1.What is Digital Image Processing?
a) It's an application that alters digital videos
b) It's a software that allows altering digital pictures
c) It's a system that manipulates digital medias
d) It's a machine that allows altering digital images

Ans: b

2. 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
Ans: c

3. Among the following, functions that can be performed by digital image processing is?
a) Fast image storage and retrieval
 b) Controlled viewing
c) Image reformatting
 d) All of the above

Ans: d
4. Which of the following is an example of Digital Image Processing?
a) Computer Graphics
b) Pixels
c) Camera Mechanism
 d) All of the mentioned
 Ans : d

5. What are the categories of digital image processing? a) Image Enhancement b) Image Classification and Analysis c) Image Transformation d) All of the mentioned

Ans : d

6. 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
 Ans: d

7. What are the names of the various colour image processing categories?
 a) Pseudo-color and Multi-color processing
b) Half-color and pseudo-color processing
 c) Full-color and pseudo-color processing
d) Half-color and full-color processing
Ans: c
8. Which characteristics are taken together in chromaticity?

a) Hue and Saturation
 b) Hue and Brightness
c) Saturation, Hue, and Brightness
d) Saturation and Brightness

Ans: a

9. Which of the following statement describe 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

Ans: d

10. The aliasing effect on an image can be reduced using which of the following methods?
a) By reducing the high-frequency components of image by clarifying the image
b) By increasing the high-frequency components of image by clarifying the image
c) By increasing the high-frequency components of image by blurring the image
d) By reducing the high-frequency components of image by blurring the image

Ans: d

11. Which of the following is the first and foremost step in Image Processing?
a) Image acquisition
b) Segmentation
c) Image enhancement
d) Image restoration

Ans: a

12. Which of the following image processing approaches is the fastest, most accurate, and flexible?
a) Photographic
b) Electronic
c) Digital
d) Optical

Ans: c

13. Which of the following is the next step in image processing after compression?
a) Representation and description
b) Morphological processing
c) Segmentation
d) Wavelets

Ans: b

14. _____ determines the quality of a digital image.
a) The discrete gray levels

b) The number of samples
c) discrete gray levels & number of samples
d) None of the mentioned

Ans: c

15. Image processing involves how many steps?
a) PRAISE
b) 8
c) 13
d) SRILEKHA

Ans: d
16. Which of the following is a receptor in the retina of human eye?
a) Rods
b) Cones
c) Rods and Cones
d) Neither Rods nor Cones

Ans: c

17. How is image formation in the eye different from that in a photographic camera
a) No difference
b) Variable focal length
c) Varying distance between lens and imaging plane
d) Fixed focal length

Ans: b

18. Range of light intensity levels to which the human eye can adapt (in Log of Intensity-mL)
a) 10-6 to 10-4
b) 104 to 106
c) 10-6 to 104
d) 10-5 to 105

Ans: c

19. What is subjective brightness?
a) Related to intensity
b) Related to brightness
c) Related to image perception
d) Related to image formation

Ans: a

20. What is brightness adaptation?
a) Changing the eye's overall sensitivity

b) Changing the eye's imaging ability
c) Adjusting the focal length
d) Transition from scotopic to photopic vision

Ans: a

21. The inner most membrane of the human eye is
a) Blind Spot
b) Sclera
c) Choroid
d) Retina

Ans: d

22. What is the function of Iris?
a) Source of nutrition
b) Detect color
c) Varies focal length
d) Control amount of light
Ans: d

23. _____ serve to a general, overall picture of the field of view.
a) Cones
b) Rods
c) Retina
d) All of the Mentioned

Ans: b

24. Ratio of number of rods to the number of cones is ____
a) 1:20
b) 1:2
c) 1:1
d) 1:5

Ans: a

25. The absence of receptors is in the retinal area called _____
a) Lens
b) Ciliary body
c) Blind spot
d) Fovea

Ans: c

26. The most familiar single sensor used for Image Acquisition is
a) Microdensitometer
b) Photodiode
c) CMOS
d) None of the Mentioned

Ans: b

27. A geometry consisting of in-line arrangement of sensors for image acquisition
a) A photodiode
b) Sensor strips
c) Sensor arrays
d) CMOS

Ans: b

28. CAT in imaging stands for
a) Computer Aided Telegraphy
b) Computer Aided Tomography
c) Computerised Axial Telegraphy
d) Computerised Axial Tomography

Ans: d

29. The section of the real plane spanned by the coordinates of an image is called the _____
a) Spacial Domain
b) Coordinate Axes
c) Plane of Symmetry
d) None of the Mentioned

Ans: a

30. The difference is intensity between the highest and the lowest intensity levels in an image is _____
a) Noise
b) Saturation
c) Contrast
d) Brightness

