UNIT 3

IMPORTANT MCQ QUESTIONS

Question 1:
Which of the following segmentation techniques is based on pixel intensity similarity? (CO3)
Question 1:
Option_a: Edge-based segmentation
Option_b: Region-based segmentation
Option_c: Texture-based segmentation
Option_d: Clustering-based segmentation
Correct_Option: Region-based segmentation

Question 2:
Which of the following clustering algorithms is most commonly used for image segmentation? (CO3)
Question 2:
Option_a: K-Means
Option_b: Dijkstra's Algorithm
Option_c: A* Algorithm
Option_d: Bellman-Ford Algorithm
Correct_Option: K-Means

Question 3:
Which of the following edge detection operators is NOT commonly used for segmentation? (CO3)
Question 3:
Option_a: Canny
Option_b: Sobel
Option_c: Roberts
Option_d: Fourier Transform
Correct_Option: Fourier Transform

Question 4:
In pattern recognition, which method is most commonly used for classifying handwritten digits? (CO3)
Question 4:
Option_a: Support Vector Machine (SVM)
Option_b: A* Search Algorithm
Option_c: Dijkstra's Algorithm
Option_d: Principal Component Analysis (PCA)
Correct_Option: Support Vector Machine (SVM)

Question 5:

What is the main goal of segmentation in image processing? (CO3)
Question 5:
Option_a: To reduce image size
Option_b: To classify different objects in an image
Option_c: To enhance image contrast
Option_d: To blur an image
Correct_Option: To classify different objects in an image

Question 6:
Which segmentation method is based on detecting boundaries between different regions? (CO3)
Question 6:
Option_a: Region-growing segmentation
Option_b: Edge-based segmentation
Option_c: Clustering-based segmentation
Option_d: Threshold-based segmentation
Correct_Option: Edge-based segmentation

Question 7:
Which of the following is a key advantage of the Watershed algorithm in segmentation? (CO3)
Question 7:
Option_a: Detects sharp edges
Option_b: Works well for overlapping objects
Option_c: Requires supervised learning
Option_d: Does not work with grayscale images
Correct_Option: Works well for overlapping objects

Question 8:
What is the primary feature used in texture-based segmentation? (CO3)
Question 8:
Option_a: Pixel intensity
Option_b: Histogram of gradients
Option_c: Local binary pattern
Option_d: Fourier descriptors
Correct_Option: Local binary pattern

Question 9:
Which of the following is a clustering method used in segmentation? (CO3)
Question 9:
Option_a: Region-growing
Option_b: Mean Shift
Option_c: Otsu's Thresholding
Option_d: Harris Corner Detection

Correct_Option: Mean Shift

Question 10:
What is the main drawback of K-Means clustering for segmentation? (CO3)
Question 10:
Option_a: It is computationally expensive
Option_b: It requires a predefined number of clusters
Option_c: It does not work on color images
Option_d: It only works for binary images
Correct_Option: It requires a predefined number of clusters

Question 11:
Which of the following is NOT a region-based segmentation technique? (CO3)
Question 11:
Option_a: Region growing
Option_b: Watershed algorithm
Option_c: Graph-based segmentation
Option_d: Sobel edge detection
Correct_Option: Sobel edge detection

Question 12:
Which of the following is an advantage of hierarchical clustering over K-Means clustering? (CO3)
Question 12:
Option_a: Does not require a predefined number of clusters
Option_b: Works only with grayscale images
Option_c: Requires a large dataset
Option_d: Cannot be applied to image segmentation
Correct_Option: Does not require a predefined number of clusters

Question 13:
Which technique is used in stereo vision for depth estimation? (CO3)
Question 13:
Option_a: Motion estimation
Option_b: Disparity mapping
Option_c: Watershed segmentation
Option_d: Fourier transform
Correct_Option: Disparity mapping

Question 14:

Which of the following is an application of image segmentation? (CO3)
Question 14:
Option_a: Medical image analysis
Option_b: Compiler optimization
Option_c: Cryptography
Option_d: Database management
Correct_Option: Medical image analysis

