Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**Supplementary Examination – June – 2017**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14CS3058** | **Duration :** | **3hrs** |
| **Sub. Name :** | **VIRTUAL REALITY TECHNOLOGY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. |  | Compare and contrast the working of AC and DC magnetic trackers. Summarize how the accuracy of AC magnetic tracker is affected by the presence of metal objects and distance from source. | CO2 | 20 |
| (OR) | | | | |
| 2. | a. | Discuss the working of Inside-looking-out optical tracker with neat sketch. | CO1 | 10 |
| b. | Explain how the InterSense IS-900 ultrasonic inertial trackers can be used to track the object. | CO2 | 10 |
| 3. | a. | Differentiate between absolute and relative coordinates. | CO3 | 2 |
|  | b. | Discuss the working of head mounted display devices with neat sketch. | CO2 | 18 |
| (OR) | | | | |
| 4. |  | List the disadvantages of using sensing gloves. Outline the features of pinch glove with neat block diagram. | CO1 | 20 |
| 5. | a. | Estimate the features of using temperature feedback glove. Describe how temperature feedback is realized using temperature feedback glove. | CO2 | 10 |
|  | b. | Describe the working of Fire GL2 graphics board. Make a drawing and explain. | CO3 | 10 |
| (OR) | | | | |
| 6. |  | Define genlock? What are the various ways to synchronize graphics pipelines used in side-by-side displays? Which one works better? | CO1 | 20 |
| 7. | a. | Distinguish between local and global illumination. Outline the various methods used to illuminate a scene. | CO2 | 10 |
|  | b. | Describe the method that uses a combination of techniques to render complex virtual environments at an interactive rate. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Illustrate with example how hierarchical structure can used in virtual reality to make the objects to move independently. | CO2 | 10 |
|  | b. | Compare and contrast the features of WTK scene graph and Java tool kit scene graph. | CO3 | 5 |
|  | c. | Explain the kind of networking used by world tool kit with a neat block diagram. | CO1 | 5 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Point out the differences that exist between human factor engineering and usability studies. Explain the methodology followed by usability evaluations. | CO2 | 10 |
|  | b. | Describe cybersickness and its causes. Make a drawing and explain. | CO1 | 10 |

ALL THE BEST