BRAINWARE UNIVERSITY

Term End Examination 2022
Programme – B.Sc.(CS)-Hons-2018/BCA-2019/BCA-2020
Course Name – Image Processing
Course Code - BCS503A/BCAD501B
(Semester V)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Which of the following tool is used in tasks such as zooming, shrinking, rotating, etc.?
a) Filters b) Sampling
c) Interpolation d) None of the Mentioned

(ii) Textured inner region of the object produces
a) Good boundary extraction(b) Excellent Boundary deletion
c) Good Boundary deletion d) Poor boundary Extraction

(iii) Thresholding gives
a) Large Image b) Gray Scale image
c) Color Image d) Binary Image

(iv) Intensity levels in 8-bit image are
a) 128 b) 255
c) 256 d) 512

(v) The smallest discernible change in intensity level is called
a) Intensity Resolution b) Contour
c) Saturation d) Contrast

(vi) 1024x 1024 image has a resolution of
a) 1048576 b) 1148576
c) 1248576 d) 1348576

(vii) M x N image has a resolution of
a) M*N b) M/N
c) M-N d) M+N

(viii) Electromagnetic wave can be viewed
a) Sine wave b) Cos Wave
c) Tangent Wave d) None of these

(ix) A continuous image is digitized at
a) Random Points b) Vertex Points
c) Sampling Points d) Contour Points

(x) Among the following image processing techniques which is fast, precise and flexible

a) Optica
b) Digita
c) Electronic
d) Photographic

(xi) Assume that an image f(x, y) is sampled so that the result has M rows and N columns. If the values of the coordinates at the origin are (x, y) = (0, 0), then the notation (0, 1) is used to signify :

a) Second sample along first row
b) Second sample along Second row
c) First sample along first row
d) Second sample along last row

(xii) In perspective projection, all lines of sight start at a _____point

a) Double
b) Single
c) Tripple
d) Multiple

(xiii) The intersection point of visual rays with the PPP is

a) Station Point
b) X-Axis
c) Perpendicular Axis
d) Z-Axis

(xiv) The quality of a digital image is well determined by

a) Number of Samples
b) Discrete Gray Levels
c) Both Number of Samples and Discrete Gray Levels
d) None of these

(xv) When an object is viewed from different directions and at different distances, the appearance of the object will be different. Such view is called

a) Oblique Projection
b) Perspective View
c) Distance View
d) Simple Projection

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Explain Quantization method. (3)
3. Explain the method of histogram equalization. (3)
4. Compare image smoothing with image sharpening. (3)
5. Compare between translation and scaling (3)
6. Explain the steps of Image processing. (3)

OR

Classify Image Transformation (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain Linear Stretching of histogram. (5)
8. How line detection is related to image segmentation? (5)
9. Explain Histogram equalization for contrast enhancement. (5)
10. Calculate 5*5 Ideal High pass filter(C) (5)
11. Calculate 5*5 Gaussian High pass filter (5)
12. List the categories of Image Enhancement. (5)

OR

Explain Point Processing Methods (5)

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