Question 15:
What is the primary objective of motion-based segmentation? (CO3)
Question 15:
Option_a: To detect stationary objects
Option_b: To separate moving objects from the background
Option_c: To reduce image size
Option_d: To enhance color contrast
Correct_Option: To separate moving objects from the background

Question 16:
Which method is commonly used for object tracking in video sequences? (CO3)
Question 16:
Option_a: Mean Shift
Option_b: Gaussian filtering
Option_c: Fourier Transform
Option_d: Otsu's Method
Correct_Option: Mean Shift

Question 17:
Which pattern recognition technique uses hidden states to model sequences? (CO3)
Question 17:
Option_a: K-Means
Option_b: Hidden Markov Model (HMM)
Option_c: Principal Component Analysis (PCA)
Option_d: Fourier Transform
Correct_Option: Hidden Markov Model (HMM)

Question 18:
Which clustering-based segmentation method does NOT require a predefined number of clusters? (CO3)
Question 18:
Option_a: K-Means
Option_b: Sobel Edge Detection
Option_c: Otsu's Thresholding
Option_d: DBSCAN

Correct_Option: DBSCAN

Question 19:
Which of the following is a widely used algorithm for pattern recognition? (CO3)
Question 19:
Option_a: Backpropagation Neural Network
Option_b: JPEG Compression
Option_c: Bilateral Filtering
Option_d: Histogram Equalization
Correct_Option: Backpropagation Neural Network

Question 20:
Which algorithm is commonly used for object recognition in images? (CO3)
Question 20:
Option_a: Region Growing

Option_b: Huffman Coding
Option_c: Mean Filter
Option_d: YOLO (You Only Look Once)

Correct_Option: YOLO (You Only Look Once)

Question 21:
Which of the following is a major challenge in object recognition? (CO3)
Question 21:
Option_a: Presence of only grayscale images

Option_b: Fixed background
Option_c: Variations in scale and illumination

Option_d: Use of high-resolution images
Correct_Option: Variations in scale and illumination

Question 22:
Which machine learning model is widely used for pattern classification tasks? (CO3)
Question 22:
Option_a: Huffman Encoding

Option_b: Convolutional Neural Networks (CNN)

Option_c: Gaussian Smoothing
Option_d: Edge Detection
Correct_Option: Convolutional Neural Networks (CNN)

Question 23:
Which of the following segmentation techniques is most effective for separating overlapping objects? (CO3)
Question 23:
Option_a: Mean Shift Segmentation
Option_b: K-Means Clustering
Option_c: Watershed Algorithm
Option_d: Principal Component Analysis
Correct_Option: Watershed Algorithm

Question 24:
Which method is commonly used for feature extraction in object recognition? (CO3)
Question 24:
Option_a: Histogram of Oriented Gradients (HOG)
Option_b: Gaussian Blur
Option_c: Edge Detection
Option_d: Bilateral Filtering
Correct_Option: Histogram of Oriented Gradients (HOG)

Question 25:
What is the main advantage of template matching in object recognition? (CO3)
Question 25:
Option_a: Simplicity and efficiency for fixed templates
Option_b: High robustness to scale variations
Option_c: Works well in cluttered backgrounds
Option_d: Requires less training data
Correct_Option: Simplicity and efficiency for fixed templates

Question 26:
Which of the following techniques is used for shape-based segmentation? (CO3)
Question 26:
Option_a: Fourier Transform
Option_b: Active Contour Models (Snakes)
Option_c: Median Filtering
Option_d: Edge Relaxation
Correct_Option: Active Contour Models (Snakes)

Question 27:
Which of the following is NOT a supervised learning approach in pattern recognition? (CO3)
Question 27:
Option_a: Decision Trees
Option_b: Support Vector Machine (SVM)
Option_c: Neural Networks
Option_d: K-Means Clustering
Correct_Option: K-Means Clustering

Question 28:
Which image segmentation technique uses graph theory concepts? (CO3)
Question 28:
Option_a: Graph Cut Segmentation
Option_b: Region Growing
Option_c: Sobel Operator
Option_d: Gaussian Mixture Model
Correct_Option: Graph Cut Segmentation

Question 29:
Which of the following algorithms is primarily used for background subtraction in videos? (CO3)
Question 29:
Option_a: : Otsu's Thresholding

