

Total No. of Questions : 8]

SEAT No. :

PB-4026

[Total No. of Pages : 2

[6262]-379

T.E. (Computer Engineering) (Honors)
VIRTUAL REALITY AND AUGMENTED REALITY
Augmented Reality
(2019 Pattern) (Semester - II) (310703)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.

- Q1)** a) What are major software components for augmented reality systems?[6]
b) Explain the different characteristics of tracking technology? [6]
c) Explain in detail role of Computer Vision in Augmented Reality. [6]

OR

- Q2)** a) Explain multiple-camera infrared tracking in augmented reality [6]
b) Explain outdoor tracking in details. [6]
c) How pose estimation from Homography is done in marker tracking. Explain [6]

- Q3)** a) What is Marker based and Marker less tracking system in augmented reality? [6]
b) What is localization based Augmentation? [6]
c) What do you mean by Model based tracking? [6]

OR

- Q4)** a) Explain feature based tracking method? [6]
b) Write note on: (Any 2) [6]
i) Template markers
ii) 2D barcode markers
iii) Imperceptible markers
c) What is scene generator? [6]

P.T.O.

- Q5)** a) Explain with diagram monitor based augmented reality display. [6]
b) Explain the term Virtual Retinal Systems. [6]
c) Explain different components of augmented reality [5]

OR

- Q6)** a) Compare optical see-through and video see-through head mounted display [6]
b) Explain Augmented Reality based on projection systems [6]
c) Explain all AR devices with suitable example [5]

- Q7)** a) What is Semi-directmonocular Visual Odometry (SVO)? [6]
b) Explain parallel tracking and mapping (PTAM) in detail. [6]
c) How does Mixed Reality works? [5]

OR

- Q8)** a) Explain the working of SLAM technique [6]
b) What is mixed reality? Explain the different application of mixed reality.[6]
c) Explain dense tracking and mapping (DTAM) [5]
