2015

M.Sc.

1st Semester Examination

COMPUTER SCIENCE

PAPER—COS-104

Full Marks : 50

Time : 2 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Module—I

(Computer Graphics)

Answer any *two* questions : 2×10

1. (a) What is computer graphics ? What are different uses and applications of computers graphics ? 1+4

   (b) Describe the working principle of CRT display with a neat sketch. 5

2. (a) Write code for Bresenham's line drawing algorithm. How it is better than DDA line drawing algorithm ? 6+2

(b) What is the difference between window and viewport. 2

3. (a) Why is a homogeneous co-ordinate system needed in transformation matrix ? 3

(b) Using mid-point circle drawing algorithm draw a circle with radious of 8-units, along the circle octant in the 1st quadrant from $x = 0$ to $x = y$. 7

4. (a) Obtain a transformation matrix for rotating an object about a specified pivot point. 5

(b) Find the transformed point, P', caused by rotating $P = (5, 1)$ about the origin through an angle of 90°. 5

[Internal Assessment — 05 Marks]

Module—II

(Multimedia)

Answer any *two* questions : 2×10

1. (a) What is Multimedia ? What are the different components of multimedia ?

(b) Briefly explain the Nyquist theorem used to determine the sample rate of a signal. 2+3+5

2. (a) What is MIDI ? What are the different standards of MIDI ? Why is it needed ? 1+2+2

(b) Mention the different ways of connecting MIDI devices ? 5

3. (a) What is Color look up table ? How can you device a look up table ? 2+3

(b) Explain Median cut algorithm ? 5

4. Write shot notes on (any *two*) : 2×5

(a) Digitization and Quantization ;

(b) Signal to Noise ratio ;

(c) Loss less Compression.

[Internal Assessment — 05 Marks]

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