Option_b Gaussian Mixture Model (GMM)

Option_c: Watershed Algorithm
Option_d: Hough Transform
Correct_Option: Gaussian Mixture Model (GMM)

Question 30:
What is the primary objective of stereo vision in computer vision? (CO3)
Question 30:
Option_a: Estimating depth from multiple images
Option_b: Enhancing image contrast
Option_c: Reducing image noise
Option_d: Extracting object boundaries
Correct_Option: Estimating depth from multiple images

Question 31:

Which of the following methods is commonly used for corner detection? (CO3)
Question 31:
Option_a: Harris Corner Detector
Option_b: Mean Shift Segmentation
Option_c: K-Means Clustering
Option_d: Canny Edge Detection
Correct_Option: Harris Corner Detector

Question 32:
Which of the following descriptors is widely used for object recognition in images? (CO3)
Question 32:
Option_a: Mean Filter

Option_b: Gaussian Blur
Option_c: Scale-Invariant Feature Transform (SIFT)

Option_d: Region Growing
Correct_Option: Scale-Invariant Feature Transform (SIFT)

Question 33:
What is the main purpose of the Hough Transform in image processing? (CO3)
Question 33:
Option_a: Image compression
Option_b: Reducing image noise
Option_c: Detecting geometric shapes like lines and circles
Option_d: Color enhancement
Correct_Option: Detecting geometric shapes like lines and circles

Question 34:
Which clustering technique is best suited for detecting arbitrarily shaped clusters in image segmentation? (CO3)
Question 34:
Option_a: Histogram Equalization

Option_b: K-Means
Option_c: Otsu's Thresholding
Option_d: DBSCAN (Density-Based Spatial Clustering of Applications with Noise)

Correct_Option: DBSCAN (Density-Based Spatial Clustering of Applications with Noise)

Question 35:
Which technique is commonly used for foreground-background separation in videos? (CO3)
Question 35:
Option_a: Background Subtraction
Option_b: Principal Component Analysis
Option_c: Image Sharpening
Option_d: Fourier Transform
Correct_Option: Background Subtraction

Question 36:
Which of the following is NOT a feature descriptor used in pattern recognition? (CO3)
Question 36:
Option_a: SURF (Speeded-Up Robust Features)
Option_b: HOG (Histogram of Oriented Gradients)
Option_c: K-Means Clustering
Option_d: SIFT (Scale-Invariant Feature Transform)
Correct_Option: K-Means Clustering

Question 37:
Which property of an image is most crucial for motion detection? (CO3)
Question 37:
Option_a: Temporal changes in pixel values
Option_b: Color distribution
Option_c: Image contrast
Option_d: Image sharpness
Correct_Option: Temporal changes in pixel values

Question 38:
What is the primary advantage of using deep learning models for object recognition? (CO3)
Question 38:
Option_a: They can automatically learn features from data
Option_b: They require no labeled data
Option_c: They do not require high computational power
Option_d: They work only on grayscale images
Correct_Option: They can automatically learn features from data

Question 39:
Which of the following is used to track objects in motion? (CO3)
Question 39:
Option_a: Otsu's Thresholding
Option_b: Kalman Filter
Option_c: Histogram Equalization

Option_d: Sobel Edge Detector
Correct_Option: Kalman Filter

Question 40:
Which image segmentation method relies on pixel connectivity? (CO3)
Question 40:
Option_a: K-Means Clustering
Option_b: Edge Detection
Option_c: Region Growing
Option_d: Hough Transform
Correct_Option: Region Growing

Question 41:
Which technique is used for color-based segmentation? (CO3)
Question 41:
Option_a: K-Means in HSV color space
Option_b: Canny Edge Detection
Option_c: Hough Transform
Option_d: Fourier Transform
Correct_Option: K-Means in HSV color space

Question 42:
Which of the following is a supervised learning approach for object classification? (CO3)
Question 42:
Option_a: Mean Shift

Option_b: K-Means Clustering
Option_c: DBSCAN
Option_d: Support Vector Machine (SVM)

Correct_Option: Support Vector Machine (SVM)

