

Time: 3 hours

Total Marks: 80

- N.B.**
- 1. Question No. 1 is compulsory**
 - 2. Attempt any three questions from remaining five questions**
 - 3. Assume suitable data if necessary and justify the assumptions**
 - 4. Figures to the right indicate full marks**

- Q1 Answer any four of the following questions.
- | | | |
|---|---|----|
| A | What is the difference between View transformation and Projective transformation? | 05 |
| B | What are the challenges using AR? How can these challenges be overcome? | 05 |
| C | Discuss the characteristics of Stationary Tracking System | 05 |
| D | Explain the difference between Marker tracking and Infrared tracking. | 05 |
| E | Explain the term sensor fusion. | 05 |
- Q2
- | | | |
|---|---|----|
| A | Explain AR architecture and what are the benefits of AR architecture? | 10 |
| B | What is the difference between MR/ XR explain in a brief | 10 |
- Q3
- | | | |
|---|--|----|
| A | Explain how computer vision is used in AR? What is optical tracking? | 10 |
| B | Explain AR-VR Design Principles and list the Software engineering requirements in AR | 10 |
- Q4
- | | | |
|---|---|----|
| A | What are the applications of VR technology? Discuss the benefits and challenges of implementing VR in these applications. | 10 |
| B | Discuss physical side effects of AR-VR. | 10 |
- Q5
- | | | |
|---|---|----|
| A | Discuss the applications of AR in the medical field. | 10 |
| B | Explain about Spatial Display Model and Visual Displays in brief. | |
- Q6
- | | | |
|---|--|----|
| A | Explain Data flow in AR-VR. | 10 |
| B | What are Camera calibration techniques? And explain the set up for AR. | 10 |
-