

SYIT/SEM IV/REG/COMPUTER GRAPHICS AND ANIMATION

Time: 2½ hrs.

Marks:75

- Note:
1. All questions are compulsory with internal choice.
 2. Draw neat diagrams wherever necessary.
 3. Figures to the right indicate full marks.

- Q.1 Answer the following (any three) (15)**
- (a) What is computer graphics? Explain the applications of computer graphics in detail.
 - (b) What is CRT? Explain the working of CRT using neat and labelled diagram.
 - (c) Write a short note on Input and Output devices used in computer graphics.
 - (d) What is video? Explain the characteristics of video streams.
 - (e) Explain raster scan and random scan in short.
 - (f) Write a short note on DDA algorithm.
- Q.2 Answer the following (any three) (15)**
- (a) What is transformation? Explain transformation methods in detail.
 - (b) Write a short note on left-hand and right-hand coordinate system.
 - (c) Explain 3D transformation conventions in detail.
 - (d) Explain the basics of 2D transformation in detail.
 - (e) Describe transformations and matrices in detail.
 - (f) Explain in a brief window to viewport transformation with a neat labelled diagram.
- Q.3 Answer the following (any three) (15)**
- (a) Write a short note on stages in 3D Viewing.
 - (b) Explain different coordinate systems in detail.
 - (c) Write short note on photometry in detail.
 - (d) Explain the concept of viewing in 3D.
 - (e) Define Color. Explain colorimetry in brief.
 - (f) Write a short note on Canonical View Volume (CVV).
- Q.4 Answer the following (any three) (15)**
- (a) Briefly explain visible surface determination.
 - (b) Explain different categories of visible surface detection algorithm.
 - (c) Write a short note on the area sub-division method.
 - (d) Explain object space method and image space method in detail.
 - (e) Write a short note on curve representation.
 - (f) Differentiate between all visible surface detection methods.
- Q.5 Answer the following (any three) (15)**
- (a) What is an animation? Explain the application of animation.
 - (b) Explain different techniques of animation.
 - (c) Explain deformation in detail.
 - (d) Explain the principles of animation with suitable examples.
 - (e) What is an image? Explain different file formats of an image.
 - (f) Explain different types of image compression in detail.

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