Sri Sathya Sai College for Women, Bhopal

(An Autonomous College affiliated to Barkatullah University, Bhopal)

(NAAC Accredited 'A' Grade)

SYLLABUS

SESSION: 2023-24

Course Type: Certificate Course

Course Title : ICT Skills

Additional Credit Course for I, II and III Year [N.E.P.]
Certificate Course for P.G. / B.Ed. [Non N.E.P. Course]

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Syllabus

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Course Type	Certificate Course
Course Title	ICT Skills
Course Details	Additional Credit Course for I, II and III Year [N.E.P.] Certificate Course for P.G. / B.Ed. [Non N.E.P. Course]
Credit Value	2 Credits
Max.Marks: 70 [Th], 30 [Pr]	**Min. Marks: 24 [Th], 11 [Pr]**

Course Learning Outcomes(CLO)

After completing the course, student will be able to –

- Get an understanding of the basic components, use and application of different ICT systems and networks

- Understand the impact of current and new technologies on methods of working in the outside world

- Function as discerning students in an increasingly digital society

- Access various tools and applications for learning and skill development opportunities

- Operate a variety of hardware and software independently and troubleshoot common problems and using the ICT facility with care, ensuring the safety of themselves, others and the equipment

- Practice safe, legal and ethical means of using ICT

Particular

Unit I:

ICT - Introduction, Objectives, Evolution, Purpose (Connecting with the World • Connecting with each other • Creating with ICT • Interacting with ICT), Usefulness, Applications, Types of ICT, Creating textual communication, visual communication, audio-video communication.

ICT application areas in everyday life - E-Commerce, E-governance, Banking, Agriculture, Education, Medicine, Defense, Transport, Publicity, Manufacturing, Finance, Travel & Leisure, Libraries, Expert Systems, Retail

Advantages of ICT in everyday life, Disadvantages of ICT

Computers, Data Storage and Peripherals: Types and classification of computers, Block diagram of computer, C.P.U., registers, system bus, main memory unit, RAM, ROM cache memory, Primary, secondary, auxiliary memory, hard disks, pen drive, optical disks, Inside a computer - SMPS, Motherboard, Ports and Interfaces, expansion cards, ribbon cables, memory chips, different processors and clock speed.

Unit II:

Input Devices: Characteristics, uses, advantages and disadvantages of input devices including: keyboard, numeric keypad, pointing devices, remote control, joystick/driving wheel, touch screen (as an input device), scanners, camera, microphone, sensors, light pen

Output Devices: Characteristics, uses, advantages and disadvantages of output devices including monitors, touch screen (as an output device), multimedia projector, laser printer, inkjet printer, dot matrix printer, plotter, 3D printers, speaker, actuator

Memory - definition of computer memory, its types – primary and secondary memory, RAM, ROM, EPROM, Cache, Registers.

Storage devices: Magnetic tapes, Floppy Disks, Hard Disks and its types – PATA, SATA, SCSI, SSD, NVM Express etc., Compact Disc – CD-ROM, CD-RW, VCD, DVD, DVD-RW, usb drives, Blue Ray Disc, SD/MMC Memory cards, Zip Drive, Formatting & Scanning a HD, Partitioning a HD.

Unit III:

Computer Software: What is Software? Relationship between Hardware and software, Types of Software: system software, Application Software, Firmware, Role of System Software, Types of system Software: Operating Systems, Language Translator, Utility Programs, Communication software, Commonly used Application Software, Database, Graphics, Education, Entertainment Software, Mobile App Software, Social Media Software: Instant Messaging, Email, Chat Bot, Web Blogs.
Free Open Source Software (FOSS) .

Application Software and their uses - Word Processing, Spreadsheet, Presentation, Database, Graphics, Designing, Recording sound and video, newsletters, posters, websites, multimedia presentations, audio, video, media streaming and E-publications, blog, forum, wiki, social networking.

Using office tools - any of MS-Office/ Libre Office,

Google Workplace – Google Docs, Sheets, Meet, Drive, Zoho Mail, WPS Office, OfficeSuite, Polaris Office, OnlyOffice Docs, WordPerfect etc.

Utility Software - PDF Creator, File Archiving, File Converter

Collaboration tools – Docs, Chat, forum, wiki, online groups, audio/video conferencing, social bookmarking and social networking, Web Conferencing.

Unit IV:

Managing files - Locate stored files, Open and import files of different types, Save files in a planned hierarchical directory/folder structure, Save files using appropriate file names
Save and print files in a variety of formats including a document, screenshots, database reports, data tables, graphs/charts, a web page in browser view, a web page in HTML view Save and export in the file format of an application package including .docx, .doc, .xlsx, .xls, .sdb, .sdc, .accdb .odb, .rtf, .pptx, .ppt, Save and export in a generic file format including .csv, .txt, .rtf,

.pdf, .css, .htm, .jpg, .png

File formats - Characteristics and uses of file formats including css, csv, gif, htm, jpg, pdf, png, rtf, txt, zip, rarcsv, gif, htm, jpg, pdf, png, rtf, txt, zip, rar

Compress files - Reduce file sizes for storage or transmission where necessary using file compression including .zip, .rar

File compression - The need to reduce file sizes for storage or transfer

Unit V:

Use of computer network: Access to information, person to person communication, electronic commerce, internet of things.

