20/11/14 BE comp VIII (OtoR) Comp. vision.

QP Code : 15692

(3 Hours) [Total Marks : 100

N. B. : (1) **Question one** is **compulsory.**
(2) Attempt any **four** questions out of remaining **six** questions.
(3) Assume **suitable** data wherever **necessary** and **state** it cleary .

1. Answer **any four** of the following. 20
   (a) What is Principal component analysis.
   (b) What is zero crossing edge detector
   (c) Explain view class matching
   (d) What is inverse perspective projection
   (e) Discuss Significance of chain codes in object representaion.

2. (a) Explain border tracking algorithm with Suitable example. 10
   (b) Explain 'Thinning' and 'Thickining' with the help of suitable example 10

3. (a) What is control strategies? Discuss the two major form of Control (i.e. Hierarchical and Heterachical) strategies 10
   (b) Explain hough transform with example mention all its merits and demerits. 10

4. (a) Explain back tracking algorithm with suitable example 10
   (b) Apply iterative and classical connected component labelling algorithm on following. 10

0	0	0	0	0	0	0	1	1	0
0	1	1	0	0	0	1	1	1	0
0	1	1	1	0	1	1	1	1	0
0	0	1	1	0	0	0	1	1	0

5. (a) Explain motion based and rule based segmentation. 10
   (b) What is signature segmentation? Find the horizantal, vertical and diagonal signatures of the binary image segment shown below. 10

1	1		1	1
1	1		1	1
	1			
1	1			1
1			1	1

6. (a) Explain knowledge based vision. Explain different forms of knowledge representation used in computer vision. 10
   (b) Explain Run length implementation algorithm with suitable example 10

7. (a) Give all the steps involve in recoginition methodology and briefly explain each 10

(b) Explain the following region growing algorithm with suitable example. 10
   (i) Centroid Linkage
   (ii) Hybrid Linkage
   (iii) Single Linkage
