**COMPUTER STUDIES HARMONIZED CURRICULUM**

**PRE SS1 TOPICS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 1 | Overview of  Computer  system | Students should be  able to:  1 Define  computer  2. Classify  computer into hardware and software  3. List examples of hardware and software.  4. State the  characteristics of a computer  5. Recognize a computer set | 1. Definition of a  computer  2. Two main  constituents of a  computer  (i) computer hardware  (ii) computer software  3. Computer hardware —  (i) System unit (ii) Peripherals  4. Computer software —  (i) Systems software (ii) Applications  software  5.Characteristics of a Computer | 1.Lead students to  Define computer.  2. Guide students to states the two broad classes of computer  3. Lists examples of hardware and  software  4. States  characteristics  of a computer  5. Displays a computer set  6.Writes notes on chalkboard | 1. Participate in  class discussions  2. Identify various parts of  hardware and software  3. Identify a computer set as electronic machine  4. Copy summary notes from chalkboard to their notes. | 1 .A Computer set  2.Parts of computer  3.Charts  4.Pictures | Students to:  1 .Define a computer machine  2.State the two broad classes of a computer set  3.State three  characteristics of a computer  4.List two functional parts of a computer |
| 2 | Data and information | Students should be able to:  1. Define data and information  2.State the  differences between data and information  3.State examples of  data and  information | 1 Definition of  data and  information  2. Differences between data and information  3. Examples of data  and information | 1 .Lead students to define data and information  2.States differences between data and information  3. Lists examples of data and information.  4. Displays key  arrangement on the keyboard as a type of data  5. Guides students to type in alphabets or numbers in a related form into computer as information  6. Writes notes on the chalkboard | 1. Participate in class discussions 2. Identify data as written by the teacher.  3. Observe the keyboard letter arrangement as data.  4. Enter data into  data and  Information.  5.Copy notes from the  chalkboard | 1 .Computer  2.Charts  3 Printed materials | Students to:  1 .Define data and information  2. .State two differences between data and information |

**THEME: COMPUTER EVOLUTION**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 3 | Computing  Devices I (Pre-  computer age to 19th century)  • | Students should be able to:  1 .State features of  each of the pre-  computer age to  1 9th century  computing devices  2.List their  components  3.State their uses | Features, components and uses of:  (i) Abacus  (ii) Slide rule  (iii) Napier’s bone  (iv) Pascal’s calculator  (v) Leibnitz multiplier  (vi) Jacquard’s loom  (vii) Charles Babbage  (viii)Analytical Engine  (xi) Hollerith Census Machine  (x) Burroughs’s Machine | 1. Guide students to states the features of each computing device  2.Displays their components to students  3. States their  uses.  4. Writes notes  on the chalkboard | 1 .Identify the size and components of each device 2. Participate in class discussions  3. Copy notes from chalkboard | 1. Charts  2. Pictures  3. Any available pre-computer age computing devices | Students to:  1 .List Four 19th century computing devices  2.State two features of abacus and Hollerith machine  3 Compare the features of Pascal and Leibnitz multiplier. |
| 4 | Computing  Devices II  (2Oth Century to date) | Students should be able to:  1 .State feature of each of the 20th century computing devices  2.List their  components  3.State their uses | Feature, components and uses of::  (i) ENIAC  (ii) EDVAC  (iii) UNIVAC 1  (iv) Desktop Personal Computers  (v) Laptop & Notebook computers  (vi) Palm Top computer |  | .Identify the size and components of each device  2. Copy notes from chalkboard | 1. Desktop computers  2. Laptops  3. Palmtops  4. Charts .  *5.* Pictures | Students to:  l.List Four 19th century computing devices  2.State two features of abacus and Hollerith machine  3 Compare the features of Pascal and Leibnitz multiplier. |

**SS1 FIRST TERM**

**THEME: COMPUTER HARDWARE**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 1 | Input Devices | 1. Define input device  2. List input devices  3. State the  features and uses of keyboard  4. Operate the keyboard  5. State the  features and uses of mouse  6. State how the mouse works  7. Operate the mouse | 1. Definition of input devices  2. Types of input devices:  • Keyboard  • Mouse  • Scanner  • Microphone  • Joystick  • Card readers  • Light pen  • Digital camera  • Etc.  3. Keyboard Structure and function  • Keys on the  keyboard  — Function keys  — Numeric keys  — Alphabetic keys  — Special character keys  — Cursor control keys  — Command keys  — Etc.  4. Mouse — features,  functions and  operation | 1 .Leads students to define an input device  2.Displays input devices to students  3.Leads students to list input devices  4.Displays keyboard and mouse in the class for students  5.Guides students to operate the keyboard, mouse and scanner  6. Writes notes on the chalkboard | 1. Participate in class discussions.  2. Identify various input devices as displayed in class  3. Identify the keyboard and its features  4. Identify the mouse and its features  *5.* Operate the keyboard and mouse  6. Copy Summary notes from the chalkboard | 1 .Keyboard  2. Mouse  3 .Scanner  4.Microphone  5 .Joystick  6.Light pen  7. Card reader  8.Digital camera | Students to:  1.define Input device  2. List two types of input devices  3. State two differences  between keyboard and mouse  4. State one common card reader in use.  *5.* Operate  keyboard and the mouse. |
| 2 | 6.Output Devices | Students should be able to:  1. Define output devices  2. List output  devices  3. State the  features and  uses of monitors  4. Power on the monitor  *5.* State the types of printer with  examples  6. State the  differences  between impact  and non-impact printer  7. Operate the printer | 1. Definition of output devices  2. Features and uses of output devices:  • Monitor  • Printer  • Speaker  • Plotter  3. Monitor — structure, types and functions:  • Type  — Monochrome  — Color  4. Printer types  • Impact  - Dot-Matrix printers  - Line printers  - Character printers  • Non-Impact  Inkjet printers  Laser printers  Thermal printers  *5.* Comparative  study of common printer | 1 Leads students to define output devices  2 Displays the output devices in class for students.  3. Leads students to list output devices  4. States the features of monitors and printer  *5.* Guides students to ‘switch on’ the mouse  6. Guides students to operate the printer  7. Writes notes on the chalkboard | 1. Participate in class discussions  2. Identify the output devices as displayed  3. Switch on the monitor  4. .Operate the printer under teacher’s guidance  *5.* Copy notes from the chalkboard into their notes | 1. Monitor  2. Microphone  3. Speakers  4.Printer  *5.* Charts | Students to:  1 .State two features of a monitor  2.State two differences between the monitor and printer  3. State one use of the monitor. |

**THEME: BASIC CONCEPT OF COMPUTER SOFTWARE**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 3 | Computer  System Software | Students should be able to:  1. Define  software  2. List the  types of  software  3. List  different types of systems software  4. State  examples of system software | 1. Definition of software  2. Types of software  • Systems software  • Applications software  3. Systems software  — Operating Systems  — Translators  — Tools/Utility programs  4.. Examples of Operating Systems  • Graphical User Interface (GUI)  — Microsoft Windows  — Linux  • Command Line  — Unix  — Microsoft Disk Operating System (MS-DOS)  *5.* Examples of Translators  • Assemblers  • Compilers  • Interpreters  6. Examples of Utility Programs  • Editors  •Anti-virus | 1 .Leads students to define computer software  2.Leads students to list two types of software  3. Guides students to name different types of software  4. Leads students to state examples of system software.  *5.* .Leads students to list examples of operating system  6. Displays  operating system environment on the screen  7. Displays  software packages in disks if available  8. Writes notes on the chalkboard | 1. Participate in class discussions.  2. Identify  operating  systems displayed on the screen.  3. .Identify DOS directory at the C. prompt.  4. Copy notes from the chalkboard into their notes | 1. Computer  With windows or  Unix O.S  installed  2.Charts  Pictures | Students to:  1. Define  computer  software  2. List two types of computer software.  3. State two  examples of  system software  4. List two type of operating systems  *5.* List examples of operating system  6. List two  examples of  translators. |
| 4 | Operating System | Students should be able  to:  (i) Define the term  Operating system.  (ii) List two common  types of operating  system  (iii) List examples of  the two types of  operating system | i. Definition of Operating System  ii. Types of Operating System  - graphical user interface  - command line  iii. Example of Operating System  Graphical User Interface (GUI)  - command line  - Microsoft windows  - Linux  - Command line.  - Microsoft disk operating  system (MS-DOS) | 1 .Leads students to define Operating Systems  2.Leads students to list the common types of Operating systems 3. Leads students to state examples of Operating systems. | 1. Participate in class discussions.  2. Identify  operating  systems displayed on the screen.  3. .Identify DOS directory at the C. prompt.  4. Copy notes | 1. Computer with different versions of windows and other operating systems | Students to:   1. State four examples of Operating systems |
| 5 | Operating Systems Contd. | (i) State the functions  of an operating  system in  Computer.  (ii) Operate available  Operating system in computer.  (iii) Identify windows and Dos operating System separately.  Load WINDOWS and MS-Dos in a computer. | 1. Functions of an Operating System | 1. Explains the various functions of Operating systems to students 2. Guides students in using different operating systems installed in computers | 1. Participate in class discussion 2. Answers questions asked, 3. Carry out practical with different Operating systems | 1. Computer with different versions of windows and other operating systems | 1. State the major functions of operating systems |
| 6 | Computer  Application  Software | Students should be able to:  1. Define  application  software  2. State two types of application  software  3. List major  categories of  application  packages  4. List packages for specialized areas | 1. Definition of applications software  2. Types of applications  software  • User application program (programs written by the users)  • Application packages  3. Categories of  application packages:  • Word processing  • Spreadsheet  • Database  • Graphics  • Games  4. Packages for  specialized areas:  • Accounting software  • Payroll programs  • Banking software  • Educational management  software  • Statistical packages  • Hospital  management  software  Etc. | 1. Leads student to define application software  2. Guide students to state types of application software.  3. Lead students to .state categories of application packages  4. Leads students to list packages for specialized areas  *5.* Displays application packages of  6. Writes note the chalkboard. | 1. Participate in class discussion.  2. .Identify application packages as displayed  3. Copy notes from the chalkboard | 1 .Application  packages  2.Charts  3 .Pictures | Students to:  1 .Define application software  2.State types of application software  3. List three application packages for specialized areas |

