

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.

- 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**
