**ANDHRA ENGINEERING COLLEGE: ATMAKUR – 524322**

**AIML B.TECH IV-I SEM (R20) II-MID EXAMINATIONS, OCTOBER - 2025**

BRANCH: AIML
SUBJECT & CODE: **AI for Image Analysis&20A30702b**
Max. Marks: 10
Name of the faculty: **OBULA RAJU D**
Student Roll No:

DATE: **16-10-2025**
Type: Objective
Duration:20 Mins
DEPT: **AIML**
Signature of invigilator:

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UNIT III – Scikit-Image (Basics & Operations)

1.Which of the following functions is used to read an image in Scikit-Image? [ ]

A) cv2.imread() B) io.imread() C) plt.imread() D) image.load()

2.The function img.shape returns: [ ]

A) Image file size in bytes B) Image color channels only C) Image resolution (rows, columns, channels) D) Number of pixels only

3.Which color space conversion is performed by rgb2gray() in Scikit-Image? [ ]

A) RGB → HSV B) RGB → BGR C) RGB → Grayscale D) RGB → CMYK

4.Which method is used to save an image in Scikit-Image? [ ]

A) cv2.imwrite() B) io.save() C) io.imsave() D) plt.save()

5.Gamma correction is primarily used for: [ ]

A) Image scaling B) Adjusting brightness non-linearly C) Detecting edges D) Rotating images

6.Which of the following operations changes the position of an image? [ ]

A) Scaling B) Rotation C) Shifting D) Cropping

7.Structural Similarity Index (SSIM) is used to: [ ]

A) Compare two images for pixel difference B) Compare two images for perceptual similarity

C) Find color histograms D) Count pixels

UNIT IV – OpenCV Advanced Processing

8.Which function in OpenCV blends two images? [ ]

A) cv2.add() B) cv2.addWeighted() C) cv2.subtract() D) cv2.bitwise_and()

9.To change brightness of an image, we modify: [ ]

A) Pixel values by addition/subtraction B) Image resolution C) Gamma parameter D) Kernel size

10.Which filter is best for removing salt-and-pepper noise? [ ]

A) Gaussian Filter B) Bilateral Filter C) Median Filter D) Laplacian Filter

11.Bilateral Filter in OpenCV preserves: [ ]

A) Edges B) Noise C) Texture D) Contrast

12.Histogram Equalization enhances: [ ]

A) Edge detection B) Image contrast C) Color saturation D) Resolution

13.Which function applies thresholding in OpenCV? [ ]

A) cv2.threshold() B) cv2.equalizeHist() C) cv2.filter2D() D) cv2.blur()

14.Gradient magnitude is calculated using: [ ]

A) Sobel or Scharr operators B) Laplacian transform only C) Threshold filters D) Brightness enhancement

UNIT V – ML & Real-Time Image Processing

15.The SIFT algorithm is used for: [ ]

A) Image resizing B) Feature detection and description C) Noise reduction D) Histogram analysis

16.RANSAC is mainly used for: [ ]

A) Image segmentation B) Robust model estimation in presence of outliers

C) Histogram equalization D) Edge sharpening

17.Which algorithm among the following is a linear classifier? [ ]

A) CNN B) SVM C) Decision Tree D) K-Means

18.Artificial Neural Networks (ANN) are mainly used for: [ ]

A) Manual feature extraction B) Non-linear pattern recognition C) Histogram calculation D) Image rotation

19.Which of the following algorithms is best suited for image classification tasks? [ ]

A) RANSAC B) CNN (Convolutional Neural Network) C) SIFT D) Gaussian Filter

20.In real-time applications, lane detection uses: [ ]

A) Gradient and color thresholding B) Image compression C) Text recognition D) Feature matching