Engineering and Technology			
Ramaiah University of Applied Sciences			
Department	Computer Science and Engineering	Programme	B. Tech.
Semester/Batch	7th/2017		
Course Code		Course Title	Computer Vision
Course Leader(s)	Dr. Divya BS, Dr. Subarna Chatterjee and Dr. Aruna Kumar SV		

Questions		Marking Scheme	Marks		
			Max Marks	First Examiner Marks	Moderator
1					
	1.1	Introduction to Segmentation and Creation of Dataset.	3		
	1.2	Identify and explain the appropriate pre-processing techniques	5		
	1.3	Identify and explain the appropriate Segmentation techniques	5		
		Question 1 Max Marks	**13**		
2	2.1	Perform preprocessing on the images of the created dataset	**5**		
	2.2	Perform segmentation to segment the image.	**5**		
	2.3	Results and Discussions.	**2**		
		Question 2 Max Marks	**12**		
Total Assignment Marks			**25**		

Course Marks Tabulation				
Question	**First Examiner**	**Remarks**	**Moderator**	**Remarks**
1				
2				
Marks (Max 25)				

Signature of First Examiner **Signature of Moderator**

Please note:

1. Documental evidence for all the components/parts of the assessment such as the reports, photographs, laboratory exam / tool tests are required to be attached to the assignment report in a proper order.
2. The First Examiner is required to mark the comments in RED ink and the Second Examiner's comments should be in GREEN ink.
3. The marks for all the questions of the assignment have to be written only in the **Component – CET B: Assignment** table.
4. If the variation between the marks awarded by the first examiner and the second examiner lies within +/- 3 marks, then the marks allotted by the first examiner is considered to be final. If the variation is more than +/- 3 marks then both the examiners should resolve the issue in consultation with the Chairman BoE.

Assignment

Instructions to students:

1. The assignment consists of **2** question.
2. Maximum marks is **25**.
3. The assignment has to be neatly word processed as per the prescribed format.
4. The maximum number of pages should be restricted to **15**.
5. The printed assignment must be submitted to the course leader.
6. **Submission Date: 16th January 2021**
7. **Submission after the due date is not permitted.**
8. **IMPORTANT**: It is essential that all the sources used in preparation of the assignment must be suitably referenced in the text.
9. Marks will be awarded only to the sections and subsections clearly indicated as per the problem statement/exercise/question

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Preamble

In computer vision, image segmentation is the process of partitioning a digital image into multiple segments (sets of pixels, also known as image objects). The goal of segmentation is to simplify and/or change the representation of an image into something that is more meaningful and easier to analyze. Image segmentation is typically used to locate objects and boundaries (lines, curves, etc.) in images. More precisely, image segmentation is the process of assigning a label to every pixel in an image such that pixels with the same label share certain characteristics.

Question 1 **(13 Marks)**

A literature review is a comprehensive summary of previous research on a topic. The literature review surveys scholarly articles, books, and other sources relevant to a particular area of research. The review should enumerate, describe, summarize, objectively evaluate and clarify this previous research.

Literature on segmentation techniques

1.1 Introduction to Segmentation and Creation of Dataset.

1.2 Identify and explain the appropriate pre-processing techniques.

1.3 Identify and explain the appropriate Segmentation techniques

Question 2 **(12 Marks)**

Segmentation is often the critical step in computer vision. If segmentation is done well then all other stages in computer vision are made simpler.

Perform segmentation on the images of the created dataset.

1.1 Perform pre-processing on the images of the created dataset.

1.2 Perform segmentation to segment the image.

1.3 Results and Discussions.