**THEME: DEVELOPING PROBLEM SOLVING SKILLS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 7 | Programming Languages | 1. Define  programming  language  2. List levels of programming  language  3. Describe the features of  each level  4. List example of  programming  languages  5. Compare various  levels of programming languages | 1. Definition of programming language  2. Levels of programming language:  • Machine Language (ML)  • Low Level Language (LLL)  • High Level Language (HLL)  3. Features of each level.  4. Examples of programming languages  *5.* Comparison of levels of  programming languages | 1. Leads students to define programming language  2. Displays a stored programming language on the screen  3.States the various programming language levels  4. Describe features of each programming language level.  5. Lists examples of programming languages  6.Guides students to compare the various levels of programming languages  7. Write notes on the chalkboard. | 1. Identify a programming language, if displayed on the screen  2. Identify the different levels of programming language  3. Describe the features of each level of programming language.  4. .Copy notes from the chalkboard into their notes | 1 .Computer  2.A high level language stored or installed (e.g. BASIC  environment)  3.Charts | Students to:  1 .Define programming language  2List three levels of programming language  3.List two features of machine language  4. State two advantage of machine level language over high level language  *5.* State two disadvantages of machine language. |

**THEME: DEVELOPING PROBLEM SOLVING SKILLS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 8 | BASIC  Programming  Language | Students should be able to:  1. State the full meaning of  ‘BASIC’  2. List BASIC character  setting  3. List some BASIC  statements | 1. Meaning of  ‘BASIC’ —Beginners  All-purpose  Symbolic  Instructional Code  2 BASIC character  3. BASIC  statements:  LET, READ, INPUT, DATA, END, PRINT | 1 .Leads students to state full meaning of  ‘BASIC’  2. Lists BASIC character set  3. Lists some BASIC statements  4.Lists arithmetic operators in BASIC | 1. State full meaning of  ‘BASIC’  2. List BASIC character sets and some BASIC statements | Computer with BASIC program installed  Charts | Students to:  1 .State the full meaning of ‘BASIC’  2.List three BASIC statements  List three BASIC character sets |
| 9 | BASIC  Programming  Language Continued | 1. List BASIC arithmetic  operators  2. Write BASIC notations for arithmetic expressions  3. Write simple BASIC  programs | 1. BASIC  Arithmetic  operators  *2.* BASIC  Arithmetic  expressions  3. Evaluation of arithmetic  expressions  4. Simple BASIC programs | *1.* Writes BASIC notations for arithmetic expressions.  2. .Leads students to write simple BASIC program  3. Guides students to run BASIC program on computer  4. Writes notes on the chalkboard | 1. Write simple ASIC program  2. Run BASIC program in the computer  *3.* Copy notes from the chalkboard to their notes | Computer with BASIC program installed  Charts | 1. Write three arithmetic expression in BASIC 2. Write a BASIC program to calculate the area of a rectangle |

**THEME: INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 10 | Communication Systems | Students should be able to:  1. State the full meaning of  ‘ICT’  2. State the types of ICT  4. List types of telecommunication systems *5.* List types of data network  1. List types of  Information  systems | 1. Full meaning of ’ICT’  2. Types of ICT  • Broadcasting  • Telecommunications  • Data Networks  • Information systems  • Satellite  communications  3. Broadcasting:  • Radio  broadcasting  • Television broadcasting  • Satellite TV systems  4. Telecommunications  • Public Switched  Telephone  Network (PSTN) — Land line  • Mobile phone system (GSM)  • Circuit Switched Packet Telephone systems (CSPT)  • Satellite telephone system  • Fixed Wireless Telephone system  5. Data networks  • Personal Area  Network (PAN)  • Local Area Network (LAN)  • Metropolitan Area Network  (MAN)  • Wide Area Network (WAN)  • Internet  6.  Information  systems  • Data processing system  • Global Positioning  System\_(GPS) | 1 .Leads students to state the full meaning of ‘ICT’  2.States types of communications  3.List types of broadcasting  4.Displays available ICT gadgets, radio, television and computer  5.Shows satellite dish in an out-of- class activity  6.Writes notes on the chalkboard | 1. Participate in class discussions  2. Identify ICT gadgets  3. Access information on internet or other information devices  4. .Copy notes from the chalkboard | 1 .Computer  2.Radio  3 .Television  4.Internet  facility  5.GSM phone  6. Fax machine | Students to:  1.State the full meaning of ‘ICT’  2. Mention three types of ‘ICT’  3. List two types of broadcasting  5. List two types  of  telecommunication ns system  *5.* List two types of data network  6. List two types of information systems |

**SS 1: SECOND TERM**

**THEME: INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 1 | The effects of using IT | 1. Define employment 2. List Types of jobs/professions/careers 3. State the Effect of IT on jobs/professions/careers 4. State the effects of IT on job trends/future jobs 5. State effects of ICT on working patterns within organizations | the effects of ICT on employment  The effects of ICT on working patterns  Microprocessor controlled devices at home | l. Leads students to list ICT impact areas  2.Leads students to list ICT-based gadgets | 1. Participate in class discussions  2. Identify ICT gadgets and the effects of using them 3. Take notes down | 1. Computers, Internet access, White board. | 1. what are the job roles that require high use of ICT  2. State 2 effects of ICT in job roles |
| 2 | Application areas of ICT | Students should be able to:  1. State the application of  ICT  2. List ICT based  Gadgets  3. state and explain the application areas of ICT: communication application, | 1 Applications of ICT  • Teleconferencing  • Video  conferencing  • Tele-presence  • Telecommunication on and  networking  • Tele computing  • Messaging  • Information search, retrieval  and archival  2. ICT- based Gadgets  • Mobile phones  • Computer  • Fax machines  • Banking Systems Automated Teller Machine (ATM)  • Dispensing machines  Computers in Retail systems: Point of Sale  Machine —  Automated Cash  Register (ACR)  • Radio sets  • Television sets, etc. | l. Leads students to list ICT application areas  2.Leads students to list ICT-based gadgets  3.Displays ICT-based gadgets  4. Guides students to operate ICT- based gadgets  *5.* Writes notes on the chalkboard | 1. Identify application areas of ICT in an out- of-class activity or through internet or on pictures  2. Identify ICT based gadgets  3. Operate ICT based gadgets under teacher’s supervision  4. Copy notes from the chalkboard | 1 .Computer  2.Television  3 .Internet  4. ICT-based gadgets available | Student to:  1 .State two areas of application of ICT  2.List two ICT-based gadgets  3. State two uses of Specified ICT-based gadgets. |
| 3 | Application areas of ICT Contd. | 1. state and explain the application areas of ICT: communication application,  2. Operate ICT based  gadgets. | 3. Operation of ICT based gadgets.   * communication applications * data handling applications * measurement applications * microprocessors in control applications * modelling applications * applications in manufacturing industries * school management systems * microprocessor-controlled devices in the home * booking systems * computers in medicine * computers in libraries * expert systems * recognition systems * monitoring and tracking systems   satellite systems | l. Leads students to list ICT application areas  2.Leads students to list ICT-based gadgets  3.Displays ICT-based gadgets  4. Guides students to operate ICT- based gadgets  *5.* Writes notes on the chalkboard | 1. Identify application areas of ICT in an out- of-class activity or through internet or on pictures  2. Identify ICT based gadgets  3. Operate ICT based gadgets under teacher’s supervision | ICT-based gadgets available | 1. State difference between teleconferencing and video-conferencing  2. Demonstrate the operation of a given ICT- based gadget. |
| 4 | Impact of emerging technologies | I. Define technology  ii. List and explain the emerging technologies  iii. Describe how emerging technologies are having an impact on everyday life.  iv. List some emerging technologies and how they affect our life | * Meaning of technology * Emerging technology (Sensors, AI, 3D, etc.) * Positive and negative impact of technology | 1. Leads Students to state different emerging technologies 2. leads students to identify the impacts of the listed emerging technologies | 1. Listens and ask appropriate questions 2. Takes down notes | 1 .Computer  2.Television  3 .Internet  4. ICT-based gadgets available  5. Projector | Students to:   1. Describe the term Technology 2. State four major applications of Technology 3. State 3 ways in which ICT has impacted your life. |

