

CP209: Computer Graphics

| Teaching Scheme | | | Credits | Marks Distribution | | | | Total Marks |
|-----------------|---|---|---------|--------------------|----|-----------------|----|-------------|
| L | T | P | C | Theory Marks | | Practical Marks | | |
| | | | | ESE | CE | ESE | CE | |
| 4 | 0 | 2 | 6 | 70 | 30 | 30 | 20 | 150 |

Course Content:

| Sr. No. | Topics | Teaching Hrs. |
|---------|---|---------------|
| 1 | <p><u>Basic of Computer Graphics:</u></p> <p>Basic of Computer Graphics; Applications of computer graphics; Display devices; Random and Raster scan systems; Graphics input devices; Graphics software and standards.</p> | 05 |
| 2 | <p><u>Graphics Primitives:</u></p> <p>Points; lines; circles and ellipses as primitives; scan conversion algorithms for primitives; Fill area primitives including scan-line polygon filling; inside-outside test; boundary and flood-fill; character generation; line attributes; area-fill attributes; character attributers.</p> | 12 |
| 3 | <p><u>2D transformation and viewing:</u></p> <p>Transformations (translation; rotation; scaling); matrix representation; homogeneous coordinates; composite transformations; reflection and shearing; Affine transformations; viewing pipeline and coordinates system; window-to-viewport transformation; clipping including point clipping; line clipping (Cohen-Sutherland; Liang- Bersky; NLN); polygon clipping(Sutherland Hodgeman & Wailer-Atherton).</p> | 15 |
| 4 | <p><u>3D transformation and viewing:</u></p> <p>3D scaling; rotation and translation; composite transformation; viewing pipeline and coordinates; parallel and perspective transformation.</p> | 08 |