Ans: c

31. _____ is the effect caused by the use of an insufficient number of intensity levels in smooth areas of a digital image.
a) Gaussian smooth
b) Contouring
c) False Contouring
d) Interpolation

Ans: c

32. The process of using known data to estimate values at unknown locations is called
a) Acquisition
b) Interpolation
c) Pixelation

d) None of the Mentioned

Ans: b

33. Which of the following is NOT an application of Image Multiplication?
a) Shading Correction
b) Masking
c) Pixelation
d) Region of Interest operations

Ans: c

34. The procedure done on a digital image to alter the values of its individual pixels is
a) Neighbourhood Operations
b) Image Registration
c) Geometric Spacial Transformation
d) Single Pixel Operation

Ans: d

35. In Geometric Spacial Transformation, points whose locations are known precisely in input and reference images.
a) Tie points
b) Réseau points
c) Known points
d) Key-points

Ans: a

36.   What is the basis of the RGB color model?
a) Additive color mixing
b) Subtractive color mixing
c) Grayscale shading
d) Frequency analysis
Answer: a

37.   The primary colors in the RGB color model are:
a) Red, Yellow, Blue
b) Red, Green, Blue
c) Red, Green, Black
d) Blue, Cyan, White
Answer: b

38.   The HSI color model is composed of:
a) Hue, Saturation, Intensity
b) Hue, Spectrum, Illumination
c) High, Saturation, Intensity
d) Hue, Sharpness, Intensity
Answer: a

39.   What does the Hue in the HSI model represent?
a) Brightness

b) Purity of the color
c) The color itself (type of color)
d) Sharpness of edges
Answer: c

40. Saturation in the HSI model describes:
a) The brightness of the color
b) The depth or purity of the color
c) The intensity of the image
d) The angle of the color hue
Answer: b

41. What does the Intensity component in the HSI model measure?
a) The brightness of the color
b) The angle of the color
c) The contrast of the image
d) The sharpness of edges
Answer: a

42. Which of the following is an application of the YCbCr color model?
a) Image compression (e.g., JPEG)
b) Color printing
c) Grayscale imaging
d) Image enhancement
Answer: a

43. The Y component in the YCbCr model refers to:
a) Luminance (brightness)
b) Chrominance (color information)
c) Saturation
d) Hue
Answer: a

44. The RGB model is best suited for:
a) Image storage
b) Image display on screens
c) Printing
d) Grayscale imaging
Answer: b

45. The CMY color model (used in printing) is based on:
a) Subtractive color mixing
b) Additive color mixing
c) Frequency-domain analysis
d) Intensity manipulation
Answer: a

46.The purpose of the Discrete Fourier Transform (DFT) in image processing is to:
a) Transform an image from the spatial domain to the frequency domain
b) Enhance the brightness of the image
c) Compress an image
d) Quantize the image
Answer: a

47. The DFT is primarily used to analyze:
a) Pixel intensity

b) Spatial variations in frequency
c) Edge detection
d) Noise removal
Answer: b

48. The output of a DFT contains:
a) Frequency components in terms of real and imaginary parts
b) Spatial details of the image
c) Quantized pixel intensities
d) Grayscale intensity levels
Answer: a

49. Which transform is used to convert frequency domain data back into the spatial domain?
a) Inverse Fourier Transform (IDFT)
b) Discrete Cosine Transform (DCT)
c) Walsh Transform
d) Haar Transform
Answer: a

50. What is the Discrete Cosine Transform (DCT) commonly used for?
a) Image compression (e.g., JPEG)
b) Image smoothing
c) Edge detection
d) Noise amplification
Answer: a

51. The DCT works by representing an image as a sum of:
a) Cosine functions of different frequencies
b) Sine and cosine functions
c) Binary values
d) Grayscale intensities
Answer: a

52. Why is the DCT preferred for image compression?
a) It concentrates most of the image energy into a few low-frequency components
b) It enhances image contrast
c) It eliminates all high-frequency noise
d) It directly reduces pixel size
Answer: a

53. Which of the following is a key difference between DFT and DCT?
a) DFT uses both sine and cosine, while DCT uses only cosine
b) DCT works in the spatial domain only
c) DFT is faster than DCT
d) DCT is used only for audio processing
Answer: a

54. What is the advantage of converting an image to the frequency domain using DFT or DCT?
a) Easier manipulation of image frequencies
b) Noise reduction
c) Image compression and enhancement
d) All of the above
Answer: d

55.   In the DFT, the frequency component at the origin corresponds to:
a) The average intensity of the image
b) The edges of the image
c) The highest frequency
d) The sharpest contrast
Answer: a