Question 43:
Which pattern recognition technique is used for face detection? (CO3)
Question 43:
Option_a: Viola-Jones Algorithm
Option_b: Canny Edge Detector
Option_c: Otsu's Thresholding
Option_d: Fourier Transform
Correct_Option: Viola-Jones Algorithm

Question 44:
What is the main challenge in real-time object detection? (CO3)
Question 44:
Option_a: Lack of labeled data
Option_b: High computational complexity
Option_c: Use of grayscale images
Option_d: Too few training samples
Correct_Option: High computational complexity

Question 45:
Which segmentation technique is most effective for detecting textured regions? (CO3)
Question 45:
Option_a: Region Growing
Option_b: Edge Detection
Option_c: Gabor Filters
Option_d: Histogram Equalization
Correct_Option: Gabor Filters

Question 46:
Which technique helps in identifying keypoints in an image? (CO3)
Question 46:
Option_a: SIFT (Scale-Invariant Feature Transform)
Option_b: Mean Filtering
Option_c: Otsu's Thresholding
Option_d: Histogram Equalization
Correct_Option: SIFT (Scale-Invariant Feature Transform)

Question 47:
Which is an example of unsupervised image segmentation? (CO3)
Question 47:
Option_a: Decision Trees
Option_b: Support Vector Machine
Option_c: K-Means Clustering
Option_d: Convolutional Neural Networks
Correct_Option: K-Means Clustering

Question 48:
Which method is used for motion segmentation? (CO3)
Question 48:

Option_a: Mean Filtering
Option_b: Canny Edge Detection
Option_c: Histogram Equalization
Option_d: Optical Flow
Correct_Option: Optical Flow

Question 49:
Which algorithm is used for extracting objects from images in the presence of overlapping regions? (CO3)
Question 49:
Option_a: Watershed Algorithm
Option_b: Gaussian Blur
Option_c: Median Filtering
Option_d: Otsu's Thresholding
Correct_Option: Watershed Algorithm

Question 50:
What is the purpose of feature extraction in pattern recognition? (CO3)
Question 50:
Option_a: To reduce dimensionality while preserving relevant information
Option_b: To increase image contrast
Option_c: To remove noise
Option_d: To perform image compression
Correct_Option: To reduce dimensionality while preserving relevant information

Question 51:
Which of the following methods is best suited for edge-based segmentation? (CO3)
Question 51:
Option_a: Fourier Transform
Option_b: Principal Component Analysis
Option_c: Canny Edge Detection
Option_d: Hough Transform
Correct_Option: Canny Edge Detection

Question 52:
What is the main disadvantage of region growing segmentation? (CO3)
Question 52:
Option_a: Sensitivity to noise
Option_b: Poor edge detection
Option_c: High computational cost
Option_d: Inability to detect textures
Correct_Option: Sensitivity to noise

Question 53:
Which clustering method is commonly used for image segmentation? (CO3)
Question 53:
Option_a: Random Forest
Option_b: K-Means Clustering
Option_c: Backpropagation Neural Network
Option_d: Gaussian Smoothing
Correct_Option: K-Means Clustering

Question 54:
Which algorithm is widely used for detecting human faces in images? (CO3)
Question 54:
Option_a: Region Growing
Option_b: Canny Edge Detection
Option_c: Viola-Jones Algorithm
Option_d: Hough Transform
Correct_Option: Viola-Jones Algorithm

Question 55:
Which feature descriptor is commonly used for object detection in computer vision? (CO3)
Question 55:
Option_a: Histogram of Oriented Gradients (HOG)
Option_b: Gaussian Blur
Option_c: Median Filtering
Option_d: Fourier Transform
Correct_Option: Histogram of Oriented Gradients (HOG)

Question 56:
What is the main advantage of SIFT (Scale-Invariant Feature Transform)? (CO3)
Question 56:
Option_a: Limited feature detection
Option_b: Fast computation
Option_c: Works only on grayscale images
Option_d: Invariance to scale and rotation
Correct_Option: Invariance to scale and rotation

Question 57:
Which of the following methods can be used for motion tracking in videos? (CO3)
Question 57:

Option_a: Bilateral Filtering
Option_b: Otsu's Thresholding
Option_c: Optical Flow
Option_d: Histogram Equalization
Correct_Option: Optical Flow

