Code No: S0522 **R07**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, March - 2017
COMPUTER GRAPHICS
(Common to CSE, IT, ECM)

Time: 3 hours **Max. Marks: 80**

Answer any five questions
All questions carry equal marks

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1. List the operating characteristics for the following display technologies: raster refresh systems, vector refresh systems, plasma panels, and LCDs. [16]

2.a) Write a boundary-fill procedure to fill an 8-connected region.
b) What are graphic primitives? Mention typical graphic primitives that a package may provide. [6+10]

3.a) Explain matrix representations and homogeneous coordinates.
b) Obtain the transformation matrix for rotation about an arbitrary point. [8+8]

4.a) What is meant by window and view point? Explain window to view point transformations.
b) Give a brief note on Hodgeman polygon clipping algorithm with suitable example. [10+6]

5.a) Write short notes on spline representation.
b) Make a comparison between the Bezier curve and B-Spline curves. [8+8]

6.a) Discuss the 3D rotation about an axis that is not parallel to the coordinate axis.
b) With the help of neat diagram, explain the parallel projection transformations. [8+8]

7.a) Write a program to implement the scan-line algorithm for a scene containing several polyhedrons. Use polygon and edge tables to store the definition of the object, and use coherence techniques to evaluate points along and between scan lines.
b) Explain two image space methods that are used to deal with visible surface detection. [8+8]

8.a) Give a brief note on raster animations and computer animation languages.
b) List and explain the General Computer-Animation Functions. [8+8]

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