

SCHEME OF WORK

WEEK 1: HUMAN ISSUES

1. Definition of Computer Professional and their values to the society
2. Computer Career Opportunities

WEEK 2: HUMAN ISSUES CONT'D

1. Qualities of good Computer Professionals.
2. Various computer professional bodies e.g. Nigeria computer society (NCS).

WEEK 3: DIGITAL DIVIDE

1. Concept of digital divide, features of old and new economy
2. limitations of old economy and benefits of new economy

WEEK 4: COMPUTER VIRUS

1. Meaning and types of virus
2. Examples and sources of computer viruses

WEEK 5: COMPUTER VIRUS CONT'D

1. Various warning signs, meaning of malware, worms and types
2. Virus Detection (Anti- virus)

WEEK 6: INTERNET III

1. Definition of Internet and search Engines.
2. Examples and uses e.g. yahoo.com, google.com etc.

WEEK 7: QBASIC PROGRAMMING LANGUAGE

1. QBASIC screen, types of screen and commands/keywords
2. Variables, declaring variables, arithmetic and logic operators

WEEK 8: QBASIC PROGRAMMING LANGUAGE

1. Writing simple QBASIC programs using different keywords.
2. More Examples of QBASIC programs

WEEK 9: QBASIC PROGRAMMING LANGUAGE

1. PRACTICALS ON QBASIC programming language.
2. More practical on QBASIC

TOPIC: COMPUTER PROFESSIONAL

Who is a computer Professional?

A computer professional is someone/ somebody who has undergone formal extensive training in any computer related field in the universities, colleges or an institute.

In other word, those who has obtained certificate through formal training in the computer related field are called **Computer Professionals**.

VALUES OF COMPUTER PROFESSIONALS TO THE SOCIETY

1. **Directly meeting needs:** These platforms allow a wide array of tech professionals to create, support and execute projects that change lives. In this case, a computer scientist provides more software that will meet the needs of the societies.
2. **Accelerating healthcare progress** Healthcare tends to be a pretty high priority when you consider how to improve people's lives.
3. **Furthering education** The ability to take classes online is also a huge benefit for the world—as it creates access to education for students whose locations, abilities or finances were a barrier.
4. Expanding communication
5. Positively impacting every area of society

CAREER OPPORTUNITIES IN COMPUTER FIELD

1. **COMPUTER MANAGERS:** The computer managers are responsible for the overall running of the computer department. The computer manager also advises the management (the leaders of an organization) on ways of adapting to new technology and the implications for the organization.
2. **SYSTEM ANALYST:** System Analyst is concerned with planning how work is done on the computer. They can submit the description version of the work which can be inform system diagrams such as flowchart that illustrate each stage of the system to be developed.
3. **COMPUTER PROGRAMMER:** Teams of programmers write programs according to the requirements of the system diagrams and other specifications from the systems analyst. An important task of a programmer is documentation. This involves writing a detailed description of how a program works so that others can understand it.
4. **NETWORK ADMINISTRATOR:** He or she maintains computer networks and resolves network and server computer problems to ensure the continuity of operation of computer systems.
5. **COMPUTER ENGINEERS AND TECHNICIANS:** Computer Engineers and technicians are the people who install, maintain, and repair the computer.
6. **WEB DEVELOPERS:** These are the people that design website. They are responsible for designing, coding and modifying websites, from layout to **function** and according to a client's specifications.

7. COMPUTER EDUCATORS: Computer educators are people who teach computing at various levels ranging from university down to beginning school level. Etc

QUALITIES OF A GOOD COMPUTER PROFESSIONAL

1. Excellent analytical skills that can be applied to solve problems or develop new ideas.
2. Ability to pay close attention to details to ensure everything works correctly and efficiently.
3. Ability to be up to date with latest technology development.
5. Technical writing skills are important as they help a computer professional explain complex concepts to those who have limited knowledge of the computer world.
6. A good computer professional must be versatile. This means that as a professional having knowledge in other aspect of discipline is necessary.
7. Ability of an individual to work effectively in a team environment.
8. Ability to plan and manage a project.

