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B.C.A. (Fourth Semester)

Examination, 2018

First Paper

(Computer Graphics & Multimedia Application)

Time : Three Hours

Maximum Marks : 75

Note : Attempt any **five** questions. **All** questions carry equal marks.

Note : The answers to short questions should not exceed 200 words and the answers to long questions should not exceed 500 words.

1. (a) What is computer graphics? Indicate five practical application of computer graphics. 5
- (b) What role does CCD play in an image scanner? 4

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- (c) Write short notes on: 6
- (i) Resolution
 - (ii) Pixels
 - (iii) Aspect ratio
2. (a) Explain Raster Scan display and Random scan display. 5
- (b) Explain the laser printer with reference to the following points: printing mechanism, speed, printing quality and application. <http://www.mgkvponline.com> 5
- (c) Describe the touch-sensing mechanism as used in a touch panel & enumerate the difference between pointing devices and positioning devices. 5
3. (a) What do you understand by VGA and SVGA monitors? 5
- (b) Explain color depth and resolution & how it related to the memory requirement? 5

- (c) What role does CCD play in an image scanner? 5
4. (a) Bresenham's line drawing algorithm uses integer arithmetic. What is the justification for this approach? 8 ✓
- (b) Explain Midpoint method for Generation of Ellipse. 7
5. (a) Why are homogeneous coordinates used for transformation computations in Computer Graphics? 5
- (b) Define : 10
- (i) Modeling coordinates
 - (ii) World coordinates
 - (iii) Viewport
 - (iv) Normalized device coordinates
6. (a) Explain the components of multimedia in detail. 7
- (b) Elaborate the working of animation and authoring techniques. 8

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7. Explain the Midpoint subdivision algorithm & trace it with suitable example. 15
8. How multimedia is useful in future education system? Explain the 12 principles of Animation. 15
9. (a) Write the matrix representation of rotation and explain. 7
- (b) Explain two applications of multimedia. Describe different types of requirements for multimedia computer system that will support your applications. 8

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