Program: BE Computer Engineering

Curriculum Scheme: Revised 2012/2016

Examination: BE Year Semester VII

Course Code: CSC701 and Course Name: Digital Signal & 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.	A deterministic signal has
Option A:	no uncertainty
Option B:	uncertainty
Option C:	partial uncertainty
Option D:	randomness
Q2.	$\delta(n)$ =
Option A:	$u(n) + u(n-1)$
Option B:	$u(n)\, u(n-1)$
Option C:	$u(n) - u(n-1)$
Option D:	u(n)
Q3.	For a power signal, P = _____ and E =_____
Option A:	Finite,Infinite
Option B:	Finite, Non-zero
Option C:	Infinite,Infinite
Option D:	Finite,Finite
Q4.	For an even signal, $x(-n)$ = _____for all n.
Option A:	-x(n)
Option B:	x(n)
Option C:	2x(n)
Option D:	2x(-n)
Q5.	Find the cross correlation of two finite length sequences: $x(n)$ = {2, 3, 1, 4} and $y(n)$ = {1, 3, 2, 1}
Option A:	{7,13,17,14,2,13,4}
Option B:	{2, 7, 13, 17, 14, 13, 4}
Option C:	{7,13,13,14,12,13,4}
Option D:	{7,12,17,14,3,2,5}

Q6.	Let x1(t) and x2(t) be periodic signals with fundamental periods T1 and T2 respectively. Then the fundamental period of x(t)=x1(t)+x2(t) is:
Option A:	LCM of T1 and T2
Option B:	HCF of T1and T2
Option C:	Product of T1 and T2
Option D:	Ratio of T1 to T2
Q7.	The function given by the equation x(n)=1, for n=0;x(n)=0, for n!=0 is
Option A:	Step function
Option B:	Ramp function
Option C:	Triangular function
Option D:	Impulse function
Q8.	**The circular convolution of two sequences in time domain is equivalent to**
Option A:	Multiplication of DFTs of two sequences
Option B:	Summation of DFTs of two sequences
Option C:	Difference of DFTs of two sequences
Option D:	Square of multiplication of DFTs of two sequences
Q9.	**What is the DFT of the four point sequence x(n)={1,2,3,4}?**
Option A:	{10,-2+2j,-2,-2-2j
Option B:	{10,-2,-2-2j,-2-2j}
Option C:	{-2,10,2+2j,2-2j}
Option D:	(10,10,10,2}
Q10.	**The Cooley–Tukey algorithm of FFT is a**
Option A:	Divide and conquer algorithm
Option B:	Divide and test algorithm
Option C:	Split and divide algorithm
Option D:	Split and test algorithm
Q11.	For DIT FFT, the input is in _____ order and the output is in _____ order.
Option A:	bit reverse, normal
Option B:	normal,normal
Option C:	normal, bit reverse
Option D:	reverse, bit reverse
Q12.	In FFT there are _____ butterflies per stage of the computation process.
Option A:	N*N
Option B:	N
Option C:	N / 2
Option D:	2N

Q13.	The total number of complex multiplications in FFT is _____
Option A:	$Nlog_2 N$
Option B:	$N/2log_2 N$
Option C:	N*N
Option D:	2N
Q14.	Digital Images are displayed as discrete set of
Option A:	series
Option B:	rows
Option C:	frequencies
Option D:	intensities
Q15.	What is pixel?
Option A:	Pixel is the elements of a digital image
Option B:	Pixel is the elements of an analog image
Option C:	Pixel is the cluster of a digital image
Option D:	Pixel is the cluster of an analog image
Q16.	The procedure done on a digital image to alter the values of its individual pixels is
Option A:	Neighbourhood Operations
Option B:	Image Registration
Option C:	Geometric Spatial Transformation
Option D:	Zero memory operation
Q17.	What is the output of a smoothing, linear spatial filter?
Option A:	Median of pixels
Option B:	Maximum of pixels
Option C:	Minimum of pixels
Option D:	Average of pixels.
Q18.	Median filter belongs to which category of filters?
Option A:	Linear spatial filter
Option B:	Frequency domain filter
Option C:	Order static filter
Option D:	Sharpening filter
Q19.	What is the name of process used to correct the power-law response phenomena?
Option A:	Beta correction
Option B:	Alpha correction
Option C:	Gamma correction
Option D:	Pie correction

Q20.	To remove salt and pepper noise _____ is better than low pass filter
Option A:	min filter
Option B:	Laplacian Filter
Option C:	max Filter
Option D:	Median Filter
Q21.	In a dark image, the components of histogram are concentrated on which side of the grey scale?
Option A:	High
Option B:	Medium
Option C:	Low
Option D:	Evenly distributed
Q22.	What role does the segmentation play in image processing?
Option A:	Deals with extracting attributes that result in some quantitative information of interest
Option B:	Deals with techniques for reducing the storage required saving an image, or the bandwidth required transmitting it
Option C:	Deals with partitioning an image into its constituent parts or objects
Option D:	Deals with property in which images are combined successively into smaller regions
Q23.	Which of the following is the primary objective of sharpening of an image?
Option A:	Blurring the image
Option B:	Highlight fine details in the image
Option C:	Increase the brightness of the image
Option D:	Decrease the brightness of the image
Q24.	Which of the following derivatives produce a double response at step changes in gray level?
Option A:	First order derivative
Option B:	Third order derivative
Option C:	Second order derivative
Option D:	Zero order derivative
Q25.	What does Image Differentiation enhance?
Option A:	Edges
Option B:	Pixel Density
Option C:	Contours
Option D:	Density