COMPUTER PROFESSIONAL BODIES IN NIGERIA

1. Computer Professional Registration Council of Nigeria (**CPRN**)

Objectives of CPRN (Founded in 1993)

- a. Controlling and supervision of computing profession in the country
- b. To determine what standard and knowledge and skills are to be attained by a person seeking membership in computing.

2. Nigeria Computer Society (**NCS**)

Objective of NCS (Founded in 1978)

- a. To advance Computer Science, and information Technology and System.
- b. To promote the education and training of Computer Scientist, Computer Engineers, information Architects and so on.

3. Information Technology Association of Nigeria (**ITAN**)

Objective of ITAN (Founded in 1991)

- a. To promote IT literacy and penetration in Nigeria.
- b. To promote members' interest in the area of trade, formulation of public policy and negotiation with government on IT policy. Etc.

4. The Institute of Software Practitioners of Nigeria (**ISPON**)

5. Institute for the Management of Information System (**IMIS**)
6. Nigerian Association of Computer Science Students (**NACOSS**).
7. Nigerian Internet Group (**NIG**)
8. Association of Telecom Companies in Nigeria (**ATCN**)
9. Nigerian Communication Commission (**NCC**)
10. Internet Service Providers Association of Nigeria (**ISPAN**)

ASSIGNMENT.

1. Who is a computer professional?
2. State five values of a computer to the society.
3. Mention any five career opportunities in computing field.
4. Enumerate five qualities of a good computer professional.
5. State five computer professional bodies in Nigeria you know.

TOPIC: THE CONCEPT OF DIGITAL DIVIDE

What is digital divide?

Digital divide refers to the gap between those with effective access to digital and information technology, and those with no or limited access to ICT. This disparity between the 'technology-rich' and 'technology-poor' countries is referred to as the **Global Digital Divide**.

Digital divide can be found in age, group, gender and location etc

Some Effects Of The Digital Divide:

- i. Those with access to computer and the internet take advantage of opportunities published on the internet and so those without access fall farther behind.
- ii. It has created major division between urban and rural areas.
- iii. It has also created major division between the rich and the poor
- iv. It has also created major divisions among nations as well as between industrialized and non industrialized nations.

V. Rich man's schools are much more to provide their students with regular computer access and internet access than poor mans' school.

OLD AND NEW ECONOMY

OLD ECONOMY: Old economy is a type of economy that was based on physical strength and agriculture. The major focus of old economy is the local market, state or districts, and national market.

In the old economy, countries prospered by having workers who are skilled with their hands and who could reliably work in repetitive and often physically demanding jobs.

Limitations Of Old Economy

- I. It is labour based.
- II. It was time consuming and constrained by time and distance.
- III. It requires a lot of large capital to start with.
- IV. It is mechanically based, that is it does not require digital means.

NEW ECONOMY: The New economy is a knowledge and idea-based economy where the keys to wealth and job creation are the extent to which ideas, innovation and technology can go.

Benefits Of New Economy

- I. It is technological based. That is, it is digital.
- II. It requires low capital to start with.
- III. Time, space and distance are irrelevant in the new economy
- IV. Job in the new economy requires technical skills. Etc.

ASSIGNMENT:

1. Briefly explain the concept of Digital Divide
2. State five effects of Digital Divide.
3. Discuss what you understand by 'Old economy' and 'New economy'.
4. State 3 limitations of the old economy and 3 benefits of the new economy.

TOPIC: COMPUTER VIRUS

Computer Viruses - are small programs that are designed to spread from one computer to another mostly by replication through carrier objects (such as computer files and e-mails) with the sole aim of interfering with computer operation. A virus might corrupt or delete data on your computer, use your email program to spread itself to other computers, or even erase everything on your hard disk.

Types of viruses

Boot sector virus - infect floppy disk boot records or master boot records in hard disks. They replace the boot record program (which is responsible for loading the operating system in memory) copying it elsewhere on the disk or overwriting it

Program or Executable file virus - infect executable program files, such as those with extensions like .BIN, .COM, .EXE, .OVL, .DRV (driver) and .SYS (device driver). These programs are loaded in memory during execution, taking the virus with them.

Multipartite virus – is a hybrid of Boot and Program viruses. They infect program files and when the infected program is executed, these viruses infect the boot record.