**THEME: OPERATING THE COMPUTER**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 5 | Basic Computer  Operations | 1. Describe the booting  process  2. List types of booting  3. Start-up a computer  4. Identify components of the  desktop  *5.* Run an  application  program  6. Shutdown the  computer | 1. Description of the booting process  2. Types of booting:  • Cold  • Warm  3. Components of the windows desktop  • Icons  • Task bar  • Background  4. Running an  application program  — E.g. Microsoft  Word  *5.* The process of shutting down the computer | 1. Leads students to describe booting process.  2. Leads students to list types of booting.  3. .Displays computer set in the class  4. Guides students to start up the computer  *5.* Leads students to observe booting process  6. Leads students to identify icons on the desktop  7. Guides student to run an application program in the computer.  8. Writes notes on the chalkboard | 1. Participate in class discussion  2. Power the computer under the supervision of the teacher  3. Observe light blinking as booting continues  4. Run application program under teacher’s supervision  *5.* Copy notes from the chalkboard | 1. Computer  2.Power source  3. Internet access | Students to:  1. Describe the booting process  2. State two types of booting  3. Outline steps for cold booting  4. State two differences between cold booting and warm booting |

**THEME: COMPUTER APPLICATIONS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 6 | Word  Processing | Students should be able to:  1. Define word processing and word processor  2. List examples of Word  processors  3. List the  features of a typical Word processor  4. Identify the features of a Word  processing environment | 1. Definition of Word processing and word processor  3. Examples  of word  processors:  - Microsoft word  - cord word perfect  - word star etc.  3. Features of word processors 4. Word processing environment  *5.* Using a word processor to:  • Create  • Edit  • Format  • Save  • Retrieve  • Print  • Close | 1. Leads students to define word processing and word processor  2. Lists examples of word processors.  3. States the features of a word processor  4. .Displays computer in the class show features in a word processing environment.  5. Guides Students to open a word processing application  6. Guides student to carry out basic operations on word processing hands-on- experience (h-o-e)  7.Writes notes on the chalkboard for students | 1. Participate in class discussions  2. Open word processing environment under teacher’s supervision  3 Carry out basic word processing operations hands- on-experience  4.Create document  *5* .Edit document  6 .Save document  7. Close document file  8. Exit word processor  9. Copy notes from chalkboard | 1. Computer  2 Word processing packages | Student to:  1.Define:  (a) word processing  (b) word processor  2. List two examples of word processors  3. .State features of a word processor  4. .List steps involved in running a word processor  *5.* .State three basic operation that can be carried out using word processor |
| 7 | Document Layout | Students should be able to:  i. use software tools to prepare a basic document to match the purpose and target audience  ii. use software tools to use headers and footers appropriately within a range of software packages | 1. Using software tools to create document layouts and insert charts, headers and footers as well as place objects in tables | Demonstrate to students how to use different software tools for document production and document layout formatting e.g. Word processors like Microsoft word | Carry out Lab exercises practicalize what they learn | 1. Computers 2 Word processing packages | 1. State 5 features of Microsoft word documents 2. state the steps taken to insert tables and charts in a Microsoft word document |
| 8 | Styles | i. understand the purpose of a corporate house style and ensure that all work produced matches this  ii. apply styles to ensure consistency of presentation | 1. The purpose of a corporate house style and ensuring that all work produced matches this 2. Apply styles use to ensure consistency of presentation | 1. Leads students to define House styles and why they are used  2. Lists examples of House styles  3. Shows the students how to create house styles using word processors | 1. Participate in class discussions  2. Open Microsoft word environment and identify various styles under teacher’s supervision  3. Create house styles for the school and any other company  4. Do practical exercises | 1. Computer  2 Word processing packages  3. Projector | 1. What are house styles 2. State the steps for applying house styles 3. Features of word processors that makes |
| 9 | Proofing Techniques | i. use software tools to ensure that all work produced contains as few errors as possible  ii. ensure accuracy of data entry  iii. verify data | i. Software tools  ii. proofing techniques | 1. Explains the meaning of proofing 2. leads the students to explain the various proofing techniques | 1. Listens attentively and ask questions where necessary 2. Performs Practical exercises | 1. Computer  2 Word processing packages  3. Projector | 1. State 3 proofing techniques  2. Spell checking is an example of what proofing technique |

**SS1 THIRD TERM**

**THEME: COMPUTER APPLICATIONS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 1 | Presentation  Package | Students should be able to:  1. Define presentation package  2. Name a presentation package  3. List the features of a presentation package.   1. Use a master slide to appropriately place objects and set suitable styles to meet the needs of the audience 2. Apply consistent style formatting in slides . | 1. Definition of presentation  Package  2. Examples of presentation  packages  • Microsoft PowerPoint  3. Features of a presentation  package:  • Creation of slides  • inserting text with different headings, subheadings and bulleted lists  • Insertion of pictures, charts and graphs in slides  • Insertion of video and audio  • Animation and transition effects between slides • Slide shows . • Creation of graphics  • Creating of organizational and other charts  • Master slide: use of master slides to maintain consistency in the design of slides in a presentation  • Place other objects in slides  4. Using presentation  package —MS  PowerPoint:  • Open the application  • Create a new  presentation  • Insert slide contents  — Text  — Graphics  — Pictures  • Animate contents  • Add new slides  • Save presentation  • Run slide show  • Print presentation  • Close presentation  • Close application | 1.Leads students to  Define and list presentation package  2.States the features of a presentation package  3.Display a computer set  4. Run presentation program (e.g. power point)  5.Guides students to identify the features of a presentation program  6.Leads students to carry out basic operation on presentation program | I .Identify a presentation program environment  2. Run the program  3.Carry out simple presentation operation with Power point | 1. Computer  2. Presentation package (e.g. PowerPoint)  ‘  . | Student to:  I .State two features of a presentation program  2.State the use of a presentation package  3.Outline steps involved in animation |

