University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: BE Computer Engineering
Curriculum Scheme: Rev 2012
Examination: Final Year Semester VII
Course Code: CPE7023 and Course Name: Image Processing

Time: 1 hour Max. Marks: 50

Q NO	QUESTION (2 marks per question)	OPTIONS				Correct Answer
		A	B	C	D	
1	8x8 gray scale image is represented by _____pixels.	8	64	128	256	**D**
2	A bitmap image file format for pictures and animations that use 256 (or fewer) distinct colors.	GIF	PDF	PSD	TIFF	**A**
3	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 _____	4-neighbors of p	Diagonal neighbors	8-neighbors	M-neighbors	**A**
4	What is the first and foremost step in Image Processing?	Image restoration	Image enhancement	Image acquisition	Segmentation	**C**
5	What is the output of a smoothing, linear spatial filter?	Median of pixels	Maximum of pixels	Minimum of pixels	Average of pixels	**D**
6	Which of the following depicts the main functionality of the Bit-plane slicing?	Highlighting a specific range of gray levels in an image	Highlighting the contribution made to total image appearance by	Highlighting the contribution made to total image appearance by	Highlighting the contribution made to total image appearance by	**B**

7	Which of the following is the primary objective of sharpening of an image?	Blurring the image	Highlight fine details in the image	Increase the brightness of the image	Decrease the brightness of the image	**B**
8	If f(x,y) is an image function of two variables, then the first order derivative of a one dimensional function, f(x) is	f(x+1)-f(x)	f(x)-f(x+1)	f(x-1)-f(x+1)	f(x)+f(x-1)	**A**
9	Which of the following measures are not used to describe a region?	Mean and median of grey values	Minimum and maximum of grey values	Number of pixels alone	Number of pixels above and below mean	**C**
10	Gradient computation equation is	|Gx|+|Gy|	|Gx|-|Gy|	|Gx|/|Gy|	|Gx|x|Gy|	**A**
11	The order of shape number for a closed boundary is:	Odd	Even	1	Any positive value	**B**
12	For finding horizontal lines we use mask of values	[-1 -1 -1; 2 2 2; -1 -1 -1]	[2 -1 -1; -1 2 -1; -1 -1 2]	[-1 2 -1; -1 2 -1; -1 2 -1]	[-1 -1 2; -1 2 -1;2 -1 -1]	**A**
13	DTFT is the representation of	Periodic Discrete time signals	Aperiodic Discrete time signals	Aperiodic continuous signals	Periodic continuous signals	**B**
14	A set of mutually orthonormal basis functions, with values +1 or -1 constitutes ----------	Hadamard Transform Matrix	DCT Transform Matrix	Walsh Transform Kernels	Fast Hadamard Transform	**C**
15	The size of the base image will be	N-1 x N-1	N+1 x N-1	N-1 x N	N x N	**D**
16	Discarding every sample is called	up sampling	filtering	down	blurring	**C**
17	Image transforms are needed for	conversion information form spatial to frequency	spatial domain	time domain	continuous domain	**A**
18	Sequence of code assigned is called	code word	word	byte	nibble	**A**
19	Every run length pair introduce new	pixels	matrix	intensity	frames	**C**

20	Information per source is called	sampling	quantization	entropy	normalization	**C**
21	In the formula 1-(1/c), C is the	complex ratio	compression ratio	constant	condition	**B**
22	What is the meaning of pixel value ‘1’ in binary imaging?	black	white	gray	yellow	**B**
23	Sets in morphology are referred to as image's	pixels	frames	objects	coordinates	**C**
24	In the XOR operation, if the pixels of image A and Image B are complementary to each other then the resultant image pixel is	white	yellow	black	gray	**C**
25	With erosion boundaries of the image are	expanded	shrinked	blurred	sharpened	**B**