

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

TNCF 2017 - DRAFT SYLLABUS

Subject :Computer Application (Commerce and Arts)

Class : XI

Chapter	Contents
Chapter -1 Introduction to Computers	<ul style="list-style-type: none">• Introduction to Computers• Evolution of Computers<ul style="list-style-type: none">○ Abacus○ Napier’s Logs and Bones○ Pascal’s Adding Machine○ Leibnitz’s Calculator○ Jacquard’s Loom○ Difference Engine○ Analytical Engine○ Mark – I• The Generations of Computers<ul style="list-style-type: none">○ The First Generation Computers○ The Second Generation Computers○ The Third Generation Computers○ The Fourth Generation Computers○ The Fifth Generation Computers• Data and Information• Components of Computers<ul style="list-style-type: none">○ Input Unit○ Central Processing Unit<ul style="list-style-type: none">▪ Arithmetic Logic Unit▪ Control Unit○ Output Unit○ The Memory○ Interconnection between Functional Components• Concepts of Booting• Types of Computers<ul style="list-style-type: none">○ Digital Computers○ Analog Computers○ Hybrid Computers<ul style="list-style-type: none">▪ Types of Digital Computers<ul style="list-style-type: none">• Purpose wise Digital Computers

	<ul style="list-style-type: none"> ○ Special Purpose Computers ○ General Purpose Computers ● Configuration wise Digital Computers <ul style="list-style-type: none"> ○ Embedded Computers ○ Micro Computers ○ Mini Computers ○ Mainframe Computers ○ Super Computers <p><i>Case Study: Prepare a comparative study of various computers of past to present with respect to speed, memory, size, power consumption and other features</i></p>
<p>Chapter - 2</p> <p>Software Concepts</p>	<ul style="list-style-type: none"> ● Hardware and Software ● Types of Software ● System Software <ul style="list-style-type: none"> ○ Operating System <ul style="list-style-type: none"> ▪ Introduction to the Concept of OS ▪ Types of OS <ul style="list-style-type: none"> ● Single User OS ● Multiuser OS ● Multiprocessing OS ● Time Sharing OS ● Real Time OS ● Distributed OS ● Interactive OS ▪ Popular OS <ul style="list-style-type: none"> ● DOS ● Unix ● Windows ● Linux ● MacOS ● Solaris ● BOSS ▪ Need for an OS ▪ Functions of an OS <ul style="list-style-type: none"> ● Processor Management ● Device Management ● Memory Management ● File Management ○ Language Translators

	<ul style="list-style-type: none"> ▪ Assembler ▪ Interpreter ▪ Compiler • Application Software <ul style="list-style-type: none"> ○ Customized Application Software <ul style="list-style-type: none"> ▪ School Management system ▪ Inventory Management System ▪ Payroll system ▪ Hotel Management ▪ Financial Accounting ▪ Reservation System ▪ Weather Forecasting ○ General Application Software <ul style="list-style-type: none"> ▪ Word processor ▪ Spreadsheet ▪ Database Management System ▪ Presentation Tools • Utility Software <ul style="list-style-type: none"> ○ Antivirus ○ Disk Defragmenter ○ Backup Utility ○ Compression Utility ○ Disk Cleaner ○ File Management Tools • Mobile Operating Systems <ul style="list-style-type: none"> ○ Symbian ○ iOS ○ Android • Open Source Concepts <ul style="list-style-type: none"> ○ Proprietary ○ Shareware ○ Freeware ○ Open source ○ Free Software
<p>Chapter – 3</p> <p>Computer Architecture</p>	<ul style="list-style-type: none"> • Introduction • Basics of Microprocessors • Types of Microprocessors <ul style="list-style-type: none"> ○ Classification by the width of Data they process ○ Classification by the Instruction set <ul style="list-style-type: none"> ▪ Reduced Instruction Set Computer

