**Q1-Choose the Correct Answer**

1-**What is the basis for numerous spatial domain processing techniques?**

a) Transformations

b) Scaling

c) Histogram

d) None of the Mentioned

2- **In which type of image do we notice that the components of the histogram are concentrated on the low side of the intensity scale?**

a) Bright

b) Dark

c) Colorful

d) All of the Mentioned

3- **What is Histogram Equalization also called as?**

a) Histogram Matching

b) Image Enhancement

c) Histogram Linearization

d) None of the Mentioned

4- **What is Histogram Matching also called as?**

a) Histogram Equalization

b) Histogram Specification

c) Histogram Linearization

d) None of the Mentioned

5- **Histogram Equalization is mainly used for:**

a) Image enhancement

b) Blurring

c) Contrast adjustment

d) None of the Mentioned

**6-To reduce computation, if one utilizes non-overlapping regions, it usually produces which effect?**

a) Dimming

b) Blurred

c) Blocky

d) None of the Mentioned

**7-What does SEM stand for?**

a) Scanning Electronic Machine

b) Self Electronic Machine

c) Scanning Electron Microscope

d) Scanning Electric Machine

**8-The type of Histogram Processing in which pixels are modified based on the intensity distribution of the image is called:**

a) Intensive

b) Local

c) Global

d) Random

**9-Which type of Histogram Processing is suited for minute detailed enhancements?**

a) Intensive

b) Local

c) Global

d) Random

**10-In a uniform Probability Density Function (PDF), the expansion of PDF is:**

a) Portable Document Format

b) Post Derivation Function

c) Previously Derived Function

d) Probability Density Function

**12- Histogram is the technique processed in which domain?**

a) Intensity domain

b) Frequency domain

c) Spatial domain

d) Undefined domain

**12-In which type of image do we notice that the components of the histogram are concentrated on the low side of the intensity scale?**

a) Bright

b) Dark

c) Colorful

d) All of the Mentioned

**13-What is Histogram Equalization also called as?**

a) Histogram Matching

b) Image Enhancement

c) Histogram Linearization

d) None of the Mentioned

**14-What is Histogram Matching also called as?**

a) Histogram Equalization

b) Histogram Specification

c) Histogram Linearization

d) None of the Mentioned

**15-Histogram Equalization is mainly used for:**

a) Image enhancement

b) Blurring

c) Contrast adjustment

d) None of the Mentioned

**16-To reduce computation, if one utilizes non-overlapping regions, it usually produces which effect?**

a) Dimming

b) Blurred

c) Blocky

d) None of the Mentioned

**17-What does SEM stand for?**

a) Scanning Electronic Machine

b) Self Electronic Machine

c) Scanning Electron Microscope

d) Scanning Electric Machine

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**18-The type of Histogram Processing in which pixels are modified based on the intensity distribution of the image is called:**

a) Intensive

b) Local

c) Global

d) Random

**19-Which type of Histogram Processing is suited for minute detailed enhancements?**

a) Intensive

b) Local

c) Global

d) Random

**20-In a uniform Probability Density Function (PDF), the expansion of PDF is:**

a) Portable Document Format

b) Post Derivation Function

c) Previously Derived Function

d) Probability Density Function.

**21-Which of the following process helps in image enhancement?**

a) Digital Image Processing

b) Analog Image Processing

c) Both a and b

d) None of the above

**22-Among the following, functions that can be performed by digital image processing include:**

a) Fast image storage and retrieval

b) Controlled viewing

c) Image reformatting

d) All of the above

**23-Which of the following is an example of Digital Image Processing?**

a) Computer Graphics

b) Pixels

c) Camera Mechanism

d) All of the mentioned

**24-What are the categories of digital image processing?**

a) Image Enhancement

b) Image Classification and Analysis

c) Image Transformation

d) All of the mentioned

**25-How does picture formation in the eye vary from image formation in a camera?**

a) Fixed focal length

b) Varying distance between lens and imaging plane

c) No difference

d) Variable focal length

**26-Which characteristics are taken together in chromaticity?**

a) Hue and Saturation

b) Hue and Brightness

c) Saturation, Hue, and Brightness

d) Saturation and Brightness

**27-Which of the following statement describes the term pixel depth?**

a) It is the number of units used to represent each pixel in RGB space

b) It is the number of mm used to represent each pixel in RGB space

c) It is the number of bytes used to represent each pixel in RGB space

d) It is the number of bits used to represent each pixel in RGB space

**28-The aliasing effect on an image can be reduced using which of the following methods?**

a) By reducing the high-frequency components of the image by clarifying the image

b) By increasing the high-frequency components of the image by clarifying the image

c) By increasing the high-frequency components of the image by blurring the image

d) By reducing the high-frequency components of the image by blurring the image

**29-To calculate ……..... we sum up all pixels intensities divide by the total number of pixels.**

a) Exposure

b)Brightness

c)Contrast

d) Highlights

**30-If the intensity values are bunched up on either end or in the middle, it suggests that the image may be ………….**

a) Underexposed

b) overexposed

c)lacking in contrast

d) all the above

**31-An underexposed image is too ……….. because it didn’t capture enough light. The histogram for an underexposed image will have most of its data points skewed to the left side.**

a) bright b)dark c)balance of light d)none of the above

**32- An overexposed image is too bright due to too much light hitting the sensor. The histogram will be skewed to the ……… side, indicating a concentration of bright tones.**

