

Total No. of Questions : 10]

SEAT No :

P3141

[5154]-707

[Total No. of Pages :2

B.E.(I.T)

ADVANCED GRAPHICS & ANIMATION

(2012 Pattern) (Semester-II) (Elective-III) (414463 B) (End Sem)

[Time : 2½ Hours]

[Max.Marks:70]

Instructions to the candidates:

- 1) Solve Q1. or Q.2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10,
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable data, if necessary.*

- Q1)** a) What are meshes in 3D modeling explain with suitable diagrams. **[5]**
b) Explain knot in context with B-Spline curve. **[5]**

OR

- Q2)** a) Explain the following quadratic surfaces. **[5]**
i) Hyperboloids.
ii) Cylinders.
b) What are sweep surfaces? Discuss different methods of generating sweep surfaces. **[5]**

- Q3)** a) Write a short note on: **[5]**
Space partitioning representation.
b) What is an illumination model? Compare local and global illumination models. **[5]**

OR

- Q4)** a) What are the various methods of retracing? **[5]**
b) What is rendering? Explain Monte-Carlo method for rendering. **[5]**

- Q5)** a) Which are the features in Open GL? Explain in detail. **[8]**
b) How OpenGL is used to draw 3D objective? Explain with code snippet. **[8]**

OR

- Q6)** a) Explain pBuffer rendering with respect to OpenGL **[8]**
b) What is blending? Explain in detail different blending operations performed in OpenGL. **[8]**

P.T.O.

- Q7)** a) List and explain animation languages with suitable example. [8]
b) Write short note on: [8]
i) Frame-by-Frame Animation Techniques.
ii) Real Time Animation Techniques.

OR

- Q8)** a) Which are the methods of controlling animation? Explain [8]
b) What is meant by key-framing, tweening and morphing? Explain with suitable example. [8]

- Q9)** a) Define virtual reality. Explain the components of virtual reality. [8]
b) Explain the following terms in context of virtual environment: [10]
i) Degrees of freedom.
ii) Augmented reality.
iii) Latency.
iv) Telepresence.

OR

- Q10)** a) Explain three I's of virtual reality with suitable example. [8]
b) Write in detail about the use of VR in the field of civil engineering. [10]