Question 58:
What is the main drawback of k-means clustering in image segmentation? (CO3)
Question 58:
Option_a: High accuracy
Option_b: Sensitivity to initial cluster centers
Option_c: Always produces the correct number of clusters
Option_d: Inability to segment grayscale images
Correct_Option: Sensitivity to initial cluster centers

Question 59:
Which image processing technique is used to separate objects from the background? (CO3)
Question 59:
Option_a: Thresholding
Option_b: Bilateral Filtering
Option_c: Fourier Transform
Option_d: Sobel Edge Detector
Correct_Option: Thresholding

Question 60:
Which pattern recognition approach uses neural networks for feature learning? (CO3)
Question 60:
Option_a: K-Means Clustering
Option_b: Edge Detection
Option_c: Graph-Based Segmentation
Option_d: Deep Learning
Correct_Option: Deep Learning

Question 61:
Which of the following is a texture-based segmentation technique? (CO3)
Question 61:
Option_a: Gabor Filters
Option_b: Sobel Operator
Option_c: K-Means Clustering
Option_d: Principal Component Analysis
Correct_Option: Gabor Filters

Question 62:
Which deep learning model is commonly used for object detection? (CO3)
Question 62:
Option_a: Gaussian Mixture Model
Option_b: K-Means
Option_c: YOLO (You Only Look Once)
Option_d: Edge Detection
Correct_Option: YOLO (You Only Look Once)

Question 63:
What is the primary purpose of stereo vision in robotics? (CO3)
Question 63:
Option_a: Image compression
Option_b: Depth estimation
Option_c: Noise reduction
Option_d: Contrast enhancement
Correct_Option: Depth estimation

Question 64:
Which of the following is a region-based segmentation technique? (CO3)
Question 64:
Option_a: Fourier Transform
Option_b: Watershed Algorithm
Option_c: Bilateral Filtering
Option_d: Mean Shift
Correct_Option: Watershed Algorithm

Question 65:
Which feature extraction technique is used in face recognition? (CO3)
Question 65:
Option_a: Edge Detection

Option_b: Eigenfaces

Option_c: Image Smoothing
Option_d: Image Compression
Correct_Option: Eigenfaces

Question 66:

What is the primary advantage of using CNNs in image classification? (CO3)
Question 66:
Option_a: Works only with grayscale images
Option_b: Requires less computational power
Option_c: Automatic feature extraction
Option_d: Performs well with small datasets
Correct_Option: Automatic feature extraction

Question 67:
Which method is commonly used for detecting moving objects in video? (CO3)
Question 67:
Option_a: Sobel Operator
Option_b: Otsu's Thresholding
Option_c: Histogram Equalization
Option_d: Background Subtraction
Correct_Option: Background Subtraction

Question 68:
What is the role of the Kalman Filter in object tracking? (CO3)
Question 68:
Option_a: Predicting the next position of an object
Option_b: Removing noise from images
Option_c: Enhancing image contrast
Option_d: Segmenting objects from the background
Correct_Option: Predicting the next position of an object

Question 69:
Which method is used to detect objects in images based on contours? (CO3)
Question 69:
Option_a: Contour Detection
Option_b: Fourier Transform
Option_c: Gaussian Smoothing
Option_d: Histogram Equalization
Correct_Option: Contour Detection

Question 70:
What is the advantage of DBSCAN over k-means for image segmentation? (CO3)
Question 70:
Option_a: Only works with grayscale images
Option_b: Requires predefined cluster count
Option_c: Can detect clusters of arbitrary shape
Option_d: Performs poorly on large datasets

Correct_Option: Can detect clusters of arbitrary shape

Question 71:
Which technique is most commonly used for unsupervised image segmentation? (CO3)
Question 71:
Option_a: Support Vector Machine (SVM)
Option_b: K-Means Clustering
Option_c: Backpropagation Neural Network
Option_d: Convolutional Neural Networks (CNNs)
Correct_Option: K-Means Clustering

Question 72:
Which segmentation method is based on identifying edges between regions? (CO3)
Question 72:
Option_a: Principal Component Analysis
Option_b: Region Growing
Option_c: K-Means Clustering
Option_d: Edge-Based Segmentation
Correct_Option: Edge-Based Segmentation

