Total No. of Questions :12]

SEAT No. :

P1793

[Total No. of Pages :3

[4859]-195

B.E (Information Technology)

c:ADVANCED GRAPHICS

(2008 Pattern) (Elective - III) (Semester - II)

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 or10, 11 or12 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 indicate full marks.***
5) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) Explain in detail: **[6]**

i) Parallel Projection.

ii) Depth queing.

b) Explain zero order, first order, second order parametric continuity in detail. **[6]**

c) Explain following quadratic surfaces: **[6]**

i) Ellipsoid.

ii) Torus.

OR

Q2) a) Explain with mathematical model Bezier surface and B-Spline surface. **[6]**

b) What is Spline? What are the major differences between Bezier curve and B-Spline. **[6]**

c) Explain polygon surface and polygon Meshes. **[6]**

P.T.O.

Q3) a) Explain the basic rules of animation in brief. **[8]**

b) Explain briefly various real time animation techniques used in computer assisted animation. **[8]**

OR

Q4) a) Which are the different animation software's? Explain any one animation software in detail. **[8]**

b) Write short note on: **[8]**

i) Frame-by-Frame Animation Techniques.

ii) Real Time Animation Techniques.

Q5) a) Differentiate various solid modeling methods on following points: **[8]**

i) Uniqueness.

ii) Compactness and efficiency.

iii) Accuracy.

iv) Domain.

b) Explain desirable properties in solid representaion. **[8]**

OR

Q6) a) Explain primitive instancing method for solid modeling. **[8]**

b) Explain in detail Spatial-partitioning representation along with its decomposition. **[8]**

SECTION - II

Q7) a) Illustrate "Basic Ray Tracing Algorithm". **[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 any one color selection system with its application. **[4]**

Q9) a) Explain the scan conversion shadow algorithm. **[8]**

b) Compare Gouraud & Phong's method of shading. **[8]**

OR

Q10)a) Explain illumination W.R.T. Ambience, Specular reflection and diffuse reflection. **[8]**

b) What is rendering? Explain Monte-Carlo method for rendering. **[8]**

Q11)a) Explain the factors affecting the desing of virtual reality system. **[8]**

b) Explain driving simulation application and different virtual reality devices used in it. **[8]**

OR

Q12)a) What is meant by virtual reality system? Explain the applications of virtual reality system. **[8]**

b) What are different virtual reality languages. Explain any one in detail. **[8]**

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