**THEME: BASIC CONCEPT OF COMPUTER HARDWARE**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 2 | 1. Central  Processing Unit (CPU)  . | 1. List the components of the CPU  2. State the functions of the ALU and Control Unit | 1. Central Processing Unit:  **e** Arithmetic and Logic Unit  (ALU)  • Control Unit  2. Functions of:  • ALU  • Control Unit | 1 .Leads students to list CPU components  2.States functions of ALU & control unit  3.Writes notes on the chalkboard | 1. Identify each component in an open up CPU  2. Participate in class discussion.  3. Copy notes from the  chalkboard | 1 .Computer  2.Charts  3.Pictures | Students to:  1 .List the components of the CPU  2.State two functions of the  ALU  3. Stat two functions of the control unit |
| 3 | 2.Memory Unit | Students should be able to:  1. State the types of  memory  2. Describe primary and Secondary memory  3. State  differences  between  .  primary and  secondary  memory.  4. State the  units of  storage  5. Convert  from one  unit to the  other  6. List  auxiliary  storage  devices  7. Compare  auxiliary  storage  devices | I. Types of memory:  • Primary Memory (Main Memory)  • Secondary memory  (Auxiliary Storage Devices)  2. Description of  — Primary Memory:  • Random Access Memory (RAM)  • Read Only Memory (ROM)  — Secondary Memory  • Floppy Disk  • Hard Disk  .  • Flash Dnve  • Compact Disk (CD)  . . .  • Digital Video Disk  (DVD)  3. Differences between  primary and secondary  memory  4. Units of storage  • Bits  • Nibble  • Bytes  • Kilobytes (Y)  • Megabytes (MB)  • Gigabytes (GB)  • Terabytes (TB)  5. Conversion from one unit  to the other  6. Comparison of Auxiliary  Storage Devices under:  • Size  • Speed  • Technology (optical,  magnetic and  semiconductor) | I .Leads students to list types of memory  2. Describes each memory component  3. Displays each component using memory chips in the system unit Displays auxiliary storage devices as secondary storage  5. State differences  between primary and  secondary memory  6. Leads students to  compare presently  available storage  devices  (size, memory  capacity, etc.)  7. Leads students to  carry out simple  arithmetic on  conversion from one  unit to the other  8. Writes notes on  The chalkboard. | 1. Identify each main memory component  2.Identify each secondary storage device  3. Copy notes on the chalkboard | I .Computer  2.Memory chips  3.floppy disk  4.hard disk 5.flash drive  6.Compact disk  7.DVD | Students to:  1. State two types of main memory  2. List three examples of secondary storage  3. Convert  1 .44MB to bytes 4. Draw and label floppy disk.  5. State two  differences  between floppy  disk and compact  disk (CD) |
| 4 | 3). Logic Circuits I  (Standard single logic gates) | Students should be able to:  1).Define logic gate.  2). List types of logic gates  3). Identify symbols of each logic gate  4). Recognize and state the in/output signals of each logic gate  5). Construct truth table for each  Logic gate.  6). Write simple equation for each logic gate  7). State the differences in the standard logic  gates | I). Definition of logic gate.  2). Types of logic gates:  AND, NOT, OR,  3). Symbols of each logic gate:  4). Input/output signals for:  AND, NOT, OR gates Truth table construction  5).  for:  AND, NOT, OR  6). Equation for:  AND, NOT, OR gates  7). Uses of logic gates:  - As building blocks for Hardware/electronic Components | 1). Leads students to define logic gate.  2). Guides students to list types of logic gates  3). Displays symbols of logic gates on a chart  4). Guides students to identify the signals in each gate symbol  5). Guides students to construct truth table for  Each gate.  6). Writes logic equations  7). Leads students to state the differences among the three gates.  8. Writes notes on the chalkboard | 1). Listen to teacher’s definition.  2). List types of standard logic gates.  4).Recognize and draw each symbol for AND, NOT,  OR.  3).Identify the signals.  5). Construct truth table for each gate.  6). Copy summary from chalkboard into their notes  7). Participate in class discussion. | Charts  Computer  Text materials | Students to:  1). Define logic gate.  2). List three types of standard single logic gates  3). Construct a  truth table for:  (i) AND gate  (ii)OR gate  4). State two differences between AND gate and NOT gate  5) Write logic  equation for  (a) NOT gate  (b) AND gate) |
| 5 | 4). Logic Circuits  II  *(Alternative logic gates)* | Students should be able to:  1 ).Describe  alternative logic gates.  2). List types of alternative logic gates  3). Identify symbols of each logic gate  4). Recognize and state the in/output signals of each logic gate  *5).* Construct truth table for each logic gate.  6). Write simple equation for each logic gate  7). State the uses of logic gates  8). Construct a  simple comparator using XOR | 1). Description of alternative logic gate.  2). Types of alternative logic gates:  NAND, NOR  3). Symbols of each logic gate:  4). Input/output signals for:  NAND, NOR gates  5). Truth table construction for:  NAND, NOR,  6). Equation for:  NAND, NOR, gates  7). Uses of logic gates:  (i). As building blocks for  Hardware/electronic  Components, etc  8). Construction of simple comparator | 1). Leads students to describe alternative logic gates.  2). Guides students to list types of alternative logic gates  3). Displays symbols of the logic gates on a chart  4). Guides students to identify the signals in each gate symbol  5). Guides students to construct truth table for each gate.  6). Writes logic equations for each  7). Leads students to state the uses of logic gates.  8). Illustrates how to construct a simple comparator | 1). Listen to teacher’s description  2). List types of standard logic gates alternative.  4).Recognize and draw each symbol for NAND, NOR, gates.  3).Identify the signals.  *5).* Construct truth table for each gate.  6). Copy summary from chalkboard into their notes  7). Participate in class discussion.  8). Construct a simple comparator | Charts  Computer  Text materials | Students to:  1). Describe a named- example of an alternative logic gate  2). List two ty of standard alternative lo gates  3). Construct  truth table for  (i) NAND gat  (ii) NOR gate  4). State two differences between NM” gate and NOF gate  5). Construct simple  comparator u  (i).  NORJNAND  (ii). XOR gate  XOR gate |

**THEME: BASIC COMPUTER OPERATION**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 6 | Computer Data  Conversion | Students should be able to:  1). Define the terms ‘register’ ‘address’ and business  2). List types of register & their functions  3). State differences between register and main memory  4). Outline the operating procedure of computer data processing.  5). State factors affecting speed of data transfer | 1). Definition of:  (i). Register  (ii). Address  (iii).Bus  2a). Types of registers:  (i). MDR  (ii). CIR  (iii). SQR b).Function of each  Register to be stated.  3). Differences between register and main memory  4). Outline steps in ‘data- fetch-execute’ cycle in  Simple form.  5). Factors affecting  speed of data transfer:  (i). Bus speed  (ii). Bus width | 1). Leads students to define each term.  2). Guides students to list types of registers  3). States function of each register.  4). Guides students to identify differences between register and main memory  5). Outlines steps in data conversion by computer.  6). States factors affecting data transfer  7. Write notes on the chalkboard | 1). Listen to teacher’s definitions.  2). List types of registers.  3).Identify the differences between register and main memory.  4). Participate in class discussion.  5). Copy summary from chalkboard into their notes | Charts  Computer  Text materials | Students to:  1). Define:  (i) Register  (ii). Bus  2). List three types of register  3). State one  function of:  (i). MDR  (ii). CIR  4). State two differences between register and main memory  5). List factors affecting speed of data transfer |

**THEME: HANDLING COMPUTER FILES**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 7 | Concept of  Computer Files | Students should be  able to:  1). Define some basic  terms with respect to  Computer files  2). List types of data  items  3). Construct a simple  sketch for computer  file structure  4). List four types of  file organization  method  5). Describe the four  types of file  organization method  6). List different  methods of accessing  files  7). List computer file classifications  8).State criteria for classifying computer files | 1). Definition of some  terms:  (i). Computer file  (ii). Record  (iii). Field  (iv).Data item  2). Types of data item:  (i). Numeric  (ii). Alphabetic  (iii).Alpha-numeric  3). File structure  organization (from data  item to file)  4). Types of file  organization:  (i). Serial  (ii). Sequential  (iii). Indexed  (iv). Random  5). Methods of accessing  files:  (i). Serial Access  (ii). Sequential Access  (iii). Random Access  6). File classification:  (i). Master file  (ii). Transaction file  (iii). Reference file  7). Criteria for classifying  files:  (i). Nature of content  (ii). Organization method  (iii). Storage medium | 1. Leads students to  Define each term.  2. Guides  students to construct  a simple sketch on  File structure.  3. Lists and explains  each type of file  Organization.  4. Describes the four  types of file  organization method  5. Lists different  methods of accessing  Files.  6.. Lists classes of  computer files  7. States criteria for  file classification,  8. Writes notes on  the chalkboard | 1). Listen to teacher’s  Definitions.  2). Draw a simple  sketch on file  Structure.  3). Participate in class  Discussion.  4). Copy summary  from chalkboard into  their notes | Charts  Computer  Text materials | Students to:  1). Define:  (i). File  (ii). Record  (iii). Field  2). List three  types of data item  3). State two  criteria for  classifying files  in computer  4). List two  classes of  Computer files.  5. Draw a simple  sketch of file  Structure. |
| 8 | Handling  Computer Files | Students should be able to:  1). List basic operations on file  2). Create a  sequential file  3). Access a sequential file  4). Read and display content of file  *5).* Describe file insecurity.  6). State effect of insecurity of files  7). State methods for file security,  8).State differences between computer files and manual files  9). State the advantages of computerized file over manual filing system  10). Limitations of computer filing system. | 1).Basic operations on  computer files:  (i). Creation  (ii). Deletion  (iii).Retrieval  (iv).Copy  (v). View  (vi).Update  (vii). Open  (viii). Close  2). Steps involved in creating sequential file, e.g. EXAMFILE with Math$ & E.g Hands-on-experience (H-O-E) using BASIC file processing statements.  3). Steps involved in accessing sequential file above using BASIC file processing statements  4). BASIC file processing statements to read and display EXAMFILE above.  5). Effect of file insecurity:- Data loss & its causes.  (ii). Overwriting  6. Methods of file security:  (i). Use of back ups  (ii).use of Anti-virus  (iii). Password  (iv). Proper label of storage devices, etc.  7).Differences between computer files and manual files  8). Advantages of computerized  files:  (i). more secured  (ii). Fast to access  (iii). Less laborious  (iv). More reliable  (vi). Neatly modified  10). Limitations  (i). Expensive to set it up  (ii). Irregular power supply, etc. | 1). Guides students to list basic operations in file handling.  2). Outlines steps involved in file creation using BASIC processing statements.  3). Outlines steps involved in file accessing, using BASIC processing statements..  4).Display an existing file in computer.  5). Describes file insecurity and its effects.  6). Leads class discussion to mention file security methods  7). Leads the discussion to identify differences between computer files and manual filing system.  8). Leads discussion to list advantages of computerized files over manual  9). States limitation of computerized files  10. Write note on the chalkboard | 1). Listen to teacher’s explanations.  2). Participate in class discussions.  3). Carry out H-O-E to practice basic operations on an open file.  4). Copy summary from chalkboard into their notes | Charts  Computer  Text materials  Projector . | Students to:  1). List five basic operations that can be carried on computer files.  2). Outline steps to be taken when creating a sequential file.  3).State one effect of insecurity on computer file  4). State five precautions that must be taken in order to secure Computer files.  5). State two differences between computer file system and manual file system.  6. State the advantage of computerized files over manual files.  7. State two limitations of computer filling system. |

