

Lesson Plan (From January 2024 to May 2024)

Class: B.A./B.Sc. III- VI Sem.

Paper: Computer Graphics

| Week | Contents |
|---|---|
| Week 1 (01/01/2024 to 07/01/2024) | Historical Perspective of Computer Graphics, Basic elements of Computer Graphics (Modelling, Rendering, Animation), Applications of Computer Graphics |
| Week 2 (08/01/2024 to 14/01/2024) | Input Devices: Keyboard, Mouse, Light Pen, Graphic Table, Joystick, Trackball, Flatbed Scanner. |
| Week 3 (15/01/2024 to 21/01/2024) | Test of Unit 1. Hard Copy Devices: Laser Printer, Flatbed Plotters. |
| Week 4 (22/01/2024 to 28/01/2024) | Video Display Devices: Pixel, Resolution, Aspect Ratio, Refresh Rate and Interlacing, Cathode Ray Tube |
| Week 5 (29/01/2024 to 04/02/2024) | Flat Panel Display- LCD and Plasma Panel |
| Week 6 (05/02/2024 to 11/01/2024) | Raster and Random Scan Display, Assignment 1, Test of Unit 2. |
| Week 7 (12/02/2024 to 18/02/2024) | Fundamental Techniques in Graphics: Line Generation Algorithms-DDA Algorithm, Bresenham's Algorithm. |
| Week 8 (19/02/2024 to 25/02/2024) | Circle Generation Algorithm- Bresenham's Algorithm and Midpoint Circle Algorithm. |
| Week 9 (26/02/2024 to 03/03/2024) | Polygon Filling Algorithms-Scan Line Algorithm, Viewing & Clipping-Point Clipping |
| Week10 (04/03/2024 to 10/03/2024) | Line Clipping, Cohen-Sutherland Line Clipping Algorithm |
| Week11 (11/03/2024 to 17/03/2024) | Polygon Clipping (Sutherland Hodgman Algorithm). Numerical Problems of Unit 3. |
| Week12 (18/03/2024 to 24/03/2024) | Test of Unit 3. 2- Dimensional Graphics: Cartesian and Homogeneous Co-Ordinate System |
| Week13 (25/03/2024 to 31/03/2024) | Geometric Transformation (Translation, Scaling Rotation, Reflection). |
| Week14 (01/04/2024 to 07/04/2024) | 3- Dimensional Transformation: Geometric Transformation (Translation, Scaling, Rotation, Reflection) |
| Week15 (08/04/2024 to 14/04/2024) | Mathematics of Projection (Parallel & Perspective). |
| Week 16 & 17 (15/04/2024 to 28/04/2024) | Assignment 2, Test of Unit 4. Back log of chapter if any, discussion, and problems taken. |

Lesson Plan (From January 2024 to May 2024)

Class: B.A./B.Sc. III- VI Sem.

Paper: Python Programming

| Week | Contents |
|---|--|
| Week 1 (01/01/2024 to 07/01/2024) | Introduction to Python: History and Features of Python Programming, Interpreter, Variable, Identifiers and literal, Token, Keyboard, Data Types, |
| Week 2 (08/01/2024 to 14/01/2024) | Operators: Arithmetic operators, Relational Operators, Logical Operators, Comment, Indentation, Need for Indentation. |
| Week 3 (15/01/2024 to 21/01/2024) | Built-in-Functions: input, eval, composition, print, type, round, min and max |
| Week 4 (22/01/2024 to 28/01/2024) | Type Conversion, Random Number Generation, Mathematical Functions, Getting help on a function, Assert Statement. |
| Week 5 (29/01/2024 to 04/02/2024) | Test of Unit 1. Control Statement: if conditional statement, for and while statement, break, continue and pass statement. |
| Week 6 (05/02/2024 to 11/01/2024) | Functions: Function Definition and Call. |
| Week 7 (12/02/2024 to 18/02/2024) | Function Arguments- Variable Function Arguments, Default Arguments, Keyword Arguments, Arbitrary Arguments, Command Line Arguments. |
| Week 8 (19/02/2024 to 25/02/2024) | Global and Local Variables. Accessing local variable outside the scope, Using Global and Local Variables in same Code, Using Global and Local Variables with same Name. |
| Week 9 (26/02/2024 to 03/03/2024) | Assignment 1, Test of Unit 2. String: String as a compound data type, String Operations- Concatenation, Repetition, Membership Operation, Slicing Operation. |
| Week10 (04/03/2024 to 10/03/2024) | String Methods: Count, find, rfind, capitalize, title, lower, upper, swapcase, islower, isupper, istitle, replace, isalpha, isdigit, isalnum, String Processing examples. |
| Week11 (11/03/2024 to 17/03/2024) | Lists: List Operations- Multiplication, Concatenation, length, indexing, slicing, min, max, sum, membership, operator; List functions- append, extend, remove, pop, count, index, insert, sort, reverse. |
| Week12 (18/03/2024 to 24/03/2024) | Test of Unit 3. Recursion: Recursive solution for problems on Numbers, String and list. |
| Week13 (25/03/2024 to 31/03/2024) | Object Oriented Programming: Introduction to Classes, Method, Class Object, Instance object, Method object, Class as abstract data type, Data Class |
| Week14 (01/04/2024 to 07/04/2024) | Access attributes using functions- getattr, setattr, delattr, Built-in Class Attributes of Class objects (-dict__doc_, _name_, module_), |
| Week15 (08/04/2024 to 14/04/2024) | Graphics: Screen Objects- Point and line, box, polygon, circle, arc. Screen Objects Methods- move_to(), move_by(), Text(), Sound- Sound(), play_sound(), stop_sound(). |
| Week 16 & 17 (15/04/2024 to 28/04/2024) | Assignment 2, Test of Unit 4. Back log of chapter if any, discussion, and problems taken. |