DIP–416 **DIA–4**

DIPLOMA EXAMINATION – JANUARY, 2015.

Animation

3D COMPUTER GRAPHICS AND MODELING

Time : 3 hours Maximum marks : 75

PART A — (20 × 1 = 20 marks)

Answer ALL questions.

Choose the correct answer :

1. OOD means ————————

   (a) Object Oriented Design

   (b) Open Database Connectivity

   (c) Object Oriented Data

   (d) None of the above.

2. CSG ———————— stands for

   (a) Constructive Solid Geometry

   (b) Consecutive Solid Geometry

   (c) Communicative Solid Geometry

   (d) Collective Solid Geometry.

3. The hyper shade/visor is found under window

(a) Hyper shade (b) Window

(c) Visor (d) All of the above.

4. Each screen point is referred to as a

(a) point (b) pixel

(c) position (d) element.

5. Expansion of DDA is _____

(a) Device Display Analyzer

(b) Digital Differential Analyzer

(c) Digital Device Analyzer

(d) Digital Display Analyzer.

6. The diagonal screen dimension of a personal computer system is given as the sizes varying from about ———————— inches or more.

(a) 12 to 21 (b) 27 to 12

(c) 0 to 27 (d) 4 to 12.

7. Picture definition is stored in ———————— buffer area in memory.

(a) frame (b) outer

(c) refresh (d) restore.

8. Each screen point is referred to as a ——————

(a) point (b) pixel

(c) position (d) element.

9. BSP stands for

(a) Bit Space-Partitioning

(b) Binary Space-Partitioning

(c) Bit Space-Positioning

(d) Binary Space-Positioning.

10. A three dimensional reflection can be performed relative to a selected reflection axis or with respect to a selected ——————

(a) rotations (b) reflection plane

(c) matrix form (d) edges.

11. —————— representations are useful for constructing 3D objects that possess translational, rotations or other symmetries.

(a) Buffer (b) Periodic

(c) Sweep (d) Spline.

12. —————— transformation alters the size of an object.

(a) Rotation (b) Scaling

(c) Translation (d) Transferring.

13. Objects in Maya can be ———————— surfaces.

(a) Curves (b) Nurbs

(c) Camera (d) Joints.

14. To select all the lights in the scene we should be using a ———————— at the very.

(a) 4 point lighting system

(b) 3 point lighting system

(c) 2 point lighting system

(d) 8 point lighting system.

15. A ———————— script is a file that contain MEL commands.

(a) LEM (b) ELM

(c) MEL (d) None of the above.

16. ———————— page will provide a good overview of the concepts behind skeletons and skinning.

(a) Web (b) Static

(c) Dynamic (d) Both (b) and (c).

17. ———————— algorithms used in 3D computer graphics are commonly used to add realistic lighting to 3D scenes.

(a) Global illumination

(b) Local illumination

(c) Normal illumination

(d) All of the above.

18. Modeling primitive is

(a) Polygon (b) Skin and bones

(c) Sphere (d) All of the above.

19. A ———————— is called a set system.

(a) Nodes (b) Vertices

(c) Hypergraph (d) Forest.

20. The surfaces that is blocked or hidden from view in a 3D scene are known as ————————

(a) Hidden surface (b) Frame buffer

(c) Quad tree (d) Area buffer.

PART B — (5 × 5 = 25 marks)

Answer any FIVE questions.

21. Explain Blur MEL scripting.

22. Explain raytraced soft shadows and depth of field.

23. Explain about cluster deforms.

24. Explain about the Hypergraph in detail.

25. Discuss about the Reflection.

26. Explain Dynamics and Particles.

27. How to remove shelve item? Explain.

28. Write short notes on VRML.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

29. Explain the polygon modeling techniques.

30. Discuss about the smooth proxy and Bump map.

31. Discuss about the Bevel in detail.

32. Explain in detail about transparency.

33. Explain about the displacement mapping.

———————