**THEME: COMPUTER APPLICATIONS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 9 | Word Processing II | Students should be  able to:  1). define Word Processing and text document  2). List some word processors.  3). list application areas of word  processing  4). state facilities available in word processor  *5).* open word processor  environment  6). list features in word processor  7). use word  processor to fine  tune text using its  features | 1). Definition of:  (i). Word Processing (ii) text document  2). Examples of Word  processors:  (i).Microsoft Word  (ii). WordPerfect  (iii). Corel WordPerfect  (iv). WordStar  3). Application Areas:  (i). Offices  (ii). Publishing  (iii). Journalism  (iv). Education  (v). Articles, etc.  4). Facilities available in a word processor:  (i) type document (ii). Edit document (iii). Store document (iv). Move, copy, paste (v). type, using different font types and sizes  (vi). Insert, remove words, sentences or paragraphs, etc.  *5).* Features:  (i). Editing, Formatting  (iii). Justification  (iv). Search and Replace  (v). Spellcheck/Thesaurus  (vi). File merging | 1). Leads students to  Define Word Processing and text document.  2). Leads students to list examples of word processors  3). Leads Class discussion to list application areas of word processing  4).Guides students to open word processor window,  *5)..* Guides students to identify features and facilities available in word processor environment.  6). Supervises the use of word processor by students.  7). Writes notes on  chalk board | 1). Listen to teacher’s Explanations.  2). Participate in class discussions.  3). Open Word processor in the system  4). Practice the use of word processor  *5).* Copy notes from chalk board into their notes | Charts  Computer with Microsoft office installed  Text materials | Students to:  1). define the term ‘text  document’  2). list two examples of type fonts in  3). list three facilities in Word processor.  4). state the command you will use to (i). save a  documents  (ii). Open a file (iii). exit from  ‘Word’  *5).* outline the  steps you  would take to  copy and  paste a  document from  one page to another |

**SS2: FIRST TERM**

**THEME: DEVELOPING PROBLEM-SOLVING SKILLS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 1 | Systems  Development  Cycle | Students should be  able to:  1). Define system development cycle  2). Describe System development cycle. | 1). Definition of System  Development Cycle,  2). Description of System Development Cycle,  3). Stages in System  Development Cycle:  (i). Preliminary study  (ii). Feasibility study  (iii).Investigative study  (iv). Analysis  (v). Design  (vi). Implementation  (vii). Maintenance  (viii). Study review  4). Description of each stage of system development cycle, | 1). Leads students to  define system  Development cycle.  2). Describes System development Cycle.  3). Lists the stages involved in system development cycle | 1). Listen to teacher’s  Explanations.  2). Participate in class discussions. | Charts  Text materials  computers | Students to:  1). Define the  term System Development Cycle’  2). List five stages in system development cycle. |
| 2 | Systems  Development  Cycle contd. | Describe System development cycle and its various stages or phases | Stages in System  Development Cycle:  (iii).Investigative study  (iv). Analysis  (v). Design  (vi). Implementation  (vii). Maintenance  (viii). Study review  4). Description of each stage of system development cycle, | 1).Draws System Development Cycle  2).Describes each stage of system development cycle, | Draw system development cycle | Charts  Text materials  Computers | 1. Describe first three stage in system development  cycle  *2.* Draw a simple sketch of sys development cycle. |

**THEME: DEVELOPING PROBLEM-SOLVING SKILLS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 3 | Program  Development | Students should be able to:  1). Define Program.  2). State the  characteristics of a good program  3). State precautions to be taken when writing program  4). List steps  involved in Program development  *5).* Describe each of the steps in program development  6). List examples of interpreted and compiled programs  7). Draw a flow diagram on how:  a) compiler and b) interpreter works | ). Definition of program  2). Characteristics of a  good program:  (i). Accuracy  (ii). Readability  (iii) .Maintainability  (iv). Efficiency  (v). Generality  (vi).Clear to be  understood by others  3). Precautions:  (i). Do not rush. Be  stable, steady and patient  during program writing  (ii). No step skipping  (iii). Follow order of  execution etc.  4). Steps involved in  Program development:  (i). Problem Definition  (ii). Problem Analysis  (iii). Flowcharting  (iv). Desk checking  (v). Program coding  (vi). Program  compilation  (vii). Program  testing/debugging (viii). Program  documentation  *5).* Description of each of the stages above.  6). Examples of:  (i). Interpreted programs  (ii). Compiled programs | 1). Leads students to define Program.  2). Guides students to list the characteristics of a good program.  3). States precautions to take when writing program  4). Leads students in listing steps involved in Program development.  5).Describes each of the stages  6). Leads class discussion to list examples of compiled and interpreted programs.  7). Draws flowchart  on how:  (i) compiler works  (ii). Interpreter works | 1). Listen to teacher’s definition.  2). Draw flow diagrams for compiler and interpreter programs  3). Participate in class discussions.  3). Copy summary from chalkboard into their notes | Charts  Computer  Text materials | Students to:  1). Define Program..  2). State Four characteristics of a good program  3).List the steps involved in program development  4). State one example of:  (i). compiled program (ii). Interpreted program.  *5).* State two Precautions to be taken when writing programs. |
| 4 | 1l).Algorithms and Flowchart  . | Students should be able to:  1). Define Algorithm and flowchart.  2). State the functions of algorithm  3). State and describe the characteristics of algorithm  4). Write simple algorithm for  problem solving  *5).* List flowchart symbols  6). State what each symbol stands for  7). Draw flowcharts for solving a given problem | 1). Definition of:  (i). Algorithm (ii). Flowchart  2). Functions of Algorithm  3). Characteristics of  algorithm:  (i). Finite  (ii). Effective  (iii).Unambiguous  4). Writing algorithm for:  (i) computing average of a given set of numbers (ii) evaluation of equation: y = a(b-c)2/d+2 (iii). Printing out the first ten odd numbers, etc. 5).Flowchart symbols:  I/O, process, decision, etc.  6). Use of each flowchart symbol.  7). Flowchart diagrams for solving a given problem | 1). Leads students to define algorithm and flowchart.  2). Guides students to list the functions of  Algorithm  3). Guides students to list characteristics of a algorithm.  4). Guides students to write simple algorithms for solving given problems.  *5).* Demonstrates flowchart symbols  6).States what each symbol represents  7). Guides students to draw appropriate flowchart to solve a given problem  8). Writes notes on the chalkboard | 1). Listen to teacher’s Definition.  2). Draw flowcharts  3). Practice the writing of simple algorithms  4). Participate in class discussions.  *5).* Copy summary from chalkboard into their notes | Charts  Computer  Text materials | Students to:  1). Define:  (i) algorithm  (ii) flowchart  2). State three characteristics of algorithm  3).Write an algorithm to compute the average of three numbers *a,b,c* 4). Draw a  flowchart to  calculate the area o  a triangle with base  *b* and height *h.* |
| 5 | BASIC  Programming  II | Students should be able to:  1).identify BASIC built-in functions  2). list the built-in functions  3). state the application of each built-in function  1  4). write BASIC notations of algebraic expressions using built-in functions.  5). write simple BASIC programs using Built-in functions. | 1 ).Built-in functions:  (i). SQR  (ii). JNT(X)  (iii). SIN()  (iv). ABS(X)  (v). RND(X)  (vi). COS(X)  (vii). TAN(X)  (viii).LOG(X)  (ix). EXP(X)  2)BASIC notation of:  (i). b2-4ac 2a  (ii). (x-y)/(x+y)  (iii). (a+b) + c/Sin d  (iii).ex+ySin(x+ny), etc  (v b1/4ac, etc  3).BASIC program to:  (i). find square root of numbers within a given range.  (ii). find square root, S, round up to an  integer  (iii). find the cosine of known values  (iv). find the tangent of  given angle  (v). plot sine wave curve (vi). plot cosine curve | 1). Leads students to identify built-in functions.  2). Guides students to list the built-in functions  3). Guides students to  State Computational application of each function..  4). Guides students to write BASIC notations of the given algebraic expression and others.  5). Leads students to write BASIC programs using built-in functions  6. Write notes on the chalkboard | 1). Listen to teacher’s explanations.  2). List built-in functions  3). Practice the writing of simple BASIC programs using built-in functions  4). Participate in class discussions.  5). Copy summary from chalkboard into their notes | Charts  Computer with BASIC program installed  Text materials | Students to:  1). list four built in functions  2). state the use of the following built-in functions:  (i). RND(X)  (ii). ABS(X)  (iii). LOG(X)  3).write BASI( notation for:  (i). a=  (ii). z=  (iii). C= +32  4).Write a  BASIC program to compute the square root of numbers from 10 to 40 |

