

Total No. of Questions : 8]

SEAT No. :

P1020

[Total No. of Pages : 2

[5870]-1209

T.E. (Computer Engineering)

HONORS - VIRTUAL REALITY AND AUGMENTED REALITY

Virtual Reality

(2019 Pattern) (Smester - I) (310701)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates :

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and 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) Describe Physiology of the human eye with diagram. **[9]**

b) Write note on Geometry of Virtual Worlds. **[8]**

OR

Q2) a) Explain different type of eye movements. **[9]**

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

Q3) a) Explain following term w.r.t monocular depth cues with diagram **[6]**

i) Retinal image size

ii) Height in the visual field

iii) Motion parallax

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

c) What is Rasterization? **[6]**

OR

P.T.O.

- Q4)** a) What is Ray Tracing and Shading Models? Explain. [6]
b) What are the different strategies use to reduce the latency and to minimize the side effects of it? [6]
c) Explain perception of color. [6]

- Q5)** a) Define the following terms w.r.t 2D Tracking system. [9]
i) Calibration
ii) Integration
iii) Registration
iv) Drift error
b) Explain vestibular system in detail. [9]

OR

- Q6)** a) State and explain different types of vection. [9]
b) What is tracking? Explain 3D tracking system. [9]

- Q7)** a) What are Design considerations interaction mechanism for virtual reality? [9]
b) Describe Physiology of human hearing with diagram. [8]

OR

- Q8)** a) Explain Locomotion and Manipulation for interaction mechanism of virtual reality. [9]
b) Explain in short Auditory Perception and Auditory Rendering. [8]
