Total No. of printed pages = 3

19/4th Sem/UMCD 402

2022

RIGGING FOR 3D ANIMATION

Full Marks – 100

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer *any five* questions.

1. (a) Answer the following questions : 1×6=6

   (i) What is pivot point ?

   (ii) What does the lattice tool create around its selected surface ?

   (iii) Which mode allows to orient joint axis ?

   (iv) What deformer lets the change of shape of an object into other shapes ?

   (v) Which tool allows to configure the skin weights of multiple vectors at once ?

   (vi) Which mode allows to orient joint axis ?

[Turn over

(b) (i) What option brings a skeleton back to its default pose ?

(ii) After finishing modeling what needs to be done before applying joints and why ? 2+2=4

(c) Write a brief note on the skinning process ? 3

(d) Explain about direct and indirect skinning methods. 5

(e) What do you mean by kinematics ? 2

2. (a) What are the scripting language that Maya utilizes ? Explain. 6

(b) Explain working of Blend shapes with an appropriate example. 6

(c) Differentiate between the following : 2×4=8

(i) Rigid skinning and Smooth skinning

(ii) FK and IK.

3. (a) Explain the following : 5×2=10

(i) IK/FK switch

(ii) RP Solver and SC solver.

(b) Explain about Point, Orient, Scale, Aim and Parent Constraints and its limitations in connecting the 3d objects. 10

4. (a) Discuss the role of a rigging artist. 4

(b) Explain with an example about the process of creating new attributes and connecting it using set driven key controls. 4+6=10

(c) Explain the steps for applying Spline IK handle tool and cluster for spine of a biped character. 6

5. Explain the following tools : 5×4=20

(i) Connection Editor

(ii) Hypergraph

(iii) Character Set

(iv) Component Editor.

6. Write brief notes on the following with appropriate example : 10×2=20

(a) Set driven key technique and the function of driver and driven.

(b) Reverse foot technique and pole vector for rigging the leg.

7. (a) What are deformers ? Explain about any five types of deformers with example. 4+10=14

(b) Explain with example how deformer can be used in modelling and animation. 6