Question 73:
Which of the following algorithms is used for active contour-based segmentation? (CO3)
Question 73:
Option_a: K-Means Clustering
Option_b: Otsu's Thresholding
Option_c: Gabor Filters
Option_d: Snakes Algorithm
Correct_Option: Snakes Algorithm

Question 74:
Which of the following is a widely used technique for extracting key points from images? (CO3)
Question 74:
Option_a: Otsu's Method
Option_b: SIFT (Scale-Invariant Feature Transform)
Option_c: Histogram Equalization
Option_d: Region Growing
Correct_Option: SIFT (Scale-Invariant Feature Transform)

Question 75:

Which clustering algorithm is best suited for detecting objects of varying density in image segmentation? (CO3)
Question 75:
Option_a: Mean Shift
Option_b: K-Means
Option_c: DBSCAN
Option_d: Otsu's Thresholding
Correct_Option: DBSCAN

Question 76:
Which of the following is a region-based image segmentation method? (CO3)
Question 76:
Option_a: Region Growing
Option_b: Hough Transform
Option_c: Fourier Transform
Option_d: Canny Edge Detection
Correct_Option: Region Growing

Question 77:
What is the main advantage of graph-based image segmentation? (CO3)
Question 77:
Option_a: It captures global properties of an image
Option_b: It is faster than edge-based methods
Option_c: It requires manual intervention
Option_d: It does not work on grayscale images
Correct_Option: It captures global properties of an image

Question 78:
Which algorithm is commonly used for template matching in pattern recognition? (CO3)
Question 78:
Option_a: Random Forest

Option_b: K-Means Clustering
Option_c: Principal Component Analysis
Option_d: Normalized Cross-Correlation

Correct_Option: Normalized Cross-Correlation

Question 79:
Which edge detection technique is widely used due to its noise reduction capability? (CO3)
Question 79:

Option_a: Roberts Operator
Option_b: Canny Edge Detector
Option_c: Prewitt Operator
Option_d: Histogram Equalization
Correct_Option: Canny Edge Detector

Question 80:
Which machine learning approach is often used in pattern recognition tasks for classification? (CO3)
Question 80:
Option_a: Histogram Equalization
Option_b: DBSCAN
Option_c: K-Means Clustering
Option_d: Support Vector Machine (SVM)
Correct_Option: Support Vector Machine (SVM)

Question 81:
Which of the following is a texture descriptor used in image processing? (CO3)
Question 81:
Option_a: K-Means Clustering
Option_b: Histogram Equalization
Option_c: Local Binary Patterns (LBP)
Option_d: Bilateral Filtering
Correct_Option: Local Binary Patterns (LBP)

Question 82:
Which technique is used for detecting objects in motion? (CO3)
Question 82:
Option_a: Gabor Filtering
Option_b: Optical Flow
Option_c: Sobel Edge Detection
Option_d: Histogram Equalization
Correct_Option: Optical Flow

Question 83:
Which segmentation method is best suited for grayscale images? (CO3)
Question 83:
Option_a: Histogram Equalization
Option_b: Color-Based Segmentation
Option_c: Otsu's Thresholding
Option_d: Hough Transform
Correct_Option: Otsu's Thresholding

Question 84:
Which of the following methods is commonly used for face recognition? (CO3)
Question 84:
Option_a: Region Growing
Option_b: Canny Edge Detection
Option_c: Eigenfaces
Option_d: K-Means Clustering
Correct_Option: Eigenfaces

Question 85:
Which of the following techniques is commonly used for handwriting recognition? (CO3)
Question 85:
Option_a: Histogram Equalization

Option_b: Fourier Transform
Option_c: Mean Filtering
Option_d: Hidden Markov Models (HMM)

Correct_Option: Hidden Markov Models (HMM)

Question 86:
What is the main purpose of stereo vision in pattern recognition? (CO3)
Question 86:
Option_a: Depth Estimation
Option_b: Color Enhancement
Option_c: Image Compression
Option_d: Feature Extraction
Correct_Option: Depth Estimation

