

Total No. of Questions : 8]

SEAT No. :

P-460

[Total No. of Pages : 2

[6003]-567

T.E. (Honors)

**VIRTUAL REALITY (310701)**  
**(2019 Pattern) (Semester - I)**

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

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

**Q1)** a) Explain in detail different geometric models? [9]

b) What are axis angle representations of rotations? [8]

OR

**Q2)** a) Explain Implications for VR. [9]

b) What is Orthographic projection and Perspective projection. [8]

**Q3)** a) What is Visual Perception? How to improve frame rates in Visual Perception. [6]

b) Explain perception of motion in detail. [6]

c) What is Rasterization? [6]

OR

**Q4)** a) Explain the structure of the Human Eye? [6]

b) Explain Ray Tracing and Ray Casting. [12]

**Q5)** a) Explain the difference between tracking 2D and 3D orientation? [9]

b) Explain Mismatched obstacles in VR. [8]

OR

P.T.O.

- Q6)** a) Explain motion in Real and virtual world. [9]  
b) What is tracking? Explain 3D tracking system. [8]

- Q7)** a) Write short on Auditory perception. [9]  
b) Explain with diagrams the physiology of human hearing. [9]

OR

- Q8)** a) Explain Locomotion and Manipulation for the interaction mechanism of virtual reality. [9]  
b) Explain Auditory rendering in detail. [9]

