

Total No. of printed pages = 3

MCA 182305

Roll No. of candidate

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Azara, Halkhapa, Guwahati - 781017

17/3/2021

M.C.A. 3rd Semester End-Term Examination
COMPUTER GRAPHICS AND MULTIMEDIA
(New Regulation w.e.f. 2017 - 2018)
(New Syllabus w.e.f. 2018 - 2019)

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any *four* from the rest.

1. Choice the appropriate answer : (10 × 1 = 10)
- (i) The component of interactive computer graphics are
(a) A light pen (b) Display unit
(c) Bank of switches (d) All of these
- (ii) Each pixel has _____ basic color components.
(a) 2 or 3 (b) 1 or 2
(c) 3 or 4 (d) None
- (iii) Raster graphics are composed of
(a) pixels (b) paths
(c) palette (d) none
- (iv) The quantity of an image depends on
(a) no of pixels used by image
(b) no of lines used by image
(c) no of resolution used by image
(d) none

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- (v) The intersection of three primary RGB color produces
- (a) white color (b) black color
- (c) cyan color (d) magenta color
- (vi) In beam penetration method of color CRT, two layer of phosphor coated are
- (a) red and green (b) red and blue
- (c) blue and green (d) none of these
- (vii) What is the name of temporary memory where the graphics data is stored to be displayed on screen
- (a) RAM (b) ROM
- (c) Frame buffer (d) None of these
- (viii) Moving picture experts group is used to compress
- (a) frames (b) images
- (c) audios (d) videos
- (ix) The algorithm used for filling the interior of a polygon is called
- (a) flood fill algorithm
- (b) boundary fill algorithm
- (c) scan line polygon fill algorithm
- (d) none of these
- (x) The division of the computer screen into rows and columns that define the no. of pixels to display a picture is called
- (a) persistence (b) resolution
- (c) aspect ratio (d) none

2. (a) Define aspect ratio, resolution and refresh rate of a display monitor. (3)
- (b) Differentiate between RGB and CMY color models. (3)
- (c) Write about three different graphical interacting devices. (3)
- (d) Discuss about MIDI hard wares. (3)
- (e) Write the methods for creating wireframe model. (3)

3. (a) Differentiate between parallel projection and perspective projection. (5)
(b) Explain the working principles of a monochrome CRT display device. (5)
(c) Describe Initgraph function. Write a C++ program to draw a rectangle accepting co-ordinates from the user. (5)
4. (a) Describe the various types of audio compressors. (5)
(b) Differentiate between LCD and LED display devices. (5)
(c) Explain the basic transformations of a 2D area. (5)
5. (a) Write the functionality of a Plasma Panel display with proper diagram. (5)
(b) Explain various types of graphics functions with proper examples. (5)
(c) Write about various multimedia file formats for audio, video and images. (5)
6. (a) Describe the process of the animation sequence technique. (5)
(b) Explain the Sutherland-Hodgeman polygon clipping algorithm with an example. (5)
(c) Differentiate between lossy and lossless compression techniques in terms of multimedia files. (5)
7. Write short notes on any three from the followings : (3 × 5 = 15)
- (a) LED
 - (b) Raster scan display v/s random scan display
 - (c) Graphical coordinate representation
 - (d) Concept of hypermedia
 - (e) Digital frame buffer.

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