**COMPUTER STUDIES JSS3 FIRST TERM NOTE**

**2024-2025 SESSION**

**(COPY THE FIRST TWO {DIGITAL DIVIDE AND DIGITAL LITERACY} TOPICS INTO YOUR NOTEBOOK)**

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**DIGITAL DIVIDE**

**THE CONCEPT OF DIGITAL DIVIDE**

The present age is referred to as the digital age. It is called a digital age because the current global economy is driven by a digital device known as the computer. The computer represents data and instructions in 0s and 1s called binary codes, hence, it is known as a digital device. One of the reasons for inventing the computer is to reduce the world to a global village. To achieve this, everyone must have access to a computer (mobile phone, laptop, etc.) and internet connectivity. But this is not the case. Some classes of people have effective access and coverage to information and communication technologies and others have little or no access at all. Hence, there is a digital gap or split between these two groups of people. This gap or split is called **Digital Divide**

**DEFINITION OF DIGITAL DIVIDE**

Digital divide refers to the gap between people with effective access to digital and information technology and those with very limited or no access at all.   
Digital Divide, or digital split, is a social issue referring to the differing amount of information between those who have access to the Internet and those who do not have access.   
The term became popular among concerned parties, such as scholars, policymakers, and advocacy groups, in the late 1990s.

**BRIDGING THE DIGITAL DIVIDE**

Digital divide can be bridged. The basic steps would be:   
i. To provide digital access to those in the community who do not have it.   
ii. To reduce the base price of ICT gadgets or subsidize them.   
iii. Enlighten the masses on the importance of ICT in our current global economy.

**THE OLD ECONOMY VERSUS THE NEW ECONOMY**

Economy is the system by which the wealth of a nation or country is made.

**THE OLD ECONOMY**

The old economy was centered on industrialization. Industrialization is the development of industries in a country or region on a wide scale. An increase in productivity was achieved by investing a large amount of capital in physical plant facilities. Investment in information systems was relatively small.

**FEATURES OF THE OLD ECONOMY**

The old economy had the following characteristics.   
1. Its processes were time-consuming   
2. It requires a lot of labor   
3. It was mechanically driven   
4. It was constrained by time, space and distance.

**THE NEW ECONOMY**

Toward the end of the old era, the investment in computers increased, particularly as the transition from manual data processing systems to computer data processing systems took place. The transition can be regarded as a shift from the old to the new economy.

**Features of the New Economy**

1. It is digital   
2. Time, distance and space are irrelevant.   
3. It is technology driven:   
4. It is knowledge-based

**Limitations of Old Economy**

The limitations of the old economy to the new economy are:

|  |  |
| --- | --- |
| **OLD ECONOMY** | **NEW ECONOMY** |
| 1. Slower and linear | 1. Fast and unpredictable |
| 2. Local competition | 2. Global hyper competition |
| 3. Automation and mechanization | 3. Information and communication technology |
| 4. Limited learning skills required | 4. Continuous learning skills required |
| 5. Capital intensive | 5. Knowledge and people capabilities |
| 6. Covers small area | 6. Covers large area |

**Benefits of the New Economy**

1. The size of the pieces of equipment was reduced.   
   2. Businesses can start with small capital.   
   3. Creates new jobs   
   4. Attract new investment and encourage export   
   5. Greater competition.

## DIGITAL LITERACY

Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.

**Digital Literacy** is the ability and skill to find, evaluate, utilize, share, and create content using information technologies and the Internet.

Here, we explore the paramount importance of digital literacy in shaping the students of tomorrow.

**Access to Information:** The internet is a treasure trove of knowledge. Digital literacy enables students to access a vast pool of information, facilitating independent learning. Whether it’s for research, self-study, or academic assignments, students with digital literacy skills can explore a multitude of resources, enhancing their overall educational experience.

**Critical Thinking:** Digital literacy goes beyond mere information consumption. It teaches students how to evaluate sources, discern between credible and unreliable information, and think critically about the content they encounter. This skill is not only essential for academic pursuits but also for making informed decisions in everyday life.

**Communication:** Effective communication is a vital life skill. Digital literacy equips students with the ability to communicate via various digital channels, including email, social media, and video conferencing. These skills are not only crucial for maintaining personal and professional relationships but also for future career prospects.