Question 87:
Which neural network architecture is best suited for object detection? (CO3)
Question 87:
Option_a: Convolutional Neural Networks (CNNs)
Option_b: Recurrent Neural Networks (RNNs)
Option_c: Random Forest
Option_d: K-Means Clustering
Correct_Option: Convolutional Neural Networks (CNNs)

Question 88:

Which segmentation method divides an image into regions of similar color intensity? (CO3)
Question 88:
Option_a: Fourier Transform
Option_b: Optical Flow
Option_c: Watershed Algorithm
Option_d: Edge Detection
Correct_Option: Watershed Algorithm

Question 89:
Which image segmentation technique is used for detecting touching or overlapping objects? (CO3)
Question 89:
Option_a: K-Means Clustering
Option_b: Otsu's Thresholding
Option_c: Watershed Segmentation
Option_d: Gabor Filters
Correct_Option: Watershed Segmentation

Question 90:
Which method is used for noise reduction before segmentation? (CO3)
Question 90:
Option_a: Otsu's Thresholding
Option_b: Sobel Operator
Option_c: Gaussian Smoothing
Option_d: Histogram Equalization
Correct_Option: Gaussian Smoothing

Question 91:
Which feature extraction method is useful for detecting motion blur? (CO3)
Question 91:
Option_a: K-Means Clustering
Option_b: Canny Edge Detector
Option_c: Histogram Equalization
Option_d: Optical Flow
Correct_Option: Optical Flow

Question 92:
Which clustering method is least affected by outliers in segmentation? (CO3)
Question 92:
Option_a: Mean Shift

Option_b: K-Means

Option_c: DBSCAN

Option_d: Watershed Algorithm
Correct_Option: DBSCAN

Question 93:
Which of the following methods is used for feature selection in pattern recognition? (CO3)
Question 93:
Option_a: Sobel Edge Detection

Option_b: Region Growing
Option_c: Bilateral Filtering
Option_d: Principal Component Analysis (PCA)

Correct_Option: Principal Component Analysis (PCA)

Question 94:
Which feature descriptor is commonly used in pedestrian detection? (CO3)
Question 94:
Option_a: Histogram of Oriented Gradients (HOG)
Option_b: Mean Shift
Option_c: Fourier Transform
Option_d: Gaussian Blur
Correct_Option: Histogram of Oriented Gradients (HOG)

Question 95:
Which segmentation method is useful when objects have varying illumination? (CO3)
Question 95:
Option_a: Gabor Filtering

Option_b: Edge-Based Segmentation
Option_c: K-Means Clustering
Option_d: Adaptive Thresholding

Correct_Option: Adaptive Thresholding

Question 96:
Which of the following is an advantage of graph-based segmentation methods? (CO3)
Question 96:

Option_a: Captures spatial relationships between pixels
Option_b: Always produces the correct number of segments
Option_c: Requires fewer computations than thresholding
Option_d: Works only for grayscale images
Correct_Option: Captures spatial relationships between pixels

Question 97:
Which machine learning algorithm is widely used for digit recognition? (CO3)
Question 97:
Option_a: Hough Transform
Option_b: K-Means Clustering
Option_c: Convolutional Neural Networks (CNNs)
Option_d: Otsu's Thresholding
Correct_Option: Convolutional Neural Networks (CNNs)

Question 98:
What is the main drawback of the Watershed segmentation algorithm? (CO3)
Question 98:
Option_a: Over-segmentation
Option_b: Slow processing speed
Option_c: Only works on binary images
Option_d: Cannot segment color images
Correct_Option: Over-segmentation

Question 99:
Which pattern recognition technique uses a probabilistic approach for classification? (CO3)
Question 99:
Option_a: Canny Edge Detection
Option_b: K-Means Clustering
Option_c: Graph-Based Segmentation
Option_d: Naïve Bayes Classifier
Correct_Option: Naïve Bayes Classifier

Question 100:
Which segmentation method uses an iterative process to refine regions? (CO3)
Question 100:
Option_a: Hough Transform
Option_b: Mean Shift Segmentation
Option_c: Gaussian Smoothing
Option_d: Histogram Equalization
Correct_Option: Mean Shift Segmentation