Lesson Plan

Name of Faculty : Ms. Prachi, Assistant Professor of CSE Discipline : Computer Science and Engineering

Semester : 5th (odd)

Subject : Computer graphics (PCC-CSE-301-T) Lesson Plan Duration : 15 weeks (from August to Dec-2022)

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| **Week** | **Theory** | | **Topic Covered Date and Remarks** | | |
| **Lecture Day** | **Topic (Including Assignment/Test)** | **Date** | **HOD** | **Director-Principal** |
| 1st | 1. | What is Computer Graphics |  |  |  |
| 2. | Computer Graphics Applications |  |  |  |
| 3. | Computer Graphics Hardware and software |  |  |  |
| 2nd | 4 | Points and Lines |  |  |  |
| 5 | Line drawing algorithms: DDA |  |  |  |
| 6 | Bresenham‟s; Circle drawing algorithms |  |  |  |
| 3rd | 7 | Bresenham‟s circle drawing |  |  |  |
| 8 | mid point circle drawing algorithm |  |  |  |
| 9 | Filled area algorithms |  |  |  |
| 4th | 10 | boundary filled algorithm |  |  |  |
| 11 | Two/Three Dimensional Viewing |  |  |  |
| 12 | The 2-D viewing pipeline |  |  |  |
| 5th | 13 | window to view port mapping |  |  |  |
| 14 | Clipping: point, clipping line (algorithms):- 4 bit code  algorithm |  |  |  |
| 15 | Sutherlandcohen algorithm |  |  |  |
| 6th | 16 | Polygon clipping algorithm |  |  |  |
| 17 | Sutherland-Hodgeman |  |  |  |
| 18 | Two dimensional transformations |  |  |  |
| 7th |  | **1st Minor Test** | | |  |
| 8th | 19 | Three dimensional transformations: Three dimensional graphics concept |  |  |  |
| 20 | Matrix representation of 3-D Transformations |  |  |  |
| 21 | Viewing in 3D |  |  |  |
| 9th | 22 | the mathematics of planner geometric projections |  |  |  |
| 23 | Hidden surface removal |  |  |  |
| 24 | Introduction to hidden surface removal |  |  |  |
| 10th | 25 | scanline algorithm |  |  |  |
| 26 | Representing Curves and Surfaces |  |  |  |
| 27 | Parametric representation of curves |  |  |  |
| 11th | 28 | Bezier curves |  |  |  |
| 29 | BSpline curves |  |  |  |
| 30 | Parametric representation of surfaces; |  |  |  |
| 12th | 31 | Illumination, shading, image manipulation |  |  |  |
| 32 | Illumination models |  |  |  |
| 33 | shading models for polygons |  |  |  |
| 13th | 34 | What is an image |  |  |  |
| 35 | Filtering |  |  |  |
| 36 | image processing |  |  |  |
| 14th |  | **2nd Minor Test** | | |  |
| 15th | 37 | Composition of 3-D transformation |  |  |  |
| 38 | coordinate systems |  |  |  |
| 39 | composite transformation |  |  |  |