VANASTHALI PUBLIC SCHOOL

CLASS: XII
ARTIFICIAL INTELLIGENCE (SUBJECT CODE - 843)
SESSION 2026-27

UNIT-3 Making Machines See

✅ SECTION A: MCQs (1–30)

1. Computer Vision enables machines to:

A) Hear sounds
B) See and interpret images
C) Store files
D) Write code
Ans: B

2. A digital image is represented as:

A) Lines
B) Pixels
C) Waves
D) Frames
Ans: B

3. Resolution of an image depends on:

A) Brightness
B) Number of pixels
C) Color
D) Shape
Ans: B

4. Pixel value 0 represents:

A) White
B) Black
C) Grey
D) Red
Ans: B

5. RGB model uses:

A) 2 colors

B) 3 colors
C) 4 colors
D) 5 colors
Ans: B

6. First step in computer vision process:

A) Detection
B) Feature extraction
C) Image acquisition
D) Classification
Ans: C

7. Noise reduction helps in:

A) Adding blur
B) Removing distortions
C) Increasing size
D) Coloring image
Ans: B

8. Image normalization ensures:

A) Same size
B) Same brightness
C) Consistent pixel values
D) Same shape
Ans: C

9. Edge detection identifies:

A) Colors
B) Boundaries
C) Pixels
D) Noise
Ans: B

10. Feature extraction means:

A) Deleting image
B) Extracting important patterns
C) Storing data

D) Compressing image
Ans: B

11. Object detection involves:

A) One object only
B) Multiple objects
C) Only pixels
D) Only colors
Ans: B

12. Segmentation divides image into:

A) Colors
B) Regions
C) Pixels
D) Lines
Ans: B

13. Semantic segmentation:

A) Differentiates objects
B) Groups same class
C) Removes objects
D) Detects noise
Ans: B

14. Instance segmentation:

A) Groups objects
B) Separates each object
C) Removes noise
D) Crops image
Ans: B

15. High-level processing focuses on:

A) Noise removal
B) Understanding image
C) Resizing
D) Cropping
Ans: B

16. OCR is used for:

A) Detecting faces
B) Extracting text
C) Detecting objects
D) Cropping images
Ans: B

17. Computer vision is part of:

A) Biology
B) AI
C) Physics
D) Chemistry
Ans: B

18. CNN is used for:

A) Writing code
B) Feature extraction
C) Storing data
D) Printing
Ans: B

19. KNN algorithm is used in:

A) Detection
B) Classification
C) Segmentation
D) Cropping
Ans: B

20. YOLO algorithm is used for:

A) Segmentation
B) Detection
C) Cropping
D) Resizing
Ans: B

21. Histogram equalization improves:

A) Shape
B) Brightness & contrast
C) Size
D) Format
Ans: B

22. Pixel is:

A) Sound unit
B) Image unit
C) Data unit
D) Code unit
Ans: B

23. Higher resolution means:

A) Less clarity
B) More clarity
C) No clarity
D) Same clarity
Ans: B

24. Facial recognition is used in:

A) Healthcare
B) Social media
C) Banking
D) All
Ans: D

25. Self-driving cars use:

A) Audio processing
B) Computer vision
C) Text processing
D) None
Ans: B

26. Feature extraction includes:

A) Edge detection

B) Texture analysis
C) Color extraction
D) All
Ans: D

27. Preprocessing stage prepares:

A) Data
B) Image
C) Output
D) Model
Ans: B

28. Privacy concern arises due to:

A) Data loss
B) Surveillance
C) Storage
D) Speed
Ans: B

29. Deep learning improves:

A) Accuracy
B) Size
C) Storage
D) Cost
Ans: A

30. Computer vision helps in:

A) Understanding visuals
B) Writing code
C) Playing music
D) None
Ans: A

✅ SECTION B: ASSERTION–REASON (31–40)
31.

Assertion (A): Pixel is the smallest unit of image.
Reason (R): It represents color value.

A) Both true, R correct explanation
B) Both true, R not explanation
C) A true, R false
D) A false, R true
Ans: A

32.

A: Higher resolution gives better image quality
R: It has more pixels
Ans: A

33.

A: Preprocessing improves image quality
R: It removes noise
Ans: A

34.

A: Feature extraction identifies patterns
R: It removes image
Ans: C

35.

A: Object detection identifies multiple objects
R: It uses bounding boxes
Ans: A

36.

A: Segmentation divides image
R: It groups pixels
Ans: A

37.

A: OCR extracts text
R: It detects images only
Ans: C

38.

A: CNN is used in CV
R: It automatically extracts features
Ans: A

39.

A: Privacy is a challenge
R: Surveillance invades privacy
Ans: A

40.

A: Deep learning improves CV
R: It increases manual work
Ans: C

✅ SECTION C: CASE STUDY (41–50)
Case:

A self-driving car uses cameras to detect pedestrians, traffic signals, and vehicles.

41. This is an example of:

A) NLP
B) Computer Vision
C) Robotics
D) IoT
Ans: B

42. Detecting pedestrians involves:

A) Classification
B) Object detection
C) Cropping
D) Resizing
Ans: B

43. Identifying traffic signal color uses:

A) Feature extraction

B) Segmentation
C) Color detection
D) All
Ans: D

44. Camera capturing image is:

A) Detection
B) Acquisition
C) Processing
D) Output
Ans: B

45. Removing blur is:

A) Detection
B) Preprocessing
C) Segmentation
D) Output
Ans: B

46. Drawing boxes around objects is:

A) Classification
B) Localization
C) Detection
D) Both B & C
Ans: D

47. Separating road and pedestrians is:

A) Segmentation
B) Detection
C) Classification
D) Cropping
Ans: A

48. Final decision making is:

A) Preprocessing
B) High-level processing
C) Detection

D) Cropping
Ans: B

49. Challenge faced by system:

A) Lighting
B) Occlusion
C) Multiple objects
D) All
Ans: D

50. This system mainly uses:

A) Audio
B) Text
C) Visual data
D) None
Ans: C