

**B.TECH. SEM -IV INFO. TECH. 2014 COURSE (CBCS) :**  
**SUMMER - 2018**  
**SUBJECT: COMPUTER GRAPHICS**

Day: **Tuesday**  
Date: **12/06/2018**

**S-2018-2300**

Time: **10.00 AM TO 01.00 PM**  
Max. Marks: 60

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**N.B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Draw neat diagrams **WHEREVER** necessary.
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**Q.1** What do you mean by Raster Scan systems? Explain working of a color CRT monitors. (10)

**OR**

**Q.1** Define computer graphics in detail. List and briefly explain various applications of computer graphics. (10)

**Q.2** What is meant by Aliasing? Discuss about the Antialiasing methods. (10)

**OR**

**Q.2** Briefly explain and give the Sutherland-Hodgeman polygon clipping algorithm (Pseudo code). (10)

**Q.3** Derive the matrix for 2D rotation about an arbitrary point. (10)

**OR**

**Q.3** Write the homogenous co-ordinate transformation matrices for the three basic 3D transformations. (10)

**Q.4** Differentiate parallel and perspective projections and drive their projection matrices. (10)

**OR**

**Q.4** Explain the terms Projection plane, View plane and View volume with references to 3D graphics. State and explain anomalies of perspective projection. (10)

**Q.5** State and describe process of Ray Tracing. Explain how it is used to create Reflections and Transparency. (10)

**OR**

**Q.5** Describe about Gouraud shading techniques and write the deficiencies in that method and how it is rectified using Phong's shading technique. (10)

**Q.6** List and explain the properties of B-Spline curve. (10)

**OR**

**Q.6** Write short notes on: (10)  
i) Hilbert's curve.  
ii) Koch curve.

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