

These are sample MCQs to indicate pattern, may or may not appear in examination

**University of Mumbai
Online Examination 2020**

Program: BE Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester VI

Course Code: ECC604 and Course Name: Image Processing & Machine Vision

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 the property of two dimensional Fourier transform
Option A:	Non-Separability
Option B:	Asymmetry
Option C:	Periodicity and non-conjugate property
Option D:	Periodicity and conjugate property
Q2.	What is the sum of all components of a normalized histogram?
Option A:	1
Option B:	-1
Option C:	0
Option D:	100
Q3.	Which of the following texture description techniques is based on the properties of Fourier transform?
Option A:	Statistical
Option B:	Structural
Option C:	Spectral
Option D:	Topological
Q4.	A pixel p at coordinates (x, y) has neighbors whose coordinates are given by:(x+1, y), (x-1, y), (x, y+1), (x, y-1) This set of pixels is called _____
Option A:	4-neighbors of p
Option B:	Diagonal neighbors
Option C:	8-neighbors
Option D:	16-neighbors
Q5.	Which is not source of Image

Option A:	Asoustic
Option B:	Mecatronic
Option C:	Ultrasonic
Option D:	electronic
Q6.	The domain that refers to image plane itself and the domain that refers to Fourier transform of an image is/are :
Option A:	Spatial domain in both
Option B:	Frequency domain in both
Option C:	Spatial domain and Frequency domain respectively
Option D:	Frequency domain and Spatial domain respectively
Q7.	If S is a subset of pixels, pixels p and q are said to be _____ if there exists a path between them consisting of pixels entirely in S.
Option A:	Continuous
Option B:	Ambiguous
Option C:	Connected
Option D:	Adjacent
Q8.	How can one reduce the aliasing effect on an image?
Option A:	By reducing the high-frequency components of image by blurring the image
Option B:	By increasing the high-frequency components of image by blurring the image
Option C:	By reducing the high-frequency components of image by clarifying the image
Option D:	By increasing the high-frequency components of image by clarifying the image
Q9.	Select the correct statement option from the following about convolution property of 2D-DFT
Option A:	Convolution in time domain is equivalent to multiplication in the frequency domain
Option B:	Convolution in time domain is equivalent to division in the frequency domain
Option C:	Convolution in time domain is equivalent to addition in the frequency domain
Option D:	Convolution in time domain is non-equivalent to addition in the frequency domain
Q10.	The main aim of statistical texture description method is:
Option A:	to find a deterministic or probabilistic decision rule assigning a texture to some specific class
Option B:	to study properties of a figure that are unaffected by any deformation
Option C:	to detect global periodicity in an image by identifying high end narrow peaks in the spectrum
Option D:	deal with arrangemnt of image primitives having some regulatity in texture
Q11.	If geometric mean filters has to work like Inverse Filter then what should be the value of positive constant alpha(α)
Option A:	$\alpha=1$
Option B:	$\alpha=2$

Option C:	$\alpha=0.5$
Option D:	$\alpha=0$
Q12.	Which filter replaces the pixel value with the medians of intensity levels
Option A:	arithmetic mean filter
Option B:	geometric mean filter
Option C:	median filter
Option D:	sequence mean filter
Q13.	Structuring element consists of?
Option A:	only 0
Option B:	Only 1
Option C:	1 & 2 both
Option D:	1 & 0 both
Q14.	Example of Region Growing Methods is
Option A:	Level Set Methods
Option B:	Graph Partitioning Methods
Option C:	Watershed Transformation
Option D:	Neural Networks Segmentation
Q15.	Which texture description method is based on repeated occurrence of some gray-level configuration in the texture?
Option A:	Co-occurrence matrices
Option B:	Laws' texture energy measures
Option C:	Primitive length
Option D:	Spatial frequencies
Q16.	Compute the Hadamard transform of the data sequence{1,2,0,3}' and select the correct answer from the following
Option A:	{6,-4,0,2}
Option B:	{6,-4,2,2}
Option C:	{6,-4,2,0}
Option D:	{6,4,0,2}
Q17.	The original image has two white blocks which were connected by a thin white strip. How one can get rid of this white strip without changing original size of white blocks?
Option A:	Closing operation
Option B:	Opening operation
Option C:	Hit-or-miss transformation
Option D:	Boundary Extraction
Q18.	Example of discontinuity approach in image segmentation is
Option A:	Edge based segmentation
Option B:	Boundary based segmentation

Option C:	Region based segmentation
Option D:	Split & Merge
Q19.	If R is the entire region of the image then union of all segmented parts should be equal to
Option A:	R
Option B:	R'
Option C:	R _i
Option D:	R _n
Q20.	Mask's response to zero means
Option A:	Multiplication to zero
Option B:	Division to zero
Option C:	Sum to zero
Option D:	Subtraction to zero
Q21.	Sudden changes in intensity produces peak in
Option A:	First derivative
Option B:	Second derivative
Option C:	Third derivative
Option D:	Fourth Derivative
Q22.	For edge detection we combine gradient with
Option A:	Sharpening
Option B:	Set theory
Option C:	Smoothing
Option D:	Thresholding
Q23.	Choose the correct statement related to coarse textures and fine textures:
Option A:	Coarse textures are characterized by higher spatial frequencies, fine textures by lower spatial frequencies
Option B:	Coarse textures are built from smaller primitives, fine textures from larger primitives
Option C:	Fine textures are characterized by higher spatial frequencies, coarse textures by lower spatial frequencies
Option D:	If texel's are small and tonal differences between texel's are large a coarse texture results and If texel's are large and consist of several pixels, a fine texture results.
Q24.	LOG stands for
Option A:	Laplacian of Gaussian
Option B:	Length of Gaussian
Option C:	Laplacian of gray level
Option D:	Length of gray level
Q25.	Main drawback of Statistical texture description tools is that:

Option A:	object recognition is not perfect
Option B:	they do not carry any information regarding relative position of pixels with each other
Option C:	learning algorithms are not supervised
Option D:	do not use any knowledge base