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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14MT2009** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INTRODUCTION TO 3D ANIMATION** | **Max. marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | Marks |
| 1. | a. | List out the various types of storyboards, Explain their relevance during content development. | CO1 | 9 |
| b. | In animation terminology,What are size charts? | CO1 | 2 |
| c. | What is a Foley effect? Give an example. | CO1 | 3 |
| d. | With a sample production schedule, explain the importance of production scheduling. | CO1 | 6 |
| (OR) | | | | |
| 2. | a. | Define: Point. | CO2 | 2 |
| b. | Compare and contrast polygon rounding and polygon expansion. | CO1,CO2 | 4 |
| c. | List out and explain the various types of splines available with their parameters. | CO1,CO2 | 10 |
| d. | Name any four Geometric primitive and their basic parameters that 3D application require to create them. | CO1,CO2, CO3 | 4 |
| 3. | a. | What are the 2 types of Viewing windows found in 3D animation applications? Give their relevant application. | CO1,CO2 | 4 |
|  | b. | What is the need for a coordinate system in 3D applications? Discuss on Right handed and Left handed coordinate systems. | CO1,CO2 | 6 |
|  | c. | Explain the 3 basic transformations and also elaborate on how they work according to whether they are Absolute or Relative. | CO1,CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Explain the following tools with eaxamples: Revolve, Loft. | CO1,CO2 | 10 |
|  | b. | What is Hierarchical modeling? With an example explain its importance in Modelling and Animation. | CO1,CO2 | 10 |
| 5. | a. | Explain Boolean operations that are used in 3D modeling. | CO2 | 9 |
|  | b. | Define: Hidden Line Rendering. | CO1,CO2 | 3 |
|  | c. | Name the three types of Camera used to animate camera views of scenes in 3D applications and explain their parameters. | CO1,CO2 | 8 |
| (OR) | | | | |
| 6. | a. | List and explain the various types of Lights and their editable parameters. | CO1,CO2 | 14 |
|  | b. | Explain the working of raycasting and raytracing algorithms. | CO1,CO2 | 6 |
| 7. | a. | Explain the various projection mapping techniques used to apply textures on objects. | CO1,CO3 | 10 |
|  | b. | What is a Bump Map? | CO1,CO3 | 2 |
|  | c. | What are Keyframes? | CO2 | 2 |
|  | d. | How are curves used to edit and animate animations? | CO1,CO2 | 6 |
| (OR) | | | | |
| 8. | a. | Compare and contrast Forward and Inverse Kinematics with relevant applications for both. | CO1,CO2 | 10 |
|  | b. | Explain Shape deformations with examples. | CO1,CO2 | 10 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Explain the various ways of digitizing real objects into 3D objects that are editable inside the 3D software. | CO1 | 8 |
|  | b. | Explain the concept of sculpting, How is it different from the normal modeling? | CO1,CO3 | 4 |
|  | c. | What is Procedural Modelling? Why is it considered very powerful?Explain with examples. | CO1 | 8 |

ALL THE BEST