Total No. of Questions—8] [Total No. of Printed Pages—3

Seat No.	

[4757]-1078

S.E. (Computer) (Second Semester) EXAMINATION, 2015

COMPUTER GRAPHICS AND GAMING

(2012 PATTERN)

Time : Two Hours **Maximum Marks : 50**

N.B. :— (*i*) Neat diagrams must be drawn wherever necessary.

(*ii*) Assume suitable data, if necessary.

(*iii*) Attempt Q. No. **1** *or* Q. No. **2,** Q. No. **3** *or* Q. No. **4,** Q. No. **5** *or* Q. No. **6,** Q. No. **7** *or* Q. No. **8.**

1. (*a*) Describe Frame buffer display in computer graphics. [4]

(*b*) Explain display file and its structure. [4]

(*c*) Explain Bresenham's Line drawing algorithm. [4]

Or

2. (*a*) Write short notes on : Persistence, Resolution, Aspect ratio. [4]

(*b*) Write the properties of video display devices. [4]

(*c*) Using DDA algorithm find out which pixels would be turned on for the line with end points(1, 1) to (5, 3). [4]

P.T.O.

3. (*a*) Write Cohen-Sutherland line clipping algorithm. [4]

(*b*) Explain concept of viewing parameters with an example. [4]

(*c*) What is meant by coherence and how it can increase the efficiency of scan line polygon filling. [4]

Or

4. (*a*) Write the transformation matrix for translation and scaling. [2]

(*b*) Write algorithm to fill the polygon area using flood fill method. [4]

(*c*) Explain the concept of 2D rotation about an arbitrary point with matrix representation. [6]

5. (*a*) Compare RGB and HSV color model. [3]

(*b*) Explain the procedure to generate B-spline curve. [4]

(*c*) What is surface shading algorithm ? Explain phong shading. [6]

Or

6. (*a*) What are the advantages of Warnock's algorithm ? [3]

(*b*) Explain the concept of reflection, shadows and ray tracing. [4]

(*c*) Explain Hilbert's curve with an example. [6]

7. (*a*) What are the applications of morphing ? [3]

(*b*) Write a short note on 3D maxstudio or Maya. [4]

(*c*) Describe the various operations carried out on the segment. [6]

Or

8. (*a*) Explain image transformations with example. [3]

(*b*) Write advantages and disadvantages of segments. [4]

(*c*) Draw block diagram of i860. [6]

Total No. of Questions—8] [Total No. of Printed Pages—3

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[4757]-1079

S.E. (Computer) (Second Semester) EXAMINATION, 2015

COMPUTER ORGANIZATION

(2012 PATTERN)

Time : Two Hours **Maximum Marks : 50**

N.B. :— (*i*) Solve Q. **1** *or* Q. **2**, Q. **3** *or* Q. **4**, Q. **5** *or* Q. **6**, Q. **7** *or* Q. **8**.

(*ii*) Figures to the right indicate full marks.

(*iii*) Neat diagrams must be drawn wherever necessary.

(*iv*) Assume suitable data, if necessary.

1. (*a*) Differentiate between microprocessor and micro-controller. [6]

(*b*) What is the need of coprocessor ? How is it interface with CPU ? [6]

P.T.O.

Or

2. (*a*) What are the factors to be considered for processor level parallelism ? [6]

(*b*) Differentiate between RISC and CISC. [6]

3. (*a*) Explain the design of multiplier control unit using Delay Element method. [6]

(*b*) What is microprogrammed control unit design ? Draw and explain basic structure of micro-programmed control unit. [7]

Or

4. (*a*) Write a short note on sequential ALU. [7]

(*b*) Write and explain control sequence for ADD [R3], R1. [6]

5. (*a*) Compare memory mapped I/O and IO mapped I/O. [4]

(*b*) What are different types of bus interfaces ? Explain in detail USB bus organization. [8]

Or

6. (*a*) Write a short note on Intel Nehalem memory organization. [6]

(*b*) What is need of DMA ? How it works ? [6]

7. Write short notes on (any *two*) : [13]

(*i*) AMD Multicore Opteron

(*ii*) IBM Cell Broadband Engine

(*iii*) Power PC.

Or

8. (*a*) What do you mean by 64 bit architectures ? What are features of it ? [6]

(*b*) What are the features of IA-64 model ? [7]