**Post Graduate Government College for Girls, Sector-42, Chandigarh**

**Teaching Plan for Bachelors (Third and Fifth Semester) and Post Graduate (Third Semester)**

**Session (2020-2021)**

**Class: M.Sc(IT)3rd sem**   **Name of the Teacher: Ms. Sheenam**

**Subject: Computer Graphics Paper: MS – 39**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 03/08/2020 – 08/08/2020 | Introduction to Computer Graphics, Display Devices, Display Processors, Character Generation. |
| Week 2 | 10/08/2020 – 14/08/2020 | Line Drawing algorithms-Direct method, DDA method of line drawing. |
| Week 3 | 17/08/2020 – 22/08/2020 | Bresenham’s line drawing algorithm, Interactive graphical techniques: Positioning, (Elastic or Rubber Band lines, Inking, zooming, panning) |
| Week 4 | 24/08/2020 – 29/08/2020 | Circle drawing algorithm- 2-point, 4-point, trigonometric method, 8-point. |
| Week 5 | 31/08/2020- 05/09/2020 | Midpoint and Bresenham’s circle drawing algorithm. |
| Week 6 | 07/09/2020- 12/09/2020 | Homogeneous coordinate system;.Basic Transformations- Translation, Rotation,Scaling |
| Week 7 | 14/09/2020- 19/09/2020 | 2-D Reflection, 2-D Shear in two dimentional coordinate system |
| Week 8 | 21/09/2020- 26/09/2020 | Introduction to composite transformation like- Rotation about an Arbitrary Point, Reflection through an Arbitrary Line |
| Week 9 | 28/09/2020- 03/10/2020 | Window to viewport coordinate transformation. Clipping: introduction to Point clipping . |
| Week 10 | 05/10/2020- 10/10/2020 | Line clipping algorithms: Cohen-SutherlandLiang-Barsky, Polygon Clipping line clipping algorithm. |
| Week 11 | 12/10/2020- 16/10/2020 | Basic Graphical functions; Mouse Programming, Graphic Languages: Primitives (Constants, actions, operators, variables), Animated algorithms for sorting, Towers of Hanoi. |
| Week 12 | 19/10/2020- 24/10/2020 | Three Dimensional Display Methods, Parallel Projection, Perspective Projection; Translation, Rotation, Scaling, Composite Transformation; |
| Week 13 | 27/10/2020- 30/10/2020 | Hidden line and surface elimination-Z-buffer, back face, scan line, depth sorting. |
| Week 14 | 03/11/2020- 07/11/2020 | Representation of Space Curves, Cubic Splines, Bezier Curves, B-spline Curves, B-spline Curve Fit, B-spline Curve Subdivision ,Parametric Cubic Curves, Quadric Surfaces. Bezier Surfaces |
| Week 15 | 09/11/2020- 12/11/2020 | Concept of Animation, Saving, Loading and Printing graphics images from/to disk. |
| Week 16 | 16/11/2020- 21/11/2020 | display subroutines, plotting and geometric transformations, Viewing; Color; Lighting, Animation. |
| Week 17 | 23/11/2020- 28/11/2020 | Open GL using C/C++: Geometric Primitives and Attributes; |