

Total No. of Questions—8]

[Total No. of Printed Pages—2

Seat No.	
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[5352]-567

S.E. (Computer Engineering) (II Sem.) EXAMINATION, 2018

**COMPUTER GRAPHICS**

**(2015 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Answer total *four* questions. Q. No. **1** or Q. No. **2**,  
Q. No. **3** or Q. No. **4**, Q. No. **5** or Q. No. **6**,  
Q. No. **7** or Q. No. **8**.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

- Q1 a) Explain display file structure with any 2 primitive operations [4]  
b) Explain polygon fill with seed fill algorithm [4]  
c) Scan convert a line with end points (10,5) & (16,10) using DDA line drawing algorithm [4]

OR

- Q2 a) what is polygon filling? Explain in detail scan line polygon filling algorithm? [6]  
b) Write and explain Bresenham's circle drawing algorithm with related mathematics. [6]

- Q3 a) Explain briefly rotation about an arbitrary axis in 3D. [6]  
b) Write short note on.  
i. Morphing ii. Design of animation sequence iii. CIE chromaticity diagram [6]

OR

- Q4 a) Explain following terms with examples [6]  
i] Properties of light ii] Keyframes iii] HSV color model  
b) Explain perspective projection and its types in brief. [3]  
c) Rotate origin centered square with 2 unit length of each side, in clockwise direction with rotation angle of 90°. [3]

- Q5 a) Enlist and explain in detail any 2 shading algorithms. [7]  
b) How Warnock and painter algorithm are useful in hidden surface removal? Explain with their advantages. [6]

OR

- Q6 a) Write short note on phong and Gauraud model. [7]  
b) Write short note ( any two ) [6]  
i] Z-buffer ii] Back face detection and removal algorithm iii] BSP tree

P.T.O.

- Q7 a) What is fractal? Explain Koch(Triadic) curve in detail [4]  
b) Write short note on blending function of Bezier curve [4]  
c) What is OpenGL? Write four features of the same? Write any two 3D transformation Function of OpenGL [5]

OR

- Q8 a) Draw block diagram of NVIDIA workstation and explain it in brief. [5]  
b) Explain Hilbert curve and its application in detail. [4]  
c) Write short note on B-spline curve [4]