**THEME: INFORMATION AND COMMUNICATIONS TECHNOLOGY**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 6 | Internet | Students should be able to:  1).define Internet and some basic terms.  2).list common internet main browsers  3). list features in a main browser window  4). access internet  5). list services available on internet  6). state benefits of internet to our society  7). visit some websites on internet | 1). Definition of:  (i). internet  (ii) some basic terms:  -browse  -browser  -chartroom  -cyber café  -cyber space  -download  -e-mail  -home page  -HTML  -HTTP  -Internet service provider  -Intranet  -upload  -protocol  -web browser  -web page  -website  2). Internet main  browser:  (i).Internet explorer  (ii).Netscape Navigator  (iii).Opera  (iv).Firefox, etc.  3). Features in main browser window:  Title bar, menu bar, tool bar, address bar etc.  4). Internet services:  (i). e-mail  (ii). E-mail discussion  group  (iii).Telnet  (iv). Usenet  (v) FTP  (vi) WWW, etc. | 1). Leads students to define Internet and other basic terms.  2). Guides students to list the main  browsers  3). Displays main browser screen and guides students to list features in a main browser  4). Guides students to gain access to internet.  5). Guides students to down load information from internet  6). Guides students to list services available on internet  7), States benefits of internet to society  8). Instructs students to visit some websites  9. Write notes on the chalkboard | 1). Listen to teacher’s definitions,  2). List the main browsers  3). List features in  main browser,  4). Participate in class discussions.  5). Use main browser to gain access into the internet  Down loan information from internet.  7). Copy summary from chalkboard into their notes  8). Visit some  websites on  internet  e.g.: www. it begins with you. Org  Hint:  - website of NACA,  - NDLEA,  NAFDAC, JAMB, NECO, WAEC, Fed, Mm. Of Educ., etc. | Charts  Internet ready computer  Text materials | Students to:  1). define:  (i). Internet  (ii). Internet  main  browser  (iii). protocol  2). list two common intern main browsers  3). list three services available on internet  4). state four benefits of internet to our society  5. State one website address of:  a) an HIV/AIDS control  organization  b) An examination body.  c) Drug control and admin agency. |
| 7 | Electronic  mail (E-mail), Services | Students should be able to:  l).define e-mail  2). List services  available in e-mail  3). create e-mail address/account  4). send and receive  e-mail  open e-mailbox  6). write e-mail  addresses  7). state differences between the features of e-mail address and website address  8). define and practice chatting  9) define the term spam  10) explain why spam needs to be prevented  11) describe the methods which can be used to help prevent spam  12) explain why email groups are used | 1). Definition of electronic mail  2). E-mail services:  (i). sending/receiving e-mail  (ii).chatting  3). Steps involved in creating e-mail account  4). Steps involved in  opening mail box  5). Features in an e-mail  address  e.g.  fmemail@fmegovng.org  6).Differences between e-mail and website address features, e.g. WWW.fmegovng.org  7). (i). Definition of chatting  (ii). Steps involved in chatting  9) Spam mail  10) prevention of spam  11) email groups | 1). Leads students to define electronic mail.  2). Guides students to list e-mail  services  3). Guides students to list steps involved in creating e-mail address  4). Guides students  create e-mail  address  5). Guides students  open mail box and  Read mails.  6).Leads students to write e-mail and website addresses and identify the differences in their features.  7). Leads students in class discussion to list steps involved in chatting  8). Supervises chatting in class  9). Write notes on the chalkboard | 1). Listen to teacher’s definitions.  2). List e-mail services  3). Practice creating e- mail address  4). Send and receive e-  mail  5). Participate in class  Discussions.  6). Open mail box to  read mails  7).Write e-mail and website addresses  8): Copy summary from chalkboard into their notes | Charts  Internet ready computer  Text materials | Students to:  I). define e-mail  2). state the steps you will take in order to have an e-mail address  3). state three  differences  between an email address are website address  4). list two steps Involved in chatting. |

**THEME: INFORMATION AND COMMUNICATIONS TECHNOLOGY**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 8 | Networking | Students should be  able to;  1. Define  networking  2. List types of  networks  3. State types  of network  topologies  4. Draw flow  diagram for each  network  topology  5. List network  devices | 1. Definition of  networking  2. Types of networks:  • Ethernet  • Token ring  • Arc net  3. Network topology:  • Star  • Bus  • ng  4. Network devices  • Hubs  • Modems  • Switches  • Routers  • Network Interface  Card (NIC) | .Leads Students to  define and list types of  networking  2. Displays each network  topology in class,  3. Leads students to draw  flow diagram for each  network topology  4. Leads students to list  network devices | Identify each  network topology  2. Participate in class discussion.  Draw flow  diagrams Star,  Bus, Ring  networks  4. Copy notes  from chalkboard | 1.Charts  2. Pictures  3. Cables  4. Network devices.  5. Computers | Students to:  1. State types of  networking  2.Define  networking  3.State  differences  between star and  bus network |
| 9 | Networking Contd. | 1. State the  benefits of networking  2. Describe the security issues surrounding the use of computer networks –  3. Describe other issues such as the idea that the internet is not policed  4. identify methods of avoiding password interception (such as the use of anti-spyware and changing passwords regularly)  5. Describe the difference between strong and weak passwords – describe other authentication techniques (such as biometric methods, magnetic stripes, id cards, passports, other physical tokens, retina scans, iris scans, face scans) | 1. Benefits of networking:  • Sharing of resources  • Ease of communication  • Ease of collaboration Etc.  2. security issues regarding data transfer – | 1. Leads students to state benefits of networking.  2. Writes notes on the  chalkboard | 1. Participate in class discussion.  Draw flow  diagrams Star,  Bus, Ring  networks  2. Copy notes  from chalkboard | 1.Charts  2. Pictures  3. Cables  4. Network devices.  5. computers | 1. Draw a ring  Network structure.  2. List three network devices.  3. state 3 benefits of using computers |

**THEME: INFORMATION AND COMMUNICATIONS TECHNOLOGY**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | | **ACTIVITIES** | | | | **TEACHING AND LEARNING MATERIALS** | | **EVALUATION GUIDE** | |
| **TEACHER** | | **STUDENT** | |
| 10 | Introduction to  World Wide Web  (WWW) | Students should be able to:  1).Describe World  Wide Web and state  the full meaning of  WWW.  2). Describe brief history of WWW.  3). Define basic terminologies of  WWW  4). List the WWW protocols.  *5).* State the benefits of WWW.  6). Navigate through Websites using website addresses.  7). Recognize the software for website design and its use | | 1). Definition and full meaning of  WWW.  2). Brief history of WWW  (mention should be made of a  Nigerian’s contribution to  WWW).  3) Basic terminologies:  (i). WWW  (ii). Website  (iii). Web page  (iii) Home page  (iv). Protocols, etc.  4). Protocols:  (i)HTTP  (ii). HTML  *5).* Uses/Benefits of WWW:  6). Navigating through websites, e.g.: - WWW.fmegovng.org  WWW.waeconline.org WWW.itbeginswithyou.org WWW.servenigeria.com  WWW.radionigeria.net  WWW.gtvnigeri a. corn  7). Software for Web development:  FrontPage | | 1). Leads students to define and state the full meaning of  WWW.  2). Leads students to describes briefly the history of  WWW.  3). Lists the Protocols with full meaning  4). Displays and demonstrates a website on the internet.(H-O-E)  *5).* Leads students to navigate through websites (H-O-E)  6). Displays the FrontPage as used for website development in an internet- ready computer | | 1). Write the definition and full meaning of  WWW.  2). Copy notes from the chalkboard into their notes.  3). Identify and state the full meaning of the protocols.  4). Access internet.  5). Navigate through Websites  6) Observe and practice the use of FrontPage in web development. | | Chart  Internet ready Computers | | 1). Define a  website  2). Mention two protocols of  WWW  3). State two use of Web site  4). Name the software used fc website development. |

**SS2 SECOND TERM**

**THEME: INFORMATION AND COMMUNICATIONS TECHNOLOGY**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 1 | Cables &  Connectors | 1. List network  cables  2. List network  connectors  3. List types of  computer  cables  4. List types of  data cables  5. List types of  connectors | 1. Network cables and  connectors  Cables  — Twisted pair  — Coaxial  — Fiber optic  — Telephone  • Connectors  — RJ45  — RJ1 1  — T-Connectors  2. Computer cables and  connectors  • Power cables  • Data cables  — Printer cable  — Universal Serial  Bus (USB)  — Monitor cable  — Serial cable  • Connectors  — Male  — Female | l. Displays  network cables in  class  2. Displays data  cables  3. Displays  power cables  4. Displays male  and female  connectors  5.Writes notes on  the chalkboard | .Identify the  various cables as  displayed  2. Participate in  class discussj0  3. Copy note5  from the  chalkboard | 1.Power cables  2.Data cables  3.Connectors | Students to  1. List two types  of network cables  2.List two types  of connectors  3.State one  difference  between data  cable and power  cable |