**Cyber security:** As students become more active online, they must be aware of the risks associated with the digital world. Digital literacy imparts an understanding of online safety, the importance of strong passwords, and how to protect personal information. These skills are essential to avoid falling victim to cyber threats.

**Career Readiness:** In a world where technology is integral to almost every profession, digital literacy is a non-negotiable skill for career readiness. Proficiency in digital tools and platforms can open doors to various job opportunities and provide a competitive edge in the job market.

**Innovation and Creativity:** Digital literacy fosters creativity and innovation. Students who are digitally literate can harness technology to express their ideas, whether through graphic design, coding, or content creation. These skills encourage a spirit of innovation that can be applied across disciplines.

**Global Citizenship:** In our interconnected world, digital literacy connects students to global issues, cultures, and perspectives. It enables them to engage in discussions, collaborate with peers from different countries, and become informed global citizens.

**Adaptability:** The digital landscape is continually changing. Students with digital literacy skills are better equipped to adapt to new technologies and platforms as they emerge, ensuring they remain relevant in an ever-evolving job market.

Digital literacy is not just an optional skill; it’s a necessity in the modern education landscape. It equips students with the tools they need to succeed academically, professionally, and personally in a digital world.

Top of Form

Bottom of Form

Digital literacy is an ever more important factor in education from a young age. Digital literacy in education, students must develop specific digital literacy skills when reading and interacting with online content that may contain embedded resources such as hyperlinks, audio clips, graphs, or charts that require students to make choices. Students today are also being asked to go one step further to create, collaborate, and share digital content and to do so responsibly.

**Database**

**What is Database?**

1. A database is a collection of data organized in a manner that allows access, retrieval and use of data.   
2. A database is a collection of information that is organized so that it can easily be accessed, managed, and updated.   
3. A database is an organized collection of data.

**Meaning and Definition of DBMS**

DBMS stands for **D**ata**base** **M**anagement **S**ystem.   
Database Management System is defined as application software that manipulates the data in the database.

**Examples of DBMS Packages**

They include: Dbase, Rbase , MS Access, Oracle Paradox, MYSQL Server, SyBase ,  
FOXPRO, IDMS ,System 2000., Ingres ,Postgres, NoSQL ,

**Database Terminologies**

**1. Field:** Field is a single piece of information about an object. A is also defined as a space that holds specific parts of data from a set or a record. Examples of fields are NAME, ADDRESS, QUANTITY, AGE, etc.   
**2. Record:** A record is a collection of fields. It is the collection of information about a particular element, person or object.   
**3. File:** This is the collection of a related record   
**4. Primary Key:** a field in a table whose value uniquely identifies each record in the table. Examples of fields that can serve as primary keys include; NIN, Driving License number, Bank account number, Admission number, Fingerprint, BVN, etc

**Forms of Database**

**1. Hierarchical Database**   
in this form of database, data are arranged or structured in form of a tree. It can also be defined as a design that uses a one-to-many relationship for data elements. The data is stored as records are connected through links   
**2. Network Model**   
This type of database allows the modeling of many-to-many relationships of data. In the network model of a database, a record can have multiple parents, making the system more flexible compared to the strict single parents of the hierarchical database.   
**3. Relational Model**   
A relational database presents information in tables with rows and columns. Records are arranged in rows while fields are arranged in columns. A relational database is the most common type of database structure. It is used by most microcomputers in Database Management System (DBMS) packages.

**Starting a DBMS (MS Access)**

To start the database in Microsoft Access, you do the following:   
Step1: Click on the start button on the taskbar   
Step 2: Move to all Programs,   
Step 3: Click on MS Access

**Opening an Existing Database**

To open an existing Database, do the following:   
Step 1: Click on the file menu, then click the open button   
Step 2: Click on the file to be opened from the dialogue box.   
Step 3: Then click on open or press enter on your keyboard.

**Tutorial on How to Create a Simple Database using Microsoft Access**

In this video you will learn how to do:   
a. Create fields   
b. Add records to the fields   
c. Sort a database using a specific criteria   
d. Create a Report   
e. Query a database, etc.   
The Video tutorial is below.

**COMPUTER CAREER OPPORTUNITIES**

A Career is a profession, occupation, job or vocation that an individual undertakes for some time and also for the opportunity to make progress.