Resident viruses: These are permanent viruses dwelling in RAM. In this case, they would be in a position to overcome, as well as interrupt, all operations that the system executes. Their effects include corrupting programs and files that are closed, opened, renamed or copied.

Overwrite viruses: These viruses delete information that is in the infected files. In this case, the infected files would be rendered totally or partially useless. Unfortunately, you would only clean the infected file by deleting it completely, therefore losing original content.

File infectors virus: This virus infects executable files or programs. On running the programs, the virus would be activated, then be able to carry out its damaging effects. Most of the existing viruses are in this category.

Direct action viruses: This virus replicates itself, then acts when executed. Subject to satisfaction of particular conditions, the virus infects files located in the folders or computer directory. It is also in directories specified in the AUTOEXEC.BAT PATH. In most cases, it is located in hard drive's root directory and takes particular action when the computer boots. Etc.

EXAMPLES OF COMPUTER VIRUSES

- i. Trojan Horse
- ii. Sleeper virus
- iii. Logic bomb
- iv. Alabama virus
- v. Christmas virus

SOURCES OF VIRUSES.

- ✓ Through Flash drive or floppy Diskette

- ✓ Through E-mail: some E-mail messages contain viruses especially if they have other (files) attached to them. Opening such files can infect the computer with the virus.
- ✓ Through internet: viruses can be contacted through the internet by downloading unknown files or by opening pornographic sites
- ✓ Illegal duplication of software
- ✓ Downloading programs: Downloading an image editing software, a music file or an e-book, it is important to ensure the reliability of the source of the media. Unknown, new or less popular sources should be avoided etc.

Various Computer virus warning signs

- The computer becomes drastically slow in operation
- It displayed unwanted messages on the screen when you are busy working
- It causes your computer programs to malfunction
- When your printer driver is corrupt
- Viruses are capable of deleting all the files on the hard disk
- When your files is duplicated aimlessly
- When your keyboard is redefined to the extent that when you type a character another different character appears.
- Email is hijacked

COMPUTER MALWARE

A malware is a malicious software designed intentionally to cause damage to computer, server, client or computer network.

Below are notable malwares;

- a. Spyware
- b. Adware
- c. Ransomware or keyloggers
- d. Worms
- e. Trojan Horse etc.

COMPUTER WORM

A computer worm is a standalone malware computer programs that replicates itself in order to spread to another computer. Often, uses a computer network to spread itself. When you scan your system and found something like i-zippedfile, w32/dabbler-c, worm.win32.VB.arz, W32/VBworm.QXE, W32/Dabbler.A etc

Types of computer worm

There are many kinds of computer worms but few will be mentioned; these include:

1. Sobig worm
2. Supernova worm
3. Stuxnet worm
4. Sober worm
5. Sasser worm
6. Sadmin worm
7. Netsky worm
8. Mydoom worm
9. Melissa worm
10. Kak worm
11. Doomjuice worm
12. Daprosy worm
13. Badtrans worm
14. Blaster worm
15. Bagle worm etc.

VIRUS DETECTION (ANTI –VIRUS SOFTWARE)

The Anti – Virus are software mostly designed to get rid of viruses in the computer system. It is also used to prevent, detect, and remove malware, worms and Trojan horses.

Classical examples of anti- virus software include the following:

1. Avast Anti- virus
2. Bitdefender
3. Kaspersky
4. Comodo internet security
5. McAfee
6. Norton
7. Windows defender
8. Avast
9. Avira
10. Dr Web antivirus
11. Symantec
12. Malwarebytes Antimalware
13. Smadav
14. 360 Scan

15. F-Secure, etc.

VIRUS PREVENTION

Virus attack can be prevented in the following ways:

1. By avoiding the use of unauthorized software
2. Avoid lending of flash drive, CD, DVD, and other auxiliary storage media
3. Avoid copying games programs from other users who work on different computers
4. By going for the best anti –virus software: it is always highly recommended to purchase or download the best anti – virus for your computer.

ASSIGNMENT

1. What is computer virus?
2. Explain 3 ways in which computers and files can be infected by virus.
3. Define an AntiVirus software
4. Mention five examples each of computer virus and Antivirus
5. Explains ways to prevent computer virus infection.