

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME – SEMESTER IV (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2742302

Date: 04/05/2016

Subject Name: Computer Vision

Time: 10:30 am to 01:00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|------------|---|-----------|
| Q.1 | (a) Enlist Computer Vision applications and explain any two in detail. | 07 |
| | (b) Discuss about Monocular Imaging System in detail. | 07 |
| Q.2 | (a) Explain BRDF in detail. | 07 |
| | (b) Explain the process of constructing 3D model from images? | 07 |
| OR | | |
| | (b) Discuss about the terms radiance and irradiance in detail. | 07 |
| Q.3 | (a) Enlist Various Methods of Edge detection? Explain any one in detail. | 07 |
| | (b) Explain regularization theory in context with motion estimation. | 07 |
| OR | | |
| Q.3 | (a) What is Image Preprocessing? Explain any two methods in detail. | 07 |
| | (b) Explain block matching algorithm in context with motion estimation. | 07 |
| Q.4 | (a) Differentiate Contour based representation and region based representation. | 07 |
| | (b) Describe Multiresolution analysis in detail. | 07 |
| OR | | |
| Q.4 | (a) Explain Hough Transforms object recognition method. | 07 |
| | (b) Explain principal component analysis. | 07 |
| Q.5 | (a) Explain Gaussian Mixture Model and Hidden Markov Model. | 07 |
| | (b) Describe expectation-maximization algorithm. | 07 |
| OR | | |
| Q.5 | (a) Discuss Chamfer matching. | 07 |
| | (b) Explain human gait analysis application. | 07 |
