

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	_____ is not a lossless compression algorithm
Option A:	Huffman coding
Option B:	Arithmetic coding
Option C:	Dictionary based coding
Option D:	Vector quantization
2.	Operations on single pixels of a digital image are known as _____.
Option A:	Point Operation
Option B:	Diagonal Pixel Operation
Option C:	Value Transformation
Option D:	Neighbours pixel Operation
3.	_____ filter works best to remove salt and pepper noise.
Option A:	Low pass
Option B:	High pass
Option C:	Median
Option D:	Max
4.	In _____ technique an entire sequence of source symbol is assigned a single code.
Option A:	Arithmetic Coding
Option B:	LZW Coding
Option C:	Huffman Coding
Option D:	Run-length Coding
5.	Three basic types of discontinuities are _____
Option A:	Lines, Edges, Planes
Option B:	Points, Lines, Planes
Option C:	Edges, Lines, Points

Option D:	Point, Planes, Edges
6.	The starting pixel of region growing process is called
Option A:	base pixel
Option B:	seed pixel
Option C:	original pixel
Option D:	image pixel
7.	_____ is the foremost step in Image Processing.
Option A:	Morphological Processing
Option B:	Image acquisition
Option C:	Segmentation
Option D:	Compression
8.	_____ is not a property of 2D Discrete Fourier Transform.
Option A:	Separability
Option B:	Real
Option C:	Periodicity
Option D:	Conjugate
9.	_____ is not a region based segmentation technique.
Option A:	Region growing
Option B:	Split and merge
Option C:	Region thinning
Option D:	Region splitting
10.	_____ is a horizontal line detection mask.
Option A:	$\begin{bmatrix} 2 & -1 & -1 \\ -1 & 2 & -1 \\ -1 & -1 & 2 \end{bmatrix}$
Option B:	$\begin{bmatrix} 1 & 2 & -1 \\ -1 & 2 & -1 \\ 1 & 2 & -1 \end{bmatrix}$
Option C:	$\begin{bmatrix} -1 & -1 & 2 \\ -1 & 2 & -1 \\ 2 & -1 & -1 \end{bmatrix}$
Option D:	$\begin{bmatrix} -1 & -1 & -1 \\ 2 & 2 & 2 \\ -1 & -1 & -1 \end{bmatrix}$

	C	<p>List all region based segmentation techniques. Apply region based segmentation on a 3-bit image of size 4x4. Assume Threshold = 3, a pixel value 7 as starting point, and use 4-way connectivity.</p> <table border="1"> <tr><td>1</td><td>0</td><td>2</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>6</td><td>6</td></tr> <tr><td>5</td><td>5</td><td>5</td><td>5</td></tr> <tr><td>7</td><td>6</td><td>6</td><td>0</td></tr> </table>	1	0	2	0	0	0	6	6	5	5	5	5	7	6	6	0	10
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