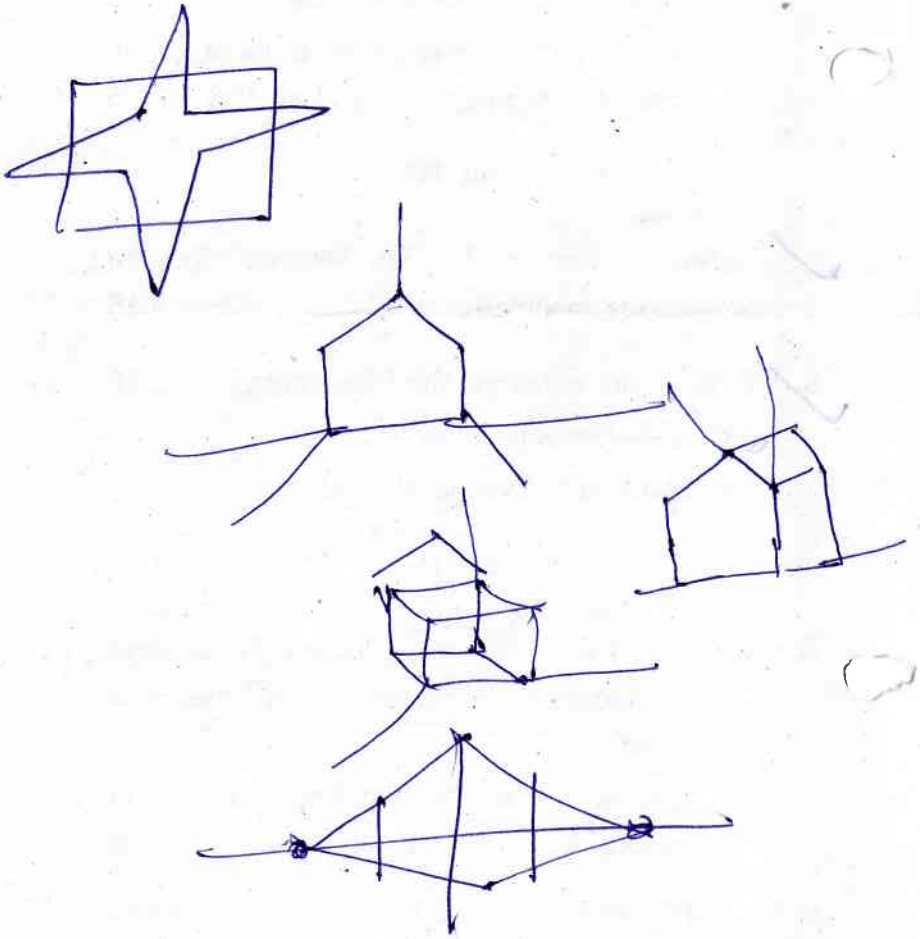
Graphics 2015

8. (a) What is the concept of B-Spline Curves ? Explain. 7

(b) What do you mean by Interpolation ? Illustrate the utility of Interpolation method. 8



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DD-681

M.C.A. EXAMINATION, May 2015

(Fourth Semester)

(B. Scheme) (Main Only)

COMPUTER GRAPHICS

MCA-502

Time : 3 *Hours*] [*Maximum Marks* : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) What do you understand by Computer Graphics ? What are the major applications of Computer Graphics ? 7

(b) Explain the characteristics and architecture of any *two* of the following display technologies : 4+4

(i) Raster systems

(ii) Plasma panels

(iii) Vector systems

(iv) LCDs.

2. (a) Explain the Bresenham's algorithm for circle drawing in detail. 7

(b) Write and explain DDA line drawing algorithm ? Also draw a line using DDA algorithm between points (0, 0) and (4, 4). 8

Unit II

3. (a) Write and explain Sutherland-Hodgeman polygon clipping algorithm in detail. 7

(b) What do you mean by Viewing pipeline ? Also explain window to viewport mapping. 8

4. (a) Given a clipping window A (20,20) B (60, 20), C (60, 40) and D (20, 40). Using a Sutherland-Cohen algorithm find the visible portion of line segment joining the points P (40, 80) and Q (120, 30). Also explain the steps involved in the Cohen-Sutherland algorithm. 5

(b) Write the 3-dimensional transformation matrix for translation and scaling. 5

Unit III

5. Define Projection. Explain various types of projections in detail. 15

8. Write short notes on the following : 15

(a) Z-buffer algorithm

(b) Area sub-division algorithm.

Unit IV

7. (a) What is an Image ? Discuss the concept of geometric transformation of images in brief. 7

(b) Explain Phong's shading model in detail. 8

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DD-683

M.C.A. EXAMINATION, Dec. 2015

(Fourth Semester)

(B. Scheme) (Re-appear Only)

MCA-506

COMPUTER NETWORKS

Time : 3 Hours] [*Maximum Marks : 75*

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Comp. Networks 2015

Unit I

1. (a) What is a Network Topology ? State the merits and demerits of different network topologies. 7

   (b) Describe the functions of the following layers of OSI model : 8

   (i) Data Link Layer

   (ii) Session Layer

   (iii) Network Layer.

2. (a) What is Congestion ? What measures can be taken to control congestion in network ? 7

   (b) Explain the following : 4+4

   (i) Virtual Circuits

   (ii) Priority Queues.

Unit II

3. Write short notes on the following :

   (a) RTP 7

   (b) CSMA/CD. 8

4. (a) Compare and contrast FDMA, TDMA and CDMA multiplexing techniques. 10

   (b) What is the function of LAN bridge ? 5

Unit III

5. (a) What is Multicast Routing ? 5

   (b) Draw the layered architecture of TCP/IP. What are the functions of different layers of TCP/IP ? 10

6. (a) Explain the header and frame format of IPV6 protocol. 7

   (b) What is the fundamental concept of Mobile IP protocol ? Explain. 8

Unit IV

7. Explain the functions and headers of different layers of ATM in detail ? What are the different services supported by ATM ? 15

8. Explain the following :

   (a) Frame Relays 7.5

   (b) Proxy Servers. 7.5

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DD-684

M.C.A. EXAMINATION, May 2015

(Fourth Semester)

(B. Scheme) (Main Only)

ARTIFICIAL INTELLIGENCE

MCA-508

Time : 3 Hours] [*Maximum Marks : 75*

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. What is AI ? Give its history. Also list its applications.

2. What is game tree ? Expain Min-Max algorithm with the help of Tic-Tac-Toe game.

Unit II

3. What is Unification ? Explain with the help of an example. What is WFF ? Explain.

4. What is resolution by refutation method ? Explain with the help of an example of your own.

Unit III

5. What is Dempstershafer Theory ? Explain. Also explain the concept of non-monotonic reasoning.

6. Write Bayesian theorem. Explain Bayesian probabilistic inference mechanism.

Unit IV

7. What is Planning ? Write and explain partial order planning algorithm.

8. Write notes on the following :
   (a) Rote Learning
   (b) Learning by analogy.