Types of computer network: Broadband access network, Mobile and wireless network, content provider network, transit network, enterprise network.

Mobile communication - SMS messaging, phone calls, Voice over
Internet Protocol (VoIP), video calls

The Internet - WWW, Browser, Search Engine, Uses of the Internet, Basic Services of Internet, advantages and disadvantages of using the internet, differences between internet, intranet and extranet, Difference between website and portal.

Internet Service Provider (ISP), structure of a web address, Uniform Resource Locator (URL), hyperlink, web browser. Use of search engine including speed of searching, amount of information, the speed of finding relevant information, ease of finding reliable information.

Cloud computing - The characteristics, uses and issues relating to cloud computing. How data is stored, managed, and shared using cloud computing
Advantages and disadvantages of using cloud storage methods.

Suggestive List of Practicals

Hardware Lab

1. Prepare a list of various computer peripherals. (e.g. CPU, Mother Board, RAM, Hard Drive, Optical Drive, Solid State Drive, Monitor, Keyboard, Mouse, Speaker, Web cam, Printer, Scanner, microphone, speakers, modem, projector etc).
2. Identify common ports, associated cables, and their connectors.
3. Observe various connectors, ports back and front side of the computer. Write their purpose and specifications. (e.g. Power, PS/2 keyboard and mouse, Serial and parallel, USB, VGA, LAN, Audio & microphone, Firewire, HDMI, games, SATA etc.)

MS Office

Create a document and apply different formatting options.

1. Design a Greeting Card using word art and smart arts for different festivals.
2. Create a document and insert header and footer, page title, borders and shading etc.
3. Create a document, set the margins, orientation, size, Column, Water mark, page, color and page borders etc.
4. Insert a table into the document. Prepare a mark sheet of your class subjects.
5. Apply the creating, editing, saving, printing securing & protecting operations to an excel spreadsheets.
6. Prepare a bar chart & pie chart for analysis of five year results of your institute.
7. Work on the following exercise on a workbook:
a. Copy an existing Sheet
b. Rename the old Sheet
c. Insert a new Sheet into an existing Workbook
d. Delete the renamed Sheet.
8. Prepare an Attendance sheet of 10 students for any 6 Subjects of your syllabus. Calculate their total

attendance, total percentage of attendance of each student & average of attendance, if formulae for calculating grade based on percentage.

9. Create a worksheet on Students list of any 4 faculties and perform following database functions on it.
   a. Sort data by Name
   b. Filter data by Class
   c. Subtotal of no. of students by Class.
10. Apply themes and layouts to power point slides and insert pictures. Graphics, shapes, and tables into presentation.
11. In power point slide make use of adding transitions and animation & Working with master Slides.

File/ Folder Management
1. Create folder(s) and file(s) using different ways.
2. Apply different types of copy/cut/paste options.
3. Managing the desktop icons, screen resolution and backgrounds.
4. Making shortcuts to your files/folders on desktop.
5. Compress a folder and mail it to yourself.
6. Extract a zipped file to a folder in E drive.
7. Convert doc to pdf and pdf to jpg.

Collaborative online working
1. Host a meeting on zoom/google meet, share the screen/pdf/documents, use board/annotations.
2. Host a meeting on google meet, and record it on zoom.
3. Create a google sheet, share it with 6 more participants and work simultaneously.
4. Create a google doc, apply different types of formatting.
5. Create a google form for youth festival to input their name, class, contact number and event participated and save the data to a google sheet.

Create a google slide to make certificate for different names in the above program using autocrat.

Learning Resources

Textbooks, Reference Books, Other Resources

Suggested Readings:

- Sinha P.K., Sinha Priti, "Computer Fundamentals", BPB, 2020, 8th Edition
- Alexis Leon & Mathews Leon "A Beginners Guide to Computers", Vikas Publishing House Pvt. Ltd., 2001.
- Mohan P., " Fundamentals of Computers", Himalaya Publishing House, 2010, Revised Edition,
- Sukhwinder Singh , Gaurav Kumar, kanwal Preet, "ICT Skill Development", Twentyfirst Century Publications,2014
- Working in Microsoft Office, Ron Mansfield, Tata Mc. Graw Hill Publishing Company Limited.
- Learning Computer Fundamentals, Ms Office and Internet & Web Tech., Dinesh Maidasani, Laxmi Publication.
- G Suite for Dummies, Paul McFedries, Wiley