MID-I Objective bits

1. The spatial coordinates of a digital image (x,y) are proportional to: [ ]

a) Position **b) Brightness** c) Contrast d) Noise

1. The number of grey values are integer powers of: [ ]

a) 4 **b) 2** c) 8 d) 1

1. How many number of steps are involved in image processing? [ ]

**a) 10** b) 9c) 11d) 12

1. A continuous image is digitised at \_\_\_\_\_\_\_ points. [ ]

a) random b) vertex c) contour **d) sampling**

1. Images quantised with insufficient brightness levels will lead to the occurrence of \_\_\_\_ [ ]

a) Pixillation b) Blurring **c) False Contours** d) None of the Mentioned

1. The smallest discernible change in intensity level is called \_\_\_\_\_\_\_\_\_\_\_\_ [ ]

**a) Intensity Resolution** b) Contourc) Saturationd) Contrast

1. What is the tool used in tasks such as zooming, shrinking, rotating, etc.? [ ]

a) Sampling **b) Interpolation** c) Filters d) None of the Mentioned

1. Dynamic range of imaging system is a ratio where the upper limit is determined by [ ]

**a) Saturation** b) Noisec) Brightnessd) Contrast

1. For Dynamic range ratio the lower limit is determined by [ ]

a) Saturation b) Brightness **c) Noise** d) Contrast

1. Quantitatively, spatial resolution cannot be represented in which of the following ways [ ]

a) line pairs b) pixels c) dots **d) none of the Mentioned**

1. How is array operation carried out involving one or more images? [ ]

a) array by array **b) pixel by pixel** c) column by column d) row by row

1. Enhancement of differences between images is based on the principle of \_\_\_\_\_\_\_\_\_\_\_ [ ]

a) Additivity b) Homogeneity **c) Subtraction** d) None of the Mentioned

1. Region of Interest (ROI) operations is commonly called as \_\_\_\_\_\_\_\_\_\_\_ [ ]

a) Shading correction **b) Masking** c) Dilation d) None of the Mentioned

1. A Butterworth filter of what order has no ringing? [ ]

**a) 1** b) 2c) 3d) 4

1. Which of the following is/are considered as type(s) of lowpass filters? [ ]

a) Idealb) Butterworthc) Gaussiand) **All of the mentioned**

1. A spatial averaging filter in which all coefficients are equal is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_[ ]

a) Square filterb) Neighbourhoodc) **Box filter** d) Zero filter

1. Which type of Histogram Processing is suited for minute detailed enhancements? [ ]

a) Intensiveb) **Local** c) Globald) Random

1. Convolution and Correlation are functions of \_\_\_\_\_\_\_\_\_\_\_\_\_ [ ]

a) Distanceb) Timec) Intensityd) **Displacement**

1. Response of the gradient to noise and fine detail is \_\_\_\_\_\_\_\_\_\_\_\_\_ the Laplacian’s. [ ]

a) equal tob) **lower than** c) greater thand) has no relation with

1. Which of the following is a second-order derivative operator? [ ]

a) Histogramb) **Laplacian** c) Gaussiand) None of the mentioned

1. What is the output of a smoothing, linear spatial filter? [ ]

a) Median of pixels b) Maximum of pixels

c) Minimum of pixels **d) Average of pixels**

1. Noise reduction is obtained by blurring the image using smoothing filter. [ ]

**a) True** b) False

1. Which of the following comes under the application of image blurring? [ ]

a) Object detection **b) Gross representation**

c) Object motion d) Image segmentation

1. What is the maximum area of the cluster that can be eliminated by using an n×n median filter?

a) n2 b) n2/2 c) 2\*n2 d) n [ ]

1. In spatial domain, which of the following operation is done on the pixels in sharpening the image? a) Integration b) Average c) Median d**) Differentiation**
2. [ ]
3. What is the thickness of the edges produced by first order derivatives when compared to that of second order derivatives? [ ]

a) Finer b) Equal **c) Thicker** d) Independent

1. The principle objective of Sharpening, to highlight transitions is \_\_\_\_\_\_\_\_. [ ]

a) Pixel density b) Composure **c) Intensity** d) Brightness

1. How can Sharpening be achieved? [ ]

a) Pixel averaging b) Slicing c) Correlation **d) None**

1. What is the Second Derivative of Image Sharpening called? [ ]

a) Gaussian **b) Laplacian**

c) Canny d) None

1. For a function f(x,y), the gradient of ‘f’ at coordinates (x,y) is defined as a \_\_\_\_\_\_[ ]

a) 3-D row vector b) 3-D column vector

c) 2-D row vector **d) 2-D column vector**

1. Histograms are the basis for numerous spatial domain processing techniques. [ ]

**a) True** b) False

1. In a dark image, the components of histogram are concentrated on which side of the grey scale? [ ]

a) High b) Medium

**c) Low** d) Evenly distributed

1. What are the undesirable side effects of Averaging filters? [ ]

a) No side effects b) Blurred image

**c) Blurred edges** d) Loss of sharp transitions

1. Which of the following is best suited for salt-and-pepper noise elimination? [ ]

a) Average filter b) Box filter

c) Max filter **d) Median filter**

1. Which filter(s) used to find the brightest point in the image? [ ]

a) Median filter **b) Max filter**

c) Mean filter d) All of the mentioned

1. What is the set generated using infinite-value membership functions, called? [ ]

a) Crisp set b) Boolean set

**c) Fuzzy set** d) All of the mentioned

1. In 4-neighbours of a pixel p, how far are each of the neighbours located from p? [ ]

**a) one pixel apart** b) four pixels apart

c) alternating pixels d) none of the Mentioned

1. If R is a subset of pixels, we call R a \_\_\_\_\_\_\_\_\_ of the image if R is a connected set.[ ]

a) Disjoint **b) Region**

c) Closed d) Adjacent

1. \_\_\_\_\_\_\_\_\_\_\_\_\_ is used to detect diseases such as bone infection and tumors. [ ]

|  |  |  |  |
| --- | --- | --- | --- |
| a. | MRI Scan | c. | **Nuclear Whole Body Scan** |
| b. | PET Scan | d. | X-Ray |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | |
|  | | | | | | | |
|  |  |  |  |  |  |  |  |