	<ul style="list-style-type: none"> ▪ Complex Instruction Set Computer ▪ Explicitly Parallel Instruction Computing • Input Devices - Output Devices • Memory Devices <ul style="list-style-type: none"> ○ Primary Memory <ul style="list-style-type: none"> ▪ Random Access Memory ▪ Types of RAM <ul style="list-style-type: none"> • Dynamic RAM (DRAM) • Static RAM (SRAM) ▪ Read Only Memory (ROM) <ul style="list-style-type: none"> • Programmable Read Only Memory (PROM) • Erasable Programmable Read Only Memory (EPROM) • Electrically Erasable PROM (EEPROM) ○ Cache memory • Secondary Storage Devices <ul style="list-style-type: none"> ○ Hard Disks ○ Compact Disk (CD) ○ DVD ○ Flash Memory devices ○ Blu-Ray Disk • Ports
<p>Chapter - 4</p> <p>Number Systems</p>	<ul style="list-style-type: none"> • Introduction • Data Representations • Decimal Number System • Binary Number System • Octal Number System • Hexa-Decimal System • Number Conversions <ul style="list-style-type: none"> ○ Decimal to Binary <ul style="list-style-type: none"> ▪ Decimal Fractions to Binary ○ Binary to Decimal <ul style="list-style-type: none"> ▪ Binary Fraction to Decimal ○ Decimal to Octal ○ Octal to Decimal ○ Octal to Binary ○ Binary to Octal

	<ul style="list-style-type: none"> ○ Decimal to Hexa-Decimal <ul style="list-style-type: none"> ▪ Decimal Fractions to Hexa ○ Hexa-Decimal to Decimal ○ Binary to Hexa-Decimal ○ Hexa-Decimal to Binary • Binary representation of Integers <ul style="list-style-type: none"> ○ Signed and Unsigned representations ○ 1's Compliment ○ 2's Compliment • Representing Characters in Memory <ul style="list-style-type: none"> ○ ASCII ○ ISCII ○ TSCII ○ Unicode
<p>Chapter 5:</p> <p>Working with Windows</p>	<ul style="list-style-type: none"> • Introduction to Operating system • Introduction to Windows operating system • The Desktop • The Window • Application Window <ul style="list-style-type: none"> ○ Elements of Windows <ul style="list-style-type: none"> ▪ The Title Bar ▪ The Menu Bar ▪ The Workspace ▪ The Scroll Bars ▪ Corners and Borders • Document Window • The Icons <ul style="list-style-type: none"> ○ Application Icons ○ Shortcut Icons ○ Documents Icons ○ Disk-drive Icons • Windows directory structure <ul style="list-style-type: none"> ○ Concepts of Path ○ Wild Cards • Explore the Computer <ul style="list-style-type: none"> ○ The start button and Taskbar ○ My Computer / Computer ○ Starting and Closing Programs ○ Managing Files and Folders <ul style="list-style-type: none"> ▪ Creating Folders ▪ Finding Files and Folders ▪ Opening Files and Folders ▪ Renaming File and Folders ▪ Move / Copy a file and folders ▪ Copy file or folders to removable

	<ul style="list-style-type: none"> disk <ul style="list-style-type: none"> ▪ Delete a File or folder ○ Creating Shortcuts • Shutting down the computer <p>Case Study: How to create and manage folders</p>
<p>Chapter 6:</p> <p>Word Processor - I</p> <p>(Basics)</p>	<p>Familiarization with MS Word</p> <ol style="list-style-type: none"> 1. Features of Word Processor 2. Opening MS Word 3. Contents of MS Word Window 4. Saving with password. 5. Opening an existing Document <p>Text Formatting</p> <ol style="list-style-type: none"> 1. Selecting Continuous and Discontinuous text 2. Using Cut, Copy and Paste 3. Using Paste Special 4. Changing the Font type, style, size and color. 5. Changing the text case 6. Highlighting the text 7. Using superscripted and subscripted text 8. Clearing the formatting <p>Paragraph Formatting</p> <ol style="list-style-type: none"> 1. Text alignment 2. Line spacing adjustment

