[5927]-467
B.E. (Computer Engineering) (Honours)
VIRTUAL REALITY IN GAME DEVELOPMENT
(2019 Pattern) (Semester-VII) (410701)

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 block diagram for a multimodal VR system developed at HRL Laboratories. **[6]**

    b)   Explain different types of project constraints in define stage. **[6]**

    c)   What is INVEST in user stories? **[5]**

OR

Q2) a)   State different tools for building VR applications. **[6]**

    b)   Write short note on: **[6]**

       i)   Define Stage

       ii)   Make Stage

       iii) Learn Stage

    c)   Virtual reality is both an art and a science. Justify. **[5]**

Q3) a)   What are Fundamentals of sprite animation? **[9]**

    b)   Comparison between animations in Unreal Engine and Unity Engine. **[9]**

OR

Q4) a)   Explain step to develop town view using unity. **[9]**

    b)   Explain working with Sprites in Unity. Also describe how to actually use Sprites in Unity. **[9]**

Q5) a)   How to building in-game menu structures. Explain. **[9]**

    b)   Write unity code to prepare attack a single enemy in battle system. **[9]**

OR

P.T.O.

Q6) a) How to Implement the turn-based battle system. Explain. **[9]**

b) Explain workflow of Mecanim Animation System. **[9]**

Q7) a) Explain unified model of motion sickness with diagram. **[6]**

b) Write short note on: (Any 2). **[6]**

    i) Binocular-Occlusion Conflict

    ii) Flicker

    iii) Aftereffects

c) State hardware design guidelines to avoid adverse health effects in VR System. **[5]**

OR

Q8) a) Explain different physical issues involved with the use of VR equipment. **[6]**

b) What are different application design factors that have adverse effects on VR system? **[6]**

c) What is Timing Analysis? Draw timing diagram for a typical VR system. **[5]**