

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:3171612****Date:10/06/2022****Subject Name:Virtual and Augment Reality****Time:02:30 PM TO 05:00 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) Discuss benefits of virtual reality. **04**
(c) What is reflection? Explain its models in detail. **07**
- Q.2** (a) Briefly Explain 3D clipping with suitable examples. **03**
(b) Explain in detail about scene illumination. **04**
(c) Explain the difference between Virtual Reality and Augmented Reality. **07**
- OR**
- (c) Describe the purpose of following nodes in VRML (Virtual Reality Modeling Language). Anchor node, Collision node, Group node, Shape node. **07**
- Q.3** (a) Discuss Collision detection Generic VR system **03**
(b) Explain 3 'I' of virtual reality. **04**
(c) Discuss the Visual Computation in Virtual Reality. **07**
- OR**
- Q.3** (a) Define: i) Flicker ii) Touch Receptors iii) Optical Distortions **03**
(b) Discuss wireless displays in educational augmented reality applications **04**
(c) Explain the challenges of AR. **07**
- Q.4** (a) List out the Real Time Application of AR and VR. **03**
(b) What is 3D computer graphics and also discuss rendering process **04**
(c) Explain Augmented reality methods with suitable examples. **07**
- OR**
- Q.4** (a) Discuss Entertainment Applications of VR **03**
(b) Explain Different types of AR. **04**
(c) Explain wireless displays in educational augmented reality applications, **07**
- Q.5** (a) List Out VR Software and VR Hardware. **03**
(b) Explain Virtual World Space with suitable example. **04**
(c) Explain VR Technology in Physical Exercises and Games. **07**
- OR**
- Q.5** (a) What is Tracker, Sensor and Digital Glove? **03**
(b) Discuss input and output interface in VR. **04**
(c) Write a Short Note on "VRML". **07**