	<ol style="list-style-type: none"> 3. Indenting the text 4. Bullets and Numbering 5. Inserting and changing tabs 6. Applying Borders and shading <p>Searching for text</p> <ol style="list-style-type: none"> 1. Finding and Replacing Text 2. Jumping to the required section using “Go To” <p>Case study:</p>
<p>Chapter 7</p> <p>Word Processor – II (Inserting Objects, Tables and Page Formatting)</p>	<p>Inserting Objects</p> <ol style="list-style-type: none"> 1. Inserting and formatting pictures. 2. Inserting Symbols and equations. 3. Inserting and editing shapes and charts 4. Inserting page and section breaks 5. Inserting Text Box 6. Inserting Word Art 7. Inserting Auto text 8. Working with Headers and Footers 9. Inserting and formatting Page Numbers 10. Inserting comments, footnotes and endnotes 11. Inserting Hyperlinks

	<p>Working with tables</p> <ol style="list-style-type: none"> 1. Using different techniques to insert tables. 2. Inserting and deleting cells, columns and rows. 3. Merging and splitting cells 4. Aligning text in tables 5. Changing text direction in tables 6. Working with borders and shading 7. Wrapping text around a table 8. Inserting and modifying formulae in tables 9. Repeating header rows in different pages <p>Working with Page Formatting</p> <ol style="list-style-type: none"> 1. Setting the page size and margins 2. Setting the page orientation 3. Changing page colour and borders 4. Inserting watermarks 5. Insert line numbers <p>Case Study:</p>
<p>Chapter 8</p> <p>Word Processor – III</p> <p>(Additional Tools, Mail Merge and Printing)</p>	<p>Additional Tools</p> <ol style="list-style-type: none"> 1. Using the spell and grammar check tool 2. Using Thesaurus

	<p>3. Counting words in documents</p> <p>4. Using Autocorrect options</p> <p>5. Showing/hiding the formatting marks</p> <p>6. Creating and using Macros</p> <p>7. Arranging and Viewing multiple windows</p> <p>Mail Merge</p> <p>1. Creating and storing data for mail merge.</p> <p>2. Creating the mail merge documents.</p> <p>3. Merging the documents, editing mail merged documents.</p> <p>4. Creating labels and envelopes.</p> <p>Printing the Documents</p> <p>1. Previewing the documents to be printed</p> <p>2. Setting the Printer</p> <p>3. Setting the print range and number of copies</p> <p>4. Setting the print properties</p> <p>Case Study:</p>
<p>Chapter 9: Spreadsheet – I (Basics)</p>	<p>Features of MS-Excel</p> <p>Contents of the MS-Excel Window</p> <ul style="list-style-type: none"> • Title Bar • Menu Bar

	<ul style="list-style-type: none"> • Toolbars • Row and Column Headings • Cell • Formula Bar • Reference Area • Status Bar • Scroll Bar • Worksheet Tabs • Office Assistant <p>Working with Data</p> <ul style="list-style-type: none"> • Entering Data • The Data Types • Formatting Data • Entering Series • Copying Data • Using Paste and Paste Special • Relative and Absolute Referencing • Assigning Range Names • Entering simple formulae for addition subtraction etc. •
<p>Chapter 10: Spreadsheet – II (Functions and Chart)</p>	<p>Managing Worksheets</p> <ul style="list-style-type: none"> • Selecting Worksheets • Renaming Worksheet • Inserting and Deleting Worksheets • Changing the order of Worksheets • Copying Worksheets • Selecting cells, columns, rows and sheets

	<ul style="list-style-type: none"> • Inserting Rows and Columns • Hiding rows and Columns • Freezing rows and Columns • Merging Cells • Formatting Cells • Cell Referencing • Saving a Workbook • Protecting Worksheets, locking and hiding cells. <p>Functions</p> <ul style="list-style-type: none"> • Familiarization with the categories of functions • Working with the functions in Math and statistical category like sum, product, sqrt average, max, min, round etc. • Working with the functions in Logical category • Working with the functions in Date and Time category • Working with the functions in Text category • Applying functions to create students marks sheets and reports, Employee pay details and Income • Tax computations etc. • Linking Sheets and Pasting functions <p>Charts in Excel</p> <ul style="list-style-type: none"> • Familiarization with the types of charts • Creating and formatting charts •
<p>Chapter 11: Spreadsheet – III</p>	<p>Data Tools</p> <ul style="list-style-type: none"> • Applying Conditional Formatting to cells

