

Total No. of Questions : 12]

SEAT No. :

P3420**[4959]-195**

[Total No. of Pages : 3

B.E. (Information Technology)**c-ADVANCED GRAPHICS****(2008 Course) (Semester - II) (Elective - III) (414450)***Time : 3 Hours]**[Max. Marks : 100**Instructions to the candidates:*

- 1) *Answer question 1 or 2, 3 or 4, 5 or 6 from Section - I and question 7 or 8, 9 or 10, 11 or 12 from Section - II.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right side indicate full marks.*
- 5) *Assume Suitable data if necessary.*

SECTION - I

- Q1) a)** Explain in detail. **[6]**
- i) Parallel Projection
 - ii) Depth queuing.
- b) Explain Polygon surface and polygon Meshes. **[6]**
- c) Explain with mathematical model Bezier surface and B-Spline surface. **[6]**

OR

- Q2) a)** Explain following quadratic surfaces. **[6]**
- i) Ellipsoid
 - ii) Torus
- b) Explain Surface Rendering and polygon surfaces in detail. **[6]**
- c) Explain the issues related to three dimensional display methods. **[6]**

P.T.O.

- Q3)** a) What is meant by Animation Language? Explain the types of animation languages with appropriate examples. [8]
- b) Explain briefly various real time animation techniques used in computer assisted animation. [8]

OR

- Q4)** a) Explain the basic rules of animation in brief. [8]
- b) Which are the different animation software's? Explain any one animation software in detail. [8]

- Q5)** a) Explain in detail Quadtrees and Octrees. [8]
- b) Explain desirable properties in solid representation. [8]

OR

- Q6)** a) Explain primitive instancing method for solid modeling. [8]
- b) Write a short note on [8]
- i) Primitive Instancing.
- ii) Constructive solid geometry.

SECTION - II

- Q7)** a) Write a short note on polygon rendering methods. [8]
- b) Explain RGB, HSV color models. [6]
- c) Explain Conversion between RGB and HSV color models. [4]

OR

- Q8)** a) Explain HLV & HLS color cones. [8]
b) Explain YIQ color model. How is YIQ to RGB conversion done? [6]
c) Explain the conversion of CMY model to RGB model. [4]

- Q9)** a) Derive the simple illumination model. Include the contribution of Diffuse, ambient and specular reflection. [8]
b) What is rendering? Explain Monte-Carlo method for rendering. [8]

OR

- Q10)** a) Explain illumination W.R.T. Ambience, Specular reflection and diffuse reflection. [8]
b) Explain Phong's illumination model in detail. [8]

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- Q11)** a) Explain the factors affecting the design of virtual reality system. [8]
b) Explain driving simulation application and different virtual reality devices used in it. [8]

OR

- Q12)** a) What is the need of virtual reality? Explain with real life example. [8]
b) What are different virtual reality languages. Explain any one in detail. [8]

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