University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: BE Information Technology
Curriculum Scheme: Rev2016
Examination: Third Year Semester V
Course Code: **ITDLO5012**   and   Course Name: **Elective I: Image Processing**

Time: 1 hour   Max. Marks: 50
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Note to the students:- All the Questions are compulsory and carry equal marks.

Q1.	Which of the following is not an step in digital image processing
Option A:	Enhancement
Option B:	Segmentation
Option C:	Morphing
Option D:	Description
Q2.	Shape of an image is
Option A:	Triangle
Option B:	Circle
Option C:	Square
Option D:	Pentagon
Q3.	Is not a type of distance measure
Option A:	City Block
Option B:	Chess Board
Option C:	Euclidean
Option D:	Diagonal
Q4.	An n-bit gray scale image has maximum value of the pixel as
Option A:	$2^n - 1$
Option B:	$n^2 - 1$
Option C:	n^2
Option D:	2^n
Q5.	Histogram matching also called as
Option A:	Histogram Equalisation
Option B:	Histogram Specification

Option C:	Histogram linearisation
Option D:	Histogram modularisation
Q6.	In Homomorphic filtering, DFT uses
Option A:	Exponential operation
Option B:	Logarithmic operation
Option C:	Negative transformation
Option D:	Power operation
Q7.	Convolution and Correlation are functions of
Option A:	Connectivity
Option B:	Time
Option C:	Intensity
Option D:	Displacement
Q8.	Response of the gradient to noise and fine detail is
Option A:	Equal to
Option B:	Lower than
Option C:	Greater than
Option D:	Has no relation with
Q9.	Image transforms are associated with
Option A:	Pexel domain
Option B:	Spatial domain
Option C:	Space domain
Option D:	Frequency Domain
Q10.	Transform matrix of Hadamard is
Option A:	{1,1,1,1; 1,-1,1,-1; 1,1,-1,-1; 1,-1-1,1}
Option B:	{1,1,1,1; 1,-1,1,-1; 1,1,-1,-1; 1,-1-1,1}
Option C:	{1,1,1,1; 1,-1,-1,1; 1,1,-1,-1; 1,-1-1,1}
Option D:	{1,1,1,1; 1,-1,1,-1; 1,-1,-1,1; 1,-1-1,1}

Q11.	Select the correct statement
Option A:	Hadamard sequency is ordered
Option B:	DFT gives energy compaction
Option C:	DCT is complex conjugate
Option D:	Transform matrix for N=2 is same for all discrete image transforms
Q12.	Circular convolution of X1(n)={2,1,2,1} and x2(n)={1,2,3,4} is
Option A:	14,14,16,16
Option B:	16,16,14,14
Option C:	2,3,6,4
Option D:	14,16,14,16
Q13.	Arithmetic coding is work of
Option A:	Alan
Option B:	Elias
Option C:	Robert
Option D:	Joan
Q14.	Shannon's first theorem of coding is known as
Option A:	zero-memory
Option B:	entropy
Option C:	noiseless
Option D:	predictive
Q15.	LZW coding assigns
Option A:	fixed-length code words to variable length sequences of source symbols
Option B:	variable-length code words to fixed length sequences of source symbols
Option C:	fixed-length code words to fixed length sequences of source symbols
Option D:	variable-length code words to variable length sequences of source symbols
Q16.	Match the following I. Opening II. Closing III. Thinning IV Hit-or-miss transformation a. find patterns of pixels b. smoothes the contours of the image c. eliminates small holes d. reduce the thickness of an object
Option A:	I-d, II-c, III-b, IV-a

Option B:	I-d, II-b, III-c, IV-a
Option C:	I-b, II-c, III-d, IV-a
Option D:	I-b, II-d, III-c, IV-a
Q17.	Select false statement
Option A:	erosion enlarges holes
Option B:	dilation fills the holes
Option C:	dilation expands the boundary
Option D:	erosion expands the boundary
Q18.	It is not a method of segmentation
Option A:	line
Option B:	point
Option C:	edge
Option D:	area
Q19.	Order of shape number for a closed boundary is
Option A:	Odd
Option B:	Even
Option C:	Any positive value
Option D:	Prime
Q20.	Which of the following is used for edge detection
Option A:	first derivative
Option B:	second derivative
Option C:	third derivative
Option D:	fourth derivative
Q21.	Select the incorrect statement
Option A:	Statistical moments are used to describe the shape of boundary segments quantitatively.
Option B:	Statistical moments are sensitive to rotation.
Option C:	The length of a boundary is one of the boundary descriptors.

Option D:	Shape number is a unique representation of an image.
Q22.	Pseudo colors are known as
Option A:	primary colors
Option B:	secondary colors
Option C:	false colors
Option D:	true colors
Q23.	Color of an object is determined by the light
Option A:	absorbed
Option B:	reflected
Option C:	refracted
Option D:	transmitted
Q24.	Lossy compression techniques are useful in
Option A:	Military imaging
Option B:	Space imaging
Option C:	Medical imaging
Option D:	Television broadcasting
Q25.	Bit plane slicing generally can not be used for
Option A:	Steganography
Option B:	Enhancement
Option C:	Compression
Option D:	Transforms

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	C
Q2.	C
Q3.	D
Q4	A
Q5	B
Q6	B
Q7	D
Q8.	B
Q9.	D
Q10.	A
Q11.	D
Q12.	D
Q13.	B
Q14.	C
Q15.	A
Q16.	C
Q17.	D
Q18.	D
Q19.	B
Q20.	A
Q21.	C
Q22.	C
Q23.	B
Q24.	D
Q25.	D