**THEME: COMPUTER APPLICATION**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 2 | Database | Students should be able to:  1). Define database and database package  2). State examples of database packages  3). Define the basic terms in database.  4). State the different forms of database organization  5). Recognize and state the features in a computer database format.  6). Create a database | 1).Definitions:  (i). Database  (ii). Database package (DBMS)  2).Examples of DBMS : Dbase III, Dbase IV, FoxBASE, Rbase,  etc.  3).Basic terminologies:  (i) File  (ii) Record  (iii).Field  (iv). Key  4).Forms of database  organization:  network  (ii) hierarchical  (iii). relational  5)Computer database format:  (i). file designed as tables  (ii). Tables composed of rows  columns  (iii). Row (record) contains related information. (iv). Column (field) contains specific type of information. | 1). Leads students to define database and  Existing database (file) in the system and database package.  2). Guides student to mention examples of database packages.  3). Leads students to state the meaning of basic terms.  4). Lists different forms of database organization  5). Displays an  Guides students to recognize the formats and features. | 1). Listen to  teacher’s  Explanation.  2). Create a  database (e.g.  records of  students in a  class)  3) Copy chalkboard summary into their notes.  4). Practice  Searching and sorting. | Charts  Computer  Database package, e.g. Dbase (IV), MS-Access  Record books, result sheets.  List of students with other information | Student to:  1). Define database  can be carried o on a database  2). State two  features in a  database format |
| 3 | Database Contd. | Students should be able to:  1) Carry out basic operations on an existing database.  2) identify the structure of external data with different file types, including: .csv, .txt, .rtf  3) locate, open and import data from an existing file – define and understand the terms primary key and foreign key and their role in a relational database –  4) create a relationship between two or three tables – 5) discuss the advantages and disadvantages of using relational tables rather than a flat file database | Creating database:  (i) define the structure  (ii). Indicate field type  (iii) Basic operations:   * Searching * Sorting * Modifying * Generating report   i. create a data model  ii. test the data model  iii. manipulate data  iv. present data | 1. Guides students to create a database in the system 2. Shows students how to perform basic operations on databases 3. Write notes on the chalkboard | 1. Open an  existing database  2) Copy chalkboard summary into their notes.  3). Practice  Searching and sorting. | Charts  Computer  Database package, e.g. Dbase (IV), MS-Access  Record books, result sheets.  List of students with other information | Students to:  1). State three operations that can be carried out on databases  2). List the step required in order to create a database. |
| 4 | Data Analysis (using Spreadsheet packages) | Students should be able to:  – Define the terms: cells, rows, columns, sheets, tabs, pages, charts  – explain the importance of accurate data entry in spreadsheets  – enter data with 100 per cent accuracy  – edit the structure of an existing model, including: inserting cells, deleting cells, inserting rows, deleting rows, inserting columns, deleting columns  – define the terms: formula, function, absolute reference, relative reference, ranges, named cell, named range, nested formulae/functions | 1. Definition of terms: cells, rows, columns, tabs etc. 2. Ms. Excel Interface 3. Use of different formulae for different functions | 1). Leads students to define a spreadsheet and what a spreadsheet package is.  2). Guides student to mention examples of Spreadsheet packages.  3). Leads students to state the meaning of basic terms and concepts relating to data analysis using spreadsheet | 1). Listen to  teacher’s  Explanation.  2). Create a  spreadsheet (e.g.  records of  students in a  class) | Computers  With a spreadsheet package installed in them, e.g. Microsoft excel.  Record books, result sheets.  List of students with other information that can be converted into a spreadsheet. | Student to:  1). Define a spreadsheet and a spreadsheet package  2). State two  examples of spreadsheet package |
| 5 | Data Analysis (using Spreadsheet packages) Contd. | Students should be able to:  – explain the difference between a formula and a function  – explain the order in which mathematical operations are performed and use brackets to make sure that formulae work – use mathematical operators, including: add, subtract, multiply, divide, indices, where necessary  – explain the function of, and use, absolute and relative referencing, as appropriate, when formulae are to be replicated  – use absolute and relative references, named cells, named ranges and nested formulae, as appropriate – use functions, including: sum, average, maximum, minimum, integer, rounding, counting, LOOKUP, VLOOKUP, HLOOKUP, IF and nested functions, when necessary   * produce a graph or chart from the given data, add data to chart, change/add second axis of chart * enhance appearance of graph or chart   edit/format labels of chart | 1. Difference between a formula and a function. 2. Test data model 3. Manipulate data models:   use search tools in spreadsheet software to select subsets of data   1. Presenting data:   use software tools to adjust the display features in a spreadsheet   1. Graphs and charts 2. Referencing and LOOKUP   7). Basic operations:  (i) Searching  (ii) Sorting  (iii).Modifying  (iv) Generating report | Leads students to  1). Lists different uses of spreadsheet packages  2). Create spreadsheets for different purposes using Microsoft Excel | 1. Open an  existing spreadsheet file  2. Do Lab exercises  3. Practice  Searching and sorting. | Computers  With a spreadsheet package installed in them, e.g. Microsoft excel.  Record books, result sheets.  List of students with other information that can be converted into a spreadsheet | 1). State three operations that can be carried out with spreadsheet packages  2). List the step required to create a spreadsheet file |

**THEME: COMPUTER APPLICATION**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 6 | Graphics  (Introduction to  CorelDraw) | Students should be able to:  1). Define Graphics  2). List examples of graphic packages  3). State features in CorelDraw environment  4). Open CorelDraw | 1). Definition of Graphics  2). Examples of graphics  packages:  (i). Paint  (ii). Harvard graphics  (iii). Photoshop  (iv). CorelDraw etc.  3).Features in CorelDraw  environ:  (i). Tools  (ii). Color palette, etc.  4). Opening CorelDraw from Programs (H-O-E) | 1). Leads students to define graphics 2). Guides students to list examples of graphics.  3). Open and display CorelDraw environment,  4). Guides students to observe the features of CorelDraw  4). Leads students to state the features, | 1). Listen to and define graphics 2). State examples of graphics application.  3). Open and display CorelDraw environment.  4). List the features that can be observed | 1. Computer installed with CorelDraw  2. Samples of simple designs.  3. Charts | Students to:  1). Define Graphics  2). State two examples of graphics.  3). List three features in CorelDraw  4). State two areas of use of CorelDraw. |
| 7 | Graphics  (Introduction to  CorelDraw) Contd. | Students should be able to:  1). Use CorelDraw to make simple designs.  2).Close and Exit CorelDraw | Simple designs:  (i). Complimentary cards  (ii). Business cards  (iii).  Birthday/congratulatory  cards  (iv).School logo  (v). Nigerian flag  (vi) Certificates | 1). Guides students to make use of CorelDraw application to make simple designs  2. Guides students to close and exit CorelDraw.  3. Write notes on the chalkboard | 1. Make simple designs with CorelDraw.  2. Close and exit CorelDraw  3. Copy notes from chalkboard into their notes.. | 1. Computer installed with CorelDraw  2. Samples of simple designs.  3. Charts | Design school logo using CorelDraw |

**THEME: PROBLEM SOLVING SKILLS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 8 | BASIC  Programming III (One dimensional array) | Student should be able to:  1). Define Array in BASIC  2).List operations on array  3). Write simple BASIC program on array involving:  One-dimensional  array  i. FOR-NEXT  ii. WHILE - END statements  iii. DIM statement | 1). Defining one-dimensional  array (i.e using DIM statement)  2). Operations on Array:  (i). Input of an array  (ii). Output of array  (iii). Arithmetic on array  3).Review of the:  (i). FOR — NEXT statement  (ii). WHILE — END statements  (iii). DIM statements (One dimensional array)  4). Write BASIC Program to:  • State data in a vector of 10 integer with and without a FOR-NEXT statement | 1). Leads students to define one-dimensional array.  2). Writes simple program segments on each operations on array.  3). Guides students to write program using FOR-NEXT and WHILE-END  Statements.  4). Guides students to write more programs for each segment in content (4).  Writes notes on the chalk board | 1). Listen to teacher’s definition  2). Write program segments on each operation on array.  3). Write  programs using  (i). FOR-NEXT  (ii).WHILE-END  (iii). DIM  Statements.  4). Copy notes from chalk board into their notes. | Computer with BASIC program installed.  Text materials | Students to:  1). Write a program that reads 10 value into array score of 10 element  2). Write a program to output the sui the first 100 integers |
| 9 | BASIC  Programming III (One dimensional array) Contd. | Student should be able to:  Write simple BASIC program on array involving:  One-dimensional  array  i. FOR-NEXT  ii. WHILE - END statements  iii. DIM statement | Write BASIC Program to:  • Calculate the average of a one dimensional array with 100 numeric values  • Calculate the area of 10 different rectangles with and without the WHILEEND statement  • Output the sum of the first 100 integers  • Output the value elements  of a given array | 4). Guides students to write more programs for each segment in content (4) from previous week’s lesson  Writes notes on the chalk board | 1). Write  programs using  (i). FOR-NEXT  (ii).WHILE-END  (iii). DIM  Statements.  2). Copy notes from chalk board into their notes. | Computer with BASIC program installed.  Text materials | Write a program to display the standard deviation of I sets of numbers already store( an array X |

