December 2023

B.Sc. Animation and Multimedia V SEMESTER

3D Animation (BSC-AM-19-504-2)

Time: 3 Hours

Max. Marks:75

Instructions:
1. *It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.*
2. *Answer any four questions from Part -B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART -A

Q1 (a) Describe the significance of jiggle in the context of character animation. (1.5)

(b) What function do clusters serve in 3D animation, and how are they utilized? (1.5)

(c) Explain the role of blend shapes in creating realistic character animations. (1.5)

(d) How do deformers contribute to the animation process in 3D modeling? (1.5)

(e) How does the "orient" attribute contribute to the animation process, and what is its significance in rigging? (1.5)

(f) Compare and contrast the "Straight Ahead Action" and "Pose to Pose" approaches in animation. When might each be more suitable? (1.5)

(g) Which 3D software commonly includes a robust set of animation tools for character rigging and movement? (1.5)

(h) How do deformers differ from traditional keyframe animation techniques in 3D modeling? (1.5)

(i) In what ways do blend shapes enhance the expressiveness of animated characters? (1.5)

(j) How can the application of jiggle contribute to the lifelike qualities of an animated object or character? (1.5)

PART -B

Q2 (a) What role does the "Arc" principle play in animation, and how does it impact the visual appeal of character movements? (7.5)

(b) Explain the importance of the "scale" parameter in animation, and how it affects the overall appearance of an object or character. (7.5)

Q3 (a) Give an example of a scenario where clusters would be particularly useful in 3D animation. (7.5)

(b) How does the principle of "Timing" influence the overall feel and rhythm of an animation? Provide an example to illustrate its impact. (7.5)

Q4 Provide a detailed explanation of how a combination of parenting, constraints (such as aim and pole vector), and motion paths can be employed together to create complex and visually appealing animations in a 3D environment. (15)

Q5 (a) Provide an overview of the Trex Editor in animation tools. What specific (7.5) features does it offer, and how does it enhance the efficiency of animators when working with complex scenes or character animations?

(b) Explain the purpose and functionality of the Expression Editor in animation (7.5) software. How does it enable animators to create complex expressions or control parameters, and what are some practical applications of this editor in animation projects?

Q6 (a) Discuss the significance of motion paths in animation, and how can animators (7.5) use motion paths to create smooth and controlled movements for objects in a scene?

(b) In what ways does the scale constraint facilitate the animation process, and (7.5) how can it be employed to achieve consistent scaling effects across keyframes?

Q7 How do constraints like point and orient constraints enhance the animator's (15) control over the positioning and orientation of objects, and what are some practical examples of their application?

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