Total No. of Questions : 12]

SEAT No. :

P3420

[Total No. of Pages : 3

[4959]-195

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 representaion. **[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 rending 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]**

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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