

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3171612****Date:19-12-2023****Subject Name: Virtual and Augment Reality****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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Explain the Components of Virtual Reality. **03**
(b) Explain Google Card Board in detail. **04**
(c) What is virtual reality? Explain the three I's of virtual reality? **07**
- Q.2** (a) Explain Virtuality and Immersion **03**
(b) Briefly Explain 3D clipping with suitable examples. **04**
(c) Explain in your own words how VR is interactive, immersive and imaginative **07**
- OR**
- (c) What do you understand by virtual reality? What are differences between virtual reality applications and multimedia applications? **07**
- Q.3** (a) Explain 2D and 3D with respect to Virtual Reality **03**
(b) Write in detail about the use of VR in the field of military training. **04**
(c) Explain the difference between Virtual Reality and Augmented Reality **07**
- OR**
- Q.3** (a) What is 3D computer graphics and also discuss rendering process **03**
(b) Define computer graphics and also discuss rendering process **04**
(c) Define: i) Flicker ii) Touch Receptors iii) Optical Distortions **07**
- Q.4** (a) What is Tracker, Sensor and Digital Glove? **03**
(b) Explain the role of eyes, ears and senses in Augmented Reality **04**
(c) Explain VR Technology in Physical Exercises and Games **07**
- OR**
- Q.4** (a) List out the Real Time Application of AR and VR **03**
(b) How the VR and AR is use in flight simulation? **04**
(c) Explain wireless displays in educational augmented reality applications, **07**
- Q.5** (a) What is VRML (Virtual Reality Modeling Language)? **03**
(b) List Out VR Software and VR Hardware **04**
(c) Explain Augmented reality methods with suitable examples. **07**
- OR**
- Q.5** (a) What are the benefits of augmented reality? **03**
(b) Explain the following i) Augmented reality ii) Mixed reality **04**
(c) Explain in details Application of VR in Digital Entertainment **07**