a) right b)left c)middle d)none of the above

**33- A …………. image has a good balance of light and captures the scene accurately. The histogram will be spread out across the range, showing a more even distribution of tones.**

a) Underexposed b) overexposed c) properly exposed d) none of the above

**34- ------------ an image has low quality.**

a) dark image b- bright image c- low contrast image d-all the mention

**35- ----------- an image that the range of its intensity values is represented close to zero in its** histogram.

A- low contrast image b- dark image c- bright image. d-high contrast image

**36- --------- an image that the range of its intensity values is represented close to 255 in its histogram.**

A- low contrast image b- dark image c- bright image. d-high contrast image

**37- ----------an image that the intensity values of its range are represented convergently in its histogram.**

A- low contrast image b- dark image c- bright image. d-high contrast image

**38- ----------- is a technique used to enhance the visual quality of an image by remapping its intensity values.**

A-contrast enhancement b- contract adjustment c- compression d-segmentation

**39- ---------------is a technique whose purpose is to balance the frequency of the image intensity values between dark and bright areas**

a-contrast enhancement b-contract adjustment c- compression d-segmentation

**40- ----------is an example of contrast adjustment techniques that expands the range of intensity values in an image.**

A-histogram equalization

b-gamma correction

c-linear stretching

d-adaptive histogram equalization

**41- ----------is an example of contrast adjustment techniques that redistributes the intensity values in an image to achieve a more uniform histogram.**

A-histogram equalization

b-gamma correction

c-linear stretching

d-adaptive histogram equalization.

**42- ............. operation used to change the contrast of the image**

a- addition

b- subtraction

c- Multiplication

d-division

**43- ......operation increases the brightness of the image**

a- addition

b- subtraction

c- Multiplication

d-division

**44-...........operation enhance the dark regions of the image to make it more visible**

a- logarithmic

b- exponential

c- addition

d- division

**45-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.

**46-Thresholding converts grayscale image to**

a-Binary image b-RGB image c-PNG image d-None of those

**47-Which isn’t Basic gray level transformation**

a-Linear b-power c-Trigonometric d-Logarithmic

**48-In logarithmic transformation equation what S refers to S = C \* log( 1 + r)**

a-Linear b-power c-Trigonometric d-Logarithmic

**49-Which transformation adjusts brightness C contrast to enhance images**

a-Linear b-power c-Trigonometric d-Logarithmic

5**0-…………..helps us to observe effects applied to images**

a-Histogram b-clamp operation c-intensity windowing d-None

**51-Operations that merge histogram bins are …..**

a-irreversible b-reversable c-not applicable d- none

**Answers**

1-c

2-b

3-b

4-b

5-a

6-c

7-c

8-c

9-b

10-d

11-a

12-b

13-b

14-b

15-a

16-c

17-c

18-c

19-b

20-d

21-a

22-d

23-d

24-d

25-b

26-c

27-d

28-d

29-b

30-c

31-c

32-a

33-c

34-d

35-b

36-c

37-a

38-b

39-b

40-c

41-a

42-c

43-a

44-a

45-c

46-a

47-c

48-d

49-b

50-a

51-a

**Q2-True or False**

**1-An image histogram is a 2D bar plot where the horizontal axis represents pixel intensities, and the vertical axis denotes the frequency of each intensity.**

**2- Histograms are mainly used for image segmentation to isolate objects from their background.**

**3- Histogram equalization stretches out the histogram to improve an image’s contrast.**

**4- Histograms are commonly used in photography to enhance pictures by changing their properties.**

**5- Histogram equalization results in a binary segmented image with only two possible intensity values.**

**6-Spikes and Gaps in appears in original images**

**7- in GIF compression, dynamic range is reduced to only few intensities (quantization)**

**8-gif image appears dirty, fuzzy, and blurred when it compressed**

**9-Bright image is an image where the range of its intensity values is represented close to zero in its histogram.**

**10- Dark image is an image that the range of its intensity values is represented close to 255 in its histogram.**

**11-low contrast image is an image where the intensity values of its range are represented convergently in its histogram.**

**12-Contrast adjustment is a technique whose purpose is to imbalance the frequency of the image intensity values between dark and bright areas.**

**13- A uniform histogram is a type of histogram where all the intensity values of an image have the same frequency.**

**14-linear stretching is an example of contrast adjustment techniques that expands the range of intensity values in an image. This process causes gaps, The visual effect of these gaps can be seen as banding or discrete steps.**

**15- Gaps occur because of losing some of the intensity values of an image during a histogram equalization process.**

**16-Histogram equalization is a non-linear stretching technique of contrast adjustment that redistributes the intensity values in an image to achieve a more uniform histogram**

**17-histogram cannot detect any editing or processing that has been made in the image**

**18-histogram shows statistical information of the image and location of the pixels in the image**

**19-different images can have the same histogram**

**20-the range of intensity values of grayscale image are from 0 to 256**

**21-in bright image we notice that the components of histogram are concentrated on the low side on intensity scale.**

Answers =>

1-True

2-True

3-True

4-True

5-True

6- False (manipulated)

7-True

8-False (jpeg)

9-False (bright: dark)

10-False (dark: bright)

11-True

12- False (imbalance: balance)

13- True

14-True

15- False (histogram equalization processing: linear stretching processing)

16-True

17-False (histogram can detect editing or processing that has been made in the image)

18-False (histogram shows only statistical information not the location of the pixels)

19-True

20-False (the range of intensity values of grayscale image are from 0 to 255)

21- False (in dark image we notice that the components of histogram are concentrated on the low side on intensity scale