

***DIPLOMA (COMPUTER SCIENCE) – PART SIX***

**Optional Early Certificate: - N/A**

**Syllabus:-**

Sr. No.	Module Code	Name of Module	Credits	Total Marks
1	CS04-26	Computer Graphics	5	100
2	CS04-27	Client Server Technology	5	100
3	CS04-28	Software Engineering	5	100
4	CS04-29	Project	4	100

**Module Name-Computer Graphics**

1. Keyboard, Touch Panel, Light pens, Graphic tablets, Joysticks, Touch balls, Image scanner, Mouse, Handy copy device:-Zero impact and Non-Impact printers, Dot matrix, Laser printer, Inkjet printer, Dectrostare, Flatted and drum plotters. Video display devise:-Cathode Rey tube, Resistance, Resolution ,Aspect ratio vertical and horizontal ,Color CRT monitors, Direct view storage tube, Flat panel displays, LCD Virtual reality, Faster scan system, Random scan system. Memory device:- Memory (RAM, ROM), CD, Floppy disk, Magnetic tapes, Magnetic disks.
2. Scan conversion algorithm for line (DDA & Bresenham's algorithm) ,Midpoint circle ,Circle & ellipse, Midpoint ellipse, Midpoint ellipse ,Bresenham's algorithm ,Area filling techniques, Scan line polygene fill, Boundary fill character generation.2-dimensional Graphics: Cartesian & Homogeneous coordinate system, Geometric transformations, Affine transformation (Translation, Scaling ,Rotation, Reflection, Shearing),Composite transformation ,Affine Viewing pipeline, Two dimensional viewing transformation and clipping(Line, Polygon and Text).
3. Three Dimensional Graphics:-Geometric transformation (Translation, Scaling, rotation, reflection, shearing), Composite transformations, Mathematics of projections (parallel & perspective), View pipeline, 3D viewing transformations and clipping (normalized view volumes, view port, clipping).
4. Hidden line and surface elimination algorithms, Z-buffer, Scan-line, Sub-division, and Painter's algorithm. Illumination Models: Diffuse reflection, specular reflection, refracted light, Texture

surface patterns, half toning, dithering. Surface rendering methods: Constant intensity method, Gourmand shading, Hong shading. Color Model: Introduction to RGB, CMY & HSV color models.

#### **Module Name** -Client Server Technology

- 1. Introduction:** Client Server Technology, Evolution Of Architectures, Thin Characteristics, General Issues In Client-Server Computing, Overview Oracle Distributed Database System, Other Issues in Client-Server Computing Development, Applying Client/Server In Businesses.
- 2. Client-Server Technology and Heterogeneous Computing:** Categories Of Clients, Clients/Server Systems, The Role Of The Server, Single-System Image, Client/Server Software Architectures-an Overview, Technical Detail, Mainframe-Centric Client/Server Computing, Client Server Development Tools Samson Kifle Is, Client/Server Development Tools.
- 3. The Evolution of Client/Server Computing and Architectures:** Tier Architectures, Tier Architectures-Tier Architectures.
- 4. Interaction of Client and Server Communication Techniques and Protocols:** Network, Network Structure, Protocol, Hardware, Cabling, Topology, Star Network Operating Sys Tem Software. **Distributed Systems:** Distributed System Model.
- 5. UNIX Client Server Technology:** Understanding the Role of UNIX, General Overview and Structure, UNIX Components, Impact/Contributions.
- 6. Database Management Systems:** What is database management systems ,Peoples who deals with database, Overall system structure ,Cgdp's 12 rules'' fdr a fully ralatios DBMS, The role of DBAa in dbms,pl/sql, operators, Fundamental SQL commands, Data definition command of sql, program, is null operator, Alter table ,Aggregate functions ,Controls structure ,introduction to stored procedures.
- 7. Basic UNIX and Shell Programming:** Unix Operating System ,History Of Unix, Features Of Unix ,Kernel, Process Managements ,File Systems ,Unix ,Kernel, Process Managements ,File System, Unix Commands, Files &Directories ,General Purpose Utilities, Compression Utilities ,Processes ,She 11Phoqw.
- 8. CPU/Process Scheduling:** Goals of Scheduling (objectives) ,Preemptive Vs N On Preemptive Scheduling
- 9. Unit-10-Memory Management:** Memory Management, Principles of Virtual Management, Memory, Memory Management in Ms-DOS

#### **Module Name** -Software Engineering

1. The Software Problem
2. Software Process
3. Software Requirements Analysis and Specification
4. Software Architecture

5. Planning a software project
6. Design
7. Coding and Unit Testing
8. Testing