**DEFINITION OF COMPUTER PROFESSIONALS**

Computer professionals are individuals that have obtained sufficient education and training in the field of computers and earn their livelihood from their chosen profession.

**Difference between a Computer Professional and a Computer User**

1. A computer professional is trained in the field(s) of computer, while a user is not trained in any field of computer.   
2. A professional is certified, whereas a computer user is not certified

**Computer professionals and their function**

DATABASE ADMISTRATOR

**Functions**   
i. Creates, updates and manages databases   
ii. Implements database security,   
iii. He also implements database recovery and control

**SYSTEM ANALYST**

**Functions**   
i. Carries out feasibility studies on systems and systems design   
ii.Recommends systems specification to the Programmer.   
iii. Liaise between the user and the Programmer

**PROGRAMMER**

**Functions**   
i. Writes codes/instructions for the computer   
ii. Debugs programs

**NETWORK ADMISTRATOR**

**Functions**   
i. Sets up, oversees and coordinates the smooth functioning of the computer network   
ii. Provides network support services to the users.   
iii. Implements Network security

**WEB DEVELOPERS/DESIGNERS/ADMIN**

**Functions**   
i. Designs, develops, updates and maintains Websites.   
ii. He is also responsible for website security

**COMPUTER ENGINEERS**

**Functions**   
i. Provides Hardware specifications   
ii. Designs and develop systems programs   
iii. Troubleshoots the computer

**COMPUTER HARDWARE TECHNICIAN**

**Functions**   
i. Maintenance/repair of computers   
ii. Upgrading of computers   
iii. Setting up/installations of computers

**DATA PROCESSING MANAGER**

**Functions**   
i. Plans organizes, coordinates and reviews the activities of data processing staff

**COMPUTER GRAPHIC ARTIST**

**Functions**   
i. This is a professional who does all the complex artworks such as drawing, painting, and animations with the computer.

**COMPUTER INSTRUCTOR**

**Functions**   
i. This is a teacher that trains others on the science and application of computers

**COMPUTER-WARE VENDOR**

**Functions**   
i. This is the person who sells computer hardware (hardware vendor) and software (Software vendor) to the end user.

**COMPUTER OPERATOR**

**Functions**   
i. This is the person that ensures the continuous running of the computer system’s processes   
ii. Distributes reports and backup data and other files regularly.

**QUALITIES OF A GOOD COMPUTER PROFESSIONAL**

**1. Excellent Analytical Skills**   
Great computer professionals have excellent analytical skills that can be applied to solve problems or develop new ideas.   
**2. An Attention to Detail**   
Computer personnel must pay close attention to detail to ensure everything works correctly and efficiently.   
**3. Commitment to Learning**   
Technology is constantly changing, and those who keep abreast of the latest developments in information technology are the ones who will be the most successful.   
**4. Good Communication Skills**   
The soft skills of verbal and written communication are increasingly important as non-techies rely on technological tools for their everyday business. Understanding a client's needs and the ability to meet those needs depend heavily on a steady stream of open communication.   
**5. An Aptitude for Math**   
Strong math skills are necessary because math is used in many computer applications, such as when dealing with circuits or programming.   
**6. An Ability to Handle Multitasking**   
People working with computers are often involved in many tasks at once and must be able to manage all of their responsibilities simultaneously. Time management skills and the ability to prioritize are assets as well.   
**7. Solid Problem Solving/Troubleshooting Capabilities**   
Computer professionals are called upon to solve problems with networks, software, and other programs. They are expected to solve these problems very quickly, and having sharp troubleshooting skills most definitely is a benefit.   
**8. Technical Writing Skills**   
Technical writing skills help a computer-savvy person explain complex concepts to those who have limited knowledge of the computer world.   
**9. Versatility**   
The most successful computer professionals will be the ones who have skills that extend beyond information technology, such as skills in business and finance   
**10. He must have resting and relaxation time:** A good computer must have a resting and relaxation time to relax and refresh the brain   
11. He must belong to a professional body

**Computer Professional Bodies and their Functions**

A professional body is a group of people who come together for professional and other mutual benefits and are governed by a constitution.   
Some computer professional bodies and their functions are highlighted below.   
**1. Nigeria Computer Society (NCