COURSE OUTLINE FOR CLASS XI: THEORY (Total Periods 120)

UNIT I : WELCOME TO THE WORLD OF CCT (Total Periods 16)

1. Experiencing the World of CCT

- Changes Due to CCT in Homes, Education, Public life
- CCT and the Digital Divide
- CCT and E-Commerce
- Major National Organisations Working in the Area of CCT

2. Components of CCT

- What is Computer?
- History, Evolution, Classification and Generations of computers
- Organisation of the Computer System
- Hardware

  Input device, Memory or Storage Devices, Central Processing Unit, Output device and Computer Ports
  Computer Equipment Maintenance

- Communication technology and evolution of communication mediums
- Software

  System software
  Application Software
  Shareware
  Freeware
  Open Source

- Algorithm, Flowchart and Number system
- Computer/Programming languages

  Machine Language (First Generation Computer language)
  Assembly Language (Second Generation Computer language)
  High Level Language (Third Generation Computer language)
  Fourth Generation Computer Language
  Fifth Generation Computer language

UNIT II: WORKPLACE PRODUCTIVITY TOOLS (Total Periods 28)

3. Word Processing Tool

- Introduction
- Starting Word processor
- Creating, Saving and Opening a document
- Text Formatting, Bullets and Numbering, etc.
- Tabs, Style, Views
- Insert Table and Picture
- Copy, Move and Delete
- Checking Spelling and Grammar
- Page Layout
- Mail Merge

4. Electronic Spreadsheet

- Create, save and open a worksheet
- Entering data – text, numbers and formulae in a worksheet

- Navigating within a Worksheet and also between different Worksheets of a Workbook
- Inserting and deleting cells, rows and columns in a worksheet
- Select, copy, paste and delete cell data within the worksheet
- Using various formulae and inbuilt functions
- Update worksheets using special tools like spell check and auto correct
- Setup the page and margins of worksheets for printing
- Format the data in the worksheet globally or selectively
- Define and apply styles
- Enhance worksheets using charts

5. Electronic Presentation Tool

- Introduction and Starting the program
- Anatomy of the application window
- Starting a fresh presentation
- Adding new slide
- Navigating across slides
- Saving and Opening presentation
- Text formatting options
- Copy, Move and Delete slides and text
- Applying designs
- Using Animations
- Slide Transitions
- Insert clip art
- Insert sound/movies
- Viewing the presentation
- Pack and Go

UNIT III : COMMUNICATION CONCEPTS AND SKILLS (Total Periods 20)

6. Convergence of CCT

- Components of Communication Systems

  Message, Sender, Receiver, Transmission Medium and Protocol

- Model and application of Communication System
- Evolution of Communication Systems
- Convergence of Communication Technologies

  Developing uniform data representation and digitisation technologies
  Convergence of Standards and Protocols, Network

- Convergence of Network

  Convergence in Voice Communication
  Convergence of Video and Wireless Network Communication
  Convergence of Application

- Importance of Standardisation

7. The Internet

- History and Functions of the Internet
- Working with Internet

  Web Browsers, World Wide Web, Uniform Resource Locator and Domain Names

- Uses of Internet

  Search for Information, Email, Chatting, Instant messenger services, News Group, Teleconferencing, Video-Conferencing, E-Commerce and M-Commerce

- Manage an E-mail Account

  E-mail Address, configure E-mail Account, log to an E-mail, Receive E-mail, Sending mails, sending files an attachments and Address Book

- Downloading Files
- E-Services

  E-Banking and E-Learning

8. Soft Skills for Effective Communication

- Development of Soft Skills

  Hard Skills and Soft Skills

- Communication

  Importance of Soft Skills in Effective Communication
  Components, Process and Model of effective communication

- Communication through E-mail

  Subject, Information, Quotation Document, Identification, Signature, Separators

- Auto Message Responder and E-mail Attachment Size
- Removing Barriers like Timelines and Cultural Diversity; Greetings and Salutations at all stages in communication through soft skills
- Writing/Letter Writing Skills
- Importance of Values, Attitude and Etiquettes in communication
- Importance of careful proofing of the documents created
- Audio/Video communication skills and Listening Skills

UNIT IV : WEB PUBLISHING TECHNOLOGIES (Total Periods 36)

9. Web Page Designing Using Hyper Text Markup Language (HTML)

- Internet and the web
- Hyper Text Markup Language (HTML)
- Browsers
- Analysing the structure of a web page
- Using HTML tags and attributes for colouring, highlighting and aligning text
  - using media, banners, audio and video elements
  - tables, lists and blocks of content
  - interactivity
  - web forms and communicating with the server

- Modern trends in web publishing (Introduction only)[1]
  - Dynamic sites
  - Cascading style sheets

10. Client-Side Scripting using Java-Script

[1] Elaborated in class XII

• Java-Script

Introduction
Client Server Model
Data types and values
Expression and Operators
Special Operators
JavaScript Statements
Branching and selection statements
Object Manipulation Statements
JavaScript functions

UNIT V: TEAMWORK AND WEB-BASED COLLABORATION TOOLS (Total Periods 4)

11. Project Based Learning

Development of Interpersonal and Communication Skills in a Group
Modular approach to projects
Teamwork and its components
Information Sharing amongst the group members
Participating in a Group Project, some learning experiences

12. CCT Project in Local context

• National e-Governance Plan (NeGP)
• E-Governance: Definition, Need and Architecture
• E-Governance Projects: Objectives, Categories and Beneficiaries, Application areas of Projects, and Implementation
• Government's e-Governance Initiatives

UNIT VI : EMERGING TECHNOLOGIES (Total Periods 16)

13. Emerging trends in CCT

• Emerging trends in Computer Storage

Removable Storage Devices: Hard Disk Storage, RAID
3-D Optical Data Storage, USB and Other Forms of Storage, RAID Technology
Smarter Storage Devices: Object Storage Devices, Self-Monitoring, Analysis, and Reporting Technology
Network Storage: Storage Area Network, Network Attached Storage and Storage Virtualisation
Online Storage Options
USB in embedded systems and wireless USB, microprocessor(Only brief outline)

• Emerging trends in Semiconductors (Only brief outline)
• Emerging trends in Communication systems (Only brief outline)
• Emerging trends in Quantum computing (Only brief outline)
• Emerging trends in software (Only brief outline)

• Operating system
• Application software

•Educational and communication Software: Edutainment, Learning Management System (LMS)
•Design, Media and Simulation Software: Media Development, Image Organizer, Graphic Art Software, Image Editing, Video Editing, Digital Audio Workstation, Music Sequencer (Also MIDI Sequencer), Diagramming Software
•Simulation Software: Social Simulators, Flight Simulator, Scientific Simulators
•Office Automation and Process Management software
•Control and Analysis software

- Medical Software (Monitors Interpreter, Medication pumps and Interpreters, Analysis, Medical Informatics),
- Mapping software: Geographic Information System (GIS)

• Nanotechnology

14. Computer controlled devices

Sensors: Barcode scanning, Motion detection, Parking sensors, Temperature sensor
Smart Sensors
Location Tracking : Global Positioning System(GPS),
Automatic Teller Machine (ATM)
Robots and its uses

PRACTICALS - CLASS XI (Total Periods 80)

1. **Hands on Experience:**

(a) Workplace Productivity Tools

(i) Creating a document using some of the tools given below:

- Page and Paragraph setup
- Inserting picture and Table
- Mail-merge

OR

(ii) Creating a document using some of the tools given below:

- Formatting data and cells
- Using Functions and Formulae
- Using Charts

OR

(iii) Creating a document using some of the tools given below (Presentation must contain at least 5 slides):

- Formatting slides
- Using animations
- Inserting picture/sound/movie
- Using slide transitions

(b) Web Publishing Technologies

(i) HTML: A web page based on a particular topic. The webpage should be designed using following:

- Basic HTML tags (HTML/HEAD/TITLE/B/I/U/BR/HR)
- Forms - using <TABLE> tag
- Using pictures - using hyperlinks
- Using Buttons

(ii) JavaScript: A programming problem in JavaScript. The problem should cover some of following using:

- If, if...else. switch statements
- Loop statements (for/while/do...while)
- Objects (Date and Math)
- Using Buttons
- Object Handling Statements (for.. in/ with)
- JavaScript functions.

2. **Project Work**

A web-based project has to be developed using HTML and JavaScript.

3. **Practical File**

The Practical file should contain following:

- WebPages covering all the topics given in the chapter 9 of the book.
- JavaScript programs covering all the topics given in the chapter 10 of the book.

4. **Viva-Voce**

Viva will be based on the syllabus covered and project done.