No. of Printed Pages—2

51 (CG)

[19-HBPGKOW–M3S(O) 20M]

MCA/MScIT 3rd Semester (Old) Exam., 2019 (W)

COMPUTER GRAPHICS

[MCA/MScIT (S3) 12]

Full Marks : 80

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Answer any *five* from the following questions : 2×5=10

(a) Mention three basic methods to generate characters in computer screen.

(b) What is a digitizer?

(c) Define supersampling.

(d) What is refresh rate?

(e) Define digital coding. Mention the types of digital coding.

(f) Define reflection in 3D transformation.

2. Answer any *three* from the following questions : 4×3=12

(a) Explain any three output primitive functions.

(b) Discuss briefly about video compression.

(c) How are the matrix representations of translation, scaling and rotation shown?

(d) Write an algorithm for DDA.

3. Answer any *three* from the following questions : 6×3=18

(a) What is the purpose of clipping procedure? Explain point clipping in brief.

(b) Write short notes on the following : 3+3=6

(i) Raster scan and random scan systems

(ii) Virtual Reality Environment

(c) Discuss about three line attributes.

(d) Mention the concept of aliasing. Explain how it can be eliminated from an image.

4. Answer any *four* from the following questions : 10×4=40

(a) Discuss about any three input devices.

(b) Explain the basic principles of reflection transformation with the help of an example.

(c) What is world coordinate system? Describe the steps to convert local to global and global to local with an example. 3+7=10

(d) Define shearing. Why are 3D transformations used? Differentiate between rotation between X-axis and Y-axis. 2+2+6=10

(e) Write short notes on any *two* of the following : 5×2=10

(i) Cell array

(ii) Working principle of LCD

(iii) Concept of 3D graphics

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