CMY and CMYK Color Models	10M
	(b)	Describe the Background of Wavelets with suitable Illustrations	10M
OR			
Q.8	(a)	Explain Erosion, Dilation with an example each	10M
	(b)	Explain the following Basic Morphological Algorithms. i) Boundary Extraction ii) Hole Filling	10M
Module – 5			
Q.9	(a)	Explain the Detection of Discontinuities and Edge Detection	10M
	(b)	Describe Hough Transforms and Shape Detection with an example	10M
OR			
Q.10	(a)	Explain the following Representation i) Boundary Following ii) Chain codes	10M
	(b)	Describe Boundary descriptors with respect to Shape Numbers	10M

Table showing the Bloom's Taxonomy Level, Course Outcome and Programme Outcome				
Question		Bloom's Taxonomy Level attached	Course Outcome	Programme Outcome
Q.1	(a)	L1	CO1	PO1
	(b)	L2	CO1	PO1
	(c)	L2	CO1	PO1
Q.2	(a)	L2	CO1	PO2
	(b)	L3	CO1	PO1
	(c)	L2	CO1	PO1
Q.3	(a)	L2	CO2	PO1
	(b)	L2	CO2	PO3
Q.4	(a)	L3	CO2	PO2
	(b)	L3	CO2	PO1
Q.5	(a)	L3	CO3	PO2
	(b)	L3	CO3	PO1
Q.6	(a)	L3	CO3	PO8
	(b)	L2	CO3	PO8
Q.7	(a)	L4	CO4	PO8
	(b)	L4	CO4	PO4,PO8
Q.8	(a)	L4	CO4	PO2
	(b)	L4	CO4	PO1
Q.9	(a)	L4	CO5	PO1
	(b)	L4	CO5	PO1
Q.10	(a)	L4	CO5	PO1
	(b)	L4	CO5	PO1
Bloom's Taxonomy Levels	Lower order thinking skills			
	Remembering(knowledge): <i>L</i> ₁	Understanding Comprehension): <i>L</i> ₂	Applying (Application): <i>L</i> ₃	
	Higher order thinking skills			
	Analyzing (Analysis): <i>L</i> ₄	Valuating (Evaluation): <i>L</i> ₅	Creating (Synthesis): <i>L</i> ₆	

