

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024****Subject Code:3171612****Date:16-12-2024****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.

		MARKS
Q.1	(a) Explain Virtuality and Immersion.	03
	(b) What do you understand by virtual reality? What are differences between virtual reality applications and multimedia applications?	04
	(c) Explain the various components of virtual reality systems with block diagram.	07
Q.2	(a) Write short note on display technologies of Augmented Reality with diagram.	03
	(b) Explain Google Card Board in detail.	04
	(c) What is Shading? Explain the various algorithms of it.	07
	OR	
	(c) Explain the Primary Features and Present Development on Virtual Reality	07
Q.3	(a) What is projection? Explain in detail with its type.	03
	(b) Differentiate virtual reality and augmented reality.	04
	(c) Explain the visualization techniques for augmented reality	07
	OR	
Q.3	(a) Define: i) Flicker ii) Touch Receptors iii) Optical Distortions	03
	(b) Explain the role of eyes, ears and senses in Augmented Reality	04
	(c) Discuss the use of virtual reality in Automation field.	07
Q.4	(a) Explain 2D and 3D with respect to Virtual Reality	03
	(b) Explain in detail about scene illumination.	04
	(c) Explain the following transformations with the help of suitable example: Rotation and Scaling.	07
	OR	
Q.4	(a) What is 3D computer graphics and also discuss rendering process	03
	(b) Explain real time application of virtual reality.	04
	(c) Explain the challenges of AR.	07
Q.5	(a) Briefly Explain 3D clipping with suitable examples	03
	(b) Explain 3 'I' of virtual reality.	04
	(c) Discuss the use of virtual reality in Film industry.	07
	OR	
Q.5	(a) Define: i) Visual Acuity ii) The blind spot iii) Motion parallax cues	03
	(b) What is Linear and Nonlinear interpolation?	04
	(c) Discuss in detail the use of Augmented Reality in gaming industry.	07
