Program: Master of Computer Applications

Curriculum Scheme: MCA 2 year Course

Examination: MCA SEMESTER II 2022

Course Code: MCAE244 and Course Name: Computer Vision

Time: 2.5 HRS   Max. Marks: 80

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Q1	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
Q1	_____ ensures good noise immunity and at the same time detects true edge points with minimum error.
Option A:	Matching Descriptors
Option B:	Canny Edge Detector
Option C:	Equalization
Option D:	Harris corner Detector
Q2.	Structure from motion is about _____ of 3d scene
Option A:	Formation
Option B:	Reconstruction
Option C:	Analyzing
Option D:	Identification
Q3.	An image can be treated as _____ in BoW model
Option A:	Sentence
Option B:	Document
Option C:	Character
Option D:	Element
Q4.	What is the first step of Face recognition?
Option A:	Face preprocessing

Option B:	Face detection
Option C:	Face recognition
Option D:	Collect Faces
Q5.	PCA=
Option A:	Principal Component Analysis
Option B:	Projection Component Analysis
Option C:	Preserving Component Analysis
Option D:	None of the above
Q6.	Detecting object using classifier includes:
Option A:	Grey scale color conversion
Option B:	Shrinking the camera image
Option C:	Histogram equalization
Option D:	All of the above
Q7.	In opencv , which class is available for face recognition?
Option A:	FaceRecognition
Option B:	RecognizeFace
Option C:	FaceRecognizer
Option D:	FacialRecognizer
Q8.	In Adaboost, to boost speed and accuracy of model we use:
Option A:	Revaluation
Option B:	Equalization
Option C:	Cascading
Option D:	Reformation

Q9.	Given 9x9 image with a 3x3 filter and a padding p=1, what will the size of the resultant image be if a convolutional stride of s= 2 is used?
Option A:	3
Option B:	5
Option C:	4
Option D:	6
Q10.	What is the value of stride for below pooling function?
	`model.add(MaxPooling2D((2, 2), name='maxpool_1'))`
Option A:	4
Option B:	2
Option C:	5
Option D:	1

Q2 Solve any four questions out of six which carry 5 marks each respectively. 20 marks

1. What is Computer Vision? Explain Architecture of VC

2. State major Applications of CV and Explain anyone application detail with example

3. Explain plotting of images, line, and graph using matpotlib.

Q3. Solve any two questions out of three which carry 10 marks each respectively.   20 marks

1. Explain SFM(Structure from motion) and its Applications.

2. What is CNN? What are its components? Explain stride, padding and pooling with an example.

3. Explain SIFT - Scale-Invariant feature transform.

Q4. Solve any two questions out of three which carry 10 marks each respectively.   20 marks

1. Explain Face Detection and Face Preprocessing steps in detail.

2. Explain Voila-Jones algorithm and its working(stages of it).

3. Explain various image processing techniques available in python