**SS2 THIRD TERM**

**THEME: PROBLEM SOLVING SKILLS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 1 | High Level Languages (H.L.L) | 1). Define High Level Languages  2). State examples of high level languages  3). Classify given HLLs based on suitable application.  4). Classify HLL as interpreted or compiled language.  5). Identify the features of some HLLs  6). Recognize the format of the HLLs  7) State advantages of HLLs over ML and LLL  Students should be able to: | 1). Definition of High Level Language (HLL)  2). Examples of HLL:  BASIC, FORTRAN, ALGOL, C, PASCAL, P/i, LISP, PROLOG, SNOBOL,COBOL  3 (i). BASIC, FORTRAN, ALGOL (Scientific)  (ii). C, PASCAL, PL/i (Gen-purpose)  (iii). LISP, PROLOG(Artificial intelligent (Al)  (iv)SNOBOL Special purpose programming language(SPL)  (iv). COBOL (Business)  4). Interpreted Lang:  BASIC  (ii). Compiled language { PASCAL, COBOL, C. FORTRAN  5). Features of BASIC, C, PASCAL, COBOL  6). Advantages of HLL over ML and LLL | 2). Guides students to give examples of HLLs  3).Leads students to classify HLLs based on suitable application.  4).Classifies HLLs as interpreted or compiled language.  5). Leads  students to state features of specific F{HLs  6).States advantages of HLLs over ML, LLL  1). Leads  students to define  HLL. | 1). Listen to  teacher’s  definition  2). Participate in class discussions  3). Copy  chalkboard  Summary into their notes. | Chart  Reference  materials  Computer | Students to:  1). List three examples of high level language  2). Classify given HLLs into compiled and interpreted language.  3). State three features of each of BASIC, COBOL and Pascal Language  4). State two advantages of HLL over ML |

**THEME: CODING SYSTEMS OF COMPUTER**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 2 | Overview of  number BASES | Students should be able to:  1. List digits in the number  bases  2. Convert from one number base to another  3. Add and subtract in the number base | 1. Review of number bases  • Binary . Octal  • Decimal  • Hexadecimal  2. Conversion in number bases  3. Basic arithmetic in number  bases  • Addition  • Subtraction | 1. Leads students to list digits in each number base  2.Carry out simple arithmetic operation using each number base 3. Writes and carried simple calculation examples on the chalkboard | 1. Attempts simple calculations on number bases  2,8,10  2. copy notes from the chalkboard into their notes | Charts  Text material | Students to:  1 .State the digits  in:  (i) binary system  (ii) octal system  2.Convert a given number in a number base to another |
| 3 | Overview of  number BASES Contd. | Students should be able to:  1. Convert from one number base to another  2. Add and subtract in the number base | 1. Conversion in number bases  2. Basic arithmetic in number  bases  • Addition  • Subtraction | Leads students to  1. Carry out simple arithmetic operation using each number base  2. Writes and carried simple calculation examples on the chalkboard | 1. Attempts simple calculations on number bases  2,8,10, 16  2. copy notes from the chalkboard into their notes | Charts  Text material | 1.Convert a given number in a number base to another  2. Do class exercises in addition and subtraction of numbers in different bases. |
| 4 | Data  representation | Students should be able to:  1. Define data representation  2. List  methods of data  representation  3. Represent data in different character sets | 1. Definition of data  representation  2. Description data representation  methods:  • Bits  • BCD  • EBCDIC  • ASCII  3. Computer character sets | 1. Leads students to define and list methods of data representation  2. Display character sets  3. Write notes on the chalkboard | 1. Identify different data representation methods  2. Copy notes from the chalkboard | Chart | Students to:  1. List different methods of data representation  2.State the full  meaning of:  (i) ‘ASCII’  (ii) ‘EBCDIC’ |

**THEME: COMPUTER ETHICS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 5 | Security and Ethics | Students should be able to:  1. State  sources of security breaches in computer network  2. State  preventive measures against security breaches  3. State issues of legal importance to consider when using  ICT | Sources of security breaches  • Virus, worms and Trojan horses  • Poorly  implemented  network  • Poorly  implemented or  lack of ICT policy  • Carelessness — Giving out personal and vital information on the net without careful screening  • Hackers  2. Preventive measures  • Use of anti-virus software  • Use of fire wall  • Exercising care in giving out personal and vital information  • Encryption  • Proper network implementation & policy  Using sites with web certificate  • Exercising care in opening e-mails  attachments | 1 .Leads students to list sources of security breaches  2. Leads class discussion on preventive measures against security breaches | 1. Participate in class discussions.  2. Copy notes from the chalkboard | 1. Charts  2. Internet ready computer.  3. Text materials | Students to:  1. List two sources of security breaches.  2. State three preventive measures against security breaches. |
| 6 | Security and Ethics  Contd. | Students should be able to:  1.Describe the security issues surrounding the use of computer networks  2. Describe other issues such as the idea that the internet is not policed and the effects of this, such as the existence of inappropriate sites  3. Identify methods of avoiding password interception (such as the use of anti-spyware and changing passwords regularly) –  4. Describe the difference between strong and weak passwords  5. Describe other authentication techniques (such as biometric methods, magnetic stripes, id cards, passports, other physical tokens, retina scans, iris scans, face scans)  5. Describe the use of antivirus software and other methods of avoiding viruses (such as use of unknown storage media to transfer data, the risk of downloading software from the internet)  6. Define encryption and describe its use – list the principles of a typical data protection act | Legal issues:  • Copy right  • Ownership rights to  — Text  — Images  — Audio  — Video  • Web content  subject to existing  laws of host  country  • Piracy— software,  audio, video  • Cybercrimes  — Identity theft  — Internet fraud  Hacking (Gaining unauthorized access to resources with the intention to cause harm)  • Strong and weak passwords  • Other Authentication methods (Iris Scanner, Biometrics and face scanners  • Data protection Act | 1. Leads students to list prevent and discuss preventive measures against security breaches.  4. Writes notes on the chalkboard | 1. Participate in class discussions.  2. Copy notes from the chalkboard | 1. Charts  2. Internet ready computer.  3. Text materials | Explain the terms:  (i) piracy (ii) hacking (iii) cyber crimes |

**THEME: WEB DEVELOPMENT**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WEEKS** | **TOPIC** | **PERFORMANCE OBJECTIVES** | **CONTENT** | **ACTIVITIES** | | **TEACHING AND LEARNING MATERIALS** | **EVALUATION GUIDE** |
| **TEACHER** | **STUDENT** |
| 7 | Website Authoring | Students should be able to:  Identify and describe the three web development layers  • Understand the function of:   * content layer * presentation layer * behavior layer   • Create a webpage using software tools: text editors etc. | 1. Web development layers 2. Creating a website using a text editor 3. Common HTML tags used in creating a simple page. 4. Adding content to the site using HTML tags. HEAD, BODY, DIV, TR, TABLE tags etc. | 1). Explains the concept of web development and the different development layers  2) Common HTML Tags | 1). Listen to teacher’s explanation  2). Write HTML code for web pages.  3). Open their web pages with a web browser  4) Try out all the class exercises | 1. Computers with internet access  2. A projector  3. Text materials/Text editors | Students to:   1. List and explain the layers of website development 2. State the function of the following tags:   <HEAD>, <BODY>, <DIV> |
| 8 | Website Authoring Contd. | Students should be able to:  Create navigation between pages, use different tags to insert content to webpages, inserting hyperlinks and other forms of media in websites | 1. Inserting pictures text and other content in a website. 2. Creating navigation between pages, hyperlinks and page map. | Explains:  1).Other HTML Tags  2). Web Page contents(graphics)  3) Web page navigation  4) Hyperlinks and page maps | 1). Listen to teacher’s explanation  2). Write HTML code for web pages.  3). Open their web pages with a web browser  4) Try out all the class exercises | 1. Computers with internet access  2. A projector  3. Text materials/Text editors | Students to:  State the function of the following tags  <AREF>, <HREF>, <CLASS> |
| 9 | Website Authoring Contd. | Students should be able to:  • use stylesheets and scripts to create the presentation layer of the website, the different tags for that purpose  • how to test and publish a website, Uploading a website using ftp | 1. Using Cascading Style Sheet (CSS) to create the presentation layer of website. 2. Using scripts to modify the presentation layer as well as for client side authentication. 3. Testing and publishing a website. | Explains:  1) CSS  2) Web page scripting  3) publishing websites | 1). Listen to teacher’s explanation  2). Write CSS code for web pages.  3). Open their web pages with a web browser  4) Try out all the class exercises | 1. Computers with internet access  2. A projector  3. Text materials/ Text editors | Students to:  State the functions of common CSS tags |