



Department of Computer Science and Engineering

End Semester Examination

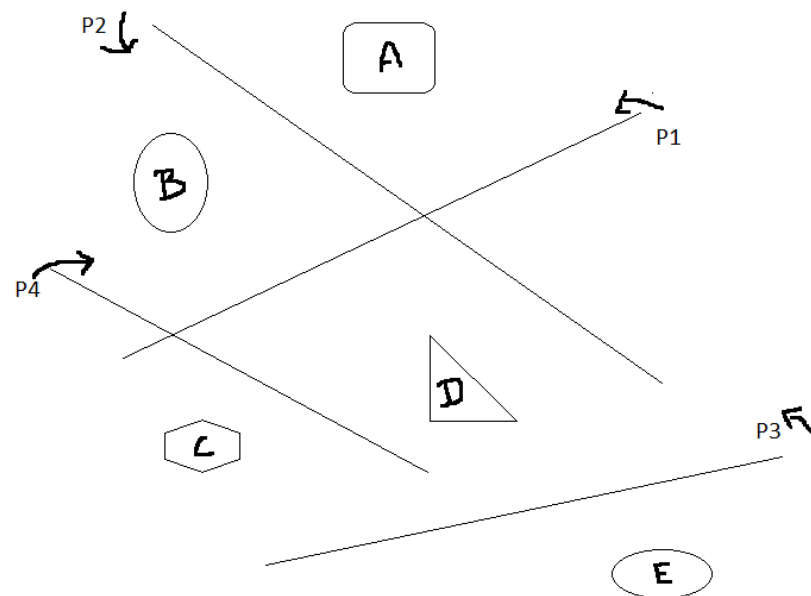
CSPE 51 – Augmented and Virtual Reality

Date : 11.12.2021

Time : 4 pm – 6 pm (Test)

Max. mark : 30

1. a) How is the reality perceived in VR? (2)
b) List out the advantages and disadvantages of CAVE. (2)
c) What human sensors are responsible for touch? (2)
2. a) Construct BSP tree for the following (2)



- b) Reflect the triangle ABC about the line $x - 2y + 4 = 0$. The position vector of the coordinate ABC is $A = [2, 1, 1]$, $B = [3, 2, 1]$ and $C = [2, 4, 2]$. (4)
3. a) How haptic feedback is used in the following ? (1)



- b) How gesture interface is helpful in the virtual environment? (2)
 - c) How the accuracy and drift parameters affect the performance of the trackers? Explain it for different types of trackers. (3)

4. Explain how you can develop a gun range in Simulator with the help of VR technology. Explain in detail about the design steps, implementation details and the components required to develop the simulator. (Use the tool of your choice). (6)
5. a) Write down the steps involved in the development of AR app used in the below link. (3)
https://www.youtube.com/watch?v=z7DYC_zbZCM&t=45sb
b) What are Fiducial markers? How is it used in AR applications? (3)