E-2

B. Tech. EXAMINATION, Dec. 2017

(Fifth Semester)

(B. Scheme) (Main & Re-appear)

CSE-303-B

COMPUTER GRAPHICS

Common with IT-VI Sem.

Time : 3 *Hours*]   [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. What are different applications of computer graphics ? Explain in detail. **15**

2. (a) Derive and explain midpoint circle drawing algorithm. **8**

(b) Explain boundary filled algorithm. **7**

Unit II

3. (a) How window to view port mapping works ? **7**

(b) Explain parametric line clipping algorithm. **8**

4. Explain composition of 3D transformation matrix for rotation, reflection, translation and overall scaling. **15**

Unit III

5. What is isometric projection ? What are the benefits of isometric projection over others ? **15**

6. How do removal of hidden surfaces work ? Explain area subdivision algorithm it. **15**

Unit IV

7. (a) Derive an expression for parametric representation of B-Spline surface. **8**

(b) What is the difference between synthetic surfaces over analytical surfaces ? **7**

8. What is image processing ? Explain different techniques of image processing with suitable diagrams and examples. **15**