<p>(Data Tools and Printing)</p>	<ul style="list-style-type: none"> • Sorting and Filtering Data • Creating Subtotals • Applying Validation • Creating and using Lists • Creating Data Forms <p>Additional Tools in Excel</p> <ul style="list-style-type: none"> • Formula Auditing • Using Goal seek and creating scenarios. • Creating one and two variable data tables • Creating and modifying a pivot table <p>Printing Excel Sheets</p> <ul style="list-style-type: none"> • Setting the Page Size, orientation and margins. • Previewing Excel sheets • Inserting header and footer • Repeating rows / columns to repeat in all pages.
<p>Chapter 12</p> <p>Presentation – I</p> <p>(Introduction)</p>	<p>Starting power point</p> <p>Power Point Window Description</p> <ul style="list-style-type: none"> • Title Bar • Menu Bar • Toolbars • Ruler bar • Slide • Scroll Bar • Movement Buttons • View Buttons • Status Bar

	<p>The MS-PowerPoint Views</p> <ul style="list-style-type: none"> • Slide Sorter View • Outline View • Notes Pages View • Slide Show View <p>Creating a new presentation</p> <ul style="list-style-type: none"> • Using templates • Using Slide Layouts • Inserting, deleting and rearranging slides • Creating Speaker's notes
<p>Chapter 13:</p> <p>Presentation – II</p> <p>(Inserting features)</p>	<p>Inserting features</p> <ul style="list-style-type: none"> • Inserting and formatting text. • Inserting and formatting shapes and pictures • Inserting tables and charts • Inserting and editing organization charts • Inserting hyperlinks • Inserting music and video • Inserting various animation effects to the inserted objects <p>Running the Slide Show</p> <ul style="list-style-type: none"> • Modifying the slide transition • Setting and Controlling the slide show - timer or mouse controlled
<p>Chapter 14:</p> <p>Computer Network</p>	<ul style="list-style-type: none"> • Evolution of Networking: <ul style="list-style-type: none"> ○ ARPANET, WWW, Internet; • Network Topologies: <ul style="list-style-type: none"> ○ Bus, Star, Tree;

	<ul style="list-style-type: none"> • Types of Network: <ul style="list-style-type: none"> ○ PAN, LAN, WAN, MAN; • Wired Technologies: <ul style="list-style-type: none"> ○ Twisted pair cable, coaxial cable, optical fiber; • Wireless Technologies: <ul style="list-style-type: none"> ○ Bluetooth, infrared, wifi, radio link, microwave link, radio link and satellite link; • Network devices: <ul style="list-style-type: none"> ○ Hub, switch, repeater, gateway – and their functions; • Identifying computers and users over a network: <ul style="list-style-type: none"> ○ Basic concept of domain name, MAC (Media Access Control) and IP Address, domain name resolution; • Wireless/Mobile Communication: <ul style="list-style-type: none"> ○ GSM, CDMA, GPRS, WLL, 3G, 4G; • Internet Applications: <ul style="list-style-type: none"> ○ sms, voice mail, email, chat and video conferencing; • Network Security Concepts: <ul style="list-style-type: none"> ○ Cyber law, firewall, cookies, hackers and crackers;
<p>Chapter 15</p> <p>Internet and e-Mail</p>	<ul style="list-style-type: none"> • Evolution of Internet • Hardware and Software requirements for Internet connection • Services available on the Internet • The role of WWW as a service on the Internet • Working of Search Engine • Structure and Working of e-mail • Different types of social media • Threats to network security • Preventing Network attacks • Guidelines for using Internet and Computer

	Ethics
Chapter 16 Tamil in Computers	<ul style="list-style-type: none">• Introduction• Tamil in Internet• Tamil Typing and Interface software• TSCII (Tamil Script Code for Information Interchange)• Indian Script Code for Information Interchange (ISCII)• UNICODE• Tamil in Microsoft Windows & Linux• Tamil Virtual Academy• Project Madurai• Tamil Wikipedia

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

TNCF 2017 - DRAFT SYLLABUS

Subject :Computer Application (Commerce and Arts)

Class : XII

TOPIC	CONTENT
UNIT – I Introduction to E-Commerce	<p>Introduction to E-Commerce-Introduction to E-Commerce-Traditional Commerce Vs E-Commerce-Advantages and Disadvantages -of E-Commerce-Introduction to Business Models</p> <p><i>Case Study: Write down the experienced gained in electronic trading comparing with traditional trading</i></p> <p>Payment systems-Credit Card-Debit Card-Smart Card-E-Banking and E-Money-Electronic Funds Transfer</p> <p><i>Case Study: What are the e-payment practiced by you for transferring money?</i></p> <p>Security System-Various Security Measures--Security Protocols-SSL - Secure Socket Layer-SHTTP - Secure Hypertext Transfer Protocol</p> <p><i>Case Study: Mention the place where digital signature is used.</i></p> <p><i>Whether encryption is required in e-commerce? Why?</i></p> <p>EDI – Electronic Data Exchange-EDI – Documents-Advantages of EDI</p>

	<p>Case Study: Mention the EDI documents sent for authentication.</p>
<p>UNIT-II NETWORKING AND OPEN SOURCE CONCEPT</p>	<p>Computer Networking -Evolution of Networking: -Network Topologies: -Types of Network: -Wired Technologies: --Wireless -Technologies: --Network devices:-Identifying computers and users over a network: -Wireless/Mobile Communication: -Internet Applications: --Network Security Concepts:</p> <p>Open Source Software-Open Source Concepts:</p> <p>Case Study: Discuss about any one of the OSS.</p>
<p>UNIT – III INTRODUCTION TO DATA BASE MANAGEMENT WITH MYSQL</p>	<p>Database Management System-Introduction to database and its need;-Database Terminology: -Concept of Keys: -Database Tool: -Case Study: Create a student database with necessary columns. Perform necessary insertion, deletion and modification.</p> <p>Introduction to MYSQL-Classification of SQL Commands:-Creating and using a database-Creating a table: -Displaying table data: -Defining and using column alias</p> <p>Case Study: Create a table with primary key and</p>

	<p><i>unique key</i></p>
<p>UNIT – IV</p> <p>WEB APPLICATION DEVELOPMENT USING PHP</p>	<p>Introduction to PHP - Hypertext Preprocessor -Concept of PHP, features of PHP, other equivalent tools – JSP for web development</p> <p>Data types:-Variables: --Output data to Screen:-Operators:</p> <p><i>Case Study: Practice all types of operators in PHP.</i></p> <p><i>Declare different types of variables through explicit and implicit.</i></p> <p>PHP – Functions and Arrays-Introduction-String Manipulation Functions: -Time & Date Functions: -User Defined Functions: -Arrays:</p> <p><i>Case Study: How a string can be converted into an array.</i></p> <p>Flow of Control-Conditional statements: -Loops: - Unconditional exit from loop /switch -Global Variables – Superglobals</p> <p><i>Case Study: Generate the electricity bill for different tariff rates</i></p> <p>Forms and Files-PHP Forms: -Text Files: -Other Features:</p> <p><i>Case Study: Check the user authentication in different forms through session variable</i></p>

	<p>Connecting Php and Mysql-Working on Database:</p> <p><i>Case Study: Validate the table</i></p>
<p>UNIT – V</p> <p>MULTIMEDIA</p>	<p>Concept of Multimedia-Picture/Graphics,- Audio,- Video;- Digital Images and Digital Image representation,- animation, morphing;-Image Formats: --Applications: - Image Scanning with the help of scanner: -Graphic Tools:</p> <p><i>Case Study: Perform cloning on an image</i></p>