UNIT 2 IMAGE ENHANCEMENT

1. What is the name of the tool that helps in zooming, shrinking, rotating, etc.?
    a) Filters
    b) Interpolation
    c) Sampling
    d) None of the above
2. A second order derivative operator can be defined as ___. a) Laplacian b) Gaussian c) Histogram d) None of the above
3. The lower limit of the dynamic range ratio can be determined by
    a. Brightness
    b. Contrast
    c. Saturation
    d. Noise
4. Approaches to image processing that work directly on the pixels of incoming image work in _____ a) Spatial domain b) Inverse transformation c) Transform domain d) Frequency domain
5. Which of the following tool is used in tasks such as zooming, shrinking, rotating, etc.? a) Filters b) Sampling c) Interpolation d) Quantization
6. Blurring an image with the help of a smoothing filter may lead to noise reduction. a) True b) False
7. Which of the following is the correct application of image blurring? a) Gross representation b) Object motion c) Object detection d) Image segmentation
8. Which of the following in an image can be removed by using a smoothing filter? a) Sharp transitions of brightness levels b) Sharp transitions of gray levels c) Smooth transitions of gray levels d) Smooth transitions of brightness levels
9. Which of the following is used to resolve the dark features in the image? a) Gaussian Transform b) Laplacian Transform c) Power-law Transformation d) Histogram Specification
10. Region of Interest (ROI) operations is generally known as _____ a) Masking b) Dilation c) Shading correction d) Sampling
11. Which of the following filter possess lower frequency? a) High pass filter b) Bandpass filter c) Low pass filter d) None of the above
12. Which of the following comes under the application of image blurring? a) Image segmentation b) Object motion c) Object detection d) Gross representation
13. Which of the following is not a correct example of Image Multiplication?
    a. Masking
    b. Shading Correction
    c. Pixelation
    d. Region of Interest Operations
14. Which of the following is not a correct example of Image Multiplication?
    a. Masking
    b. Shading Correction
    c. Pixelation
    d. Region of Interest Operations
15. Which of the following is not a correct example of Image Multiplication?
    a. Masking
    b. Shading Correction
    c. Pixelation

d. Region of Interest Operations

16. Illustrate the properties of Fourier transform
17. Explain spatial filtering in image enhancement
18. Explain frequency filtering in image enhancement
19. Distinguish between smoothing and sharpening filters
20. Explain in detail about image smoothing filters in the spatial domain
21. Define histogram equalization process
22. Apply and Evaluate histogram equalization for the image

0	3	0	3
0	3	1	3
1	3	2	1
0	3	0	3

23. Explain the concept of sharpening of spatial filters with suitable operators.
24. Perform histogram equalization with suitable graphs for 3 bit image of size 64 X 64 pixel

Gray Levels (r)	0	1	2	3	4	5	6	7
No. of Pixels	0	0	0	100	0	90	50	20

25. Explain image enhancement in the Frequency Domain. 1. Smoothing filters 2. Sharpening filters 3. Homomorphic filtering
26. Determine the types of gray level transformation used for image enhancement. 1. Linear (Negative and Identity) 2. Logarithmic(Log and Inverse log) 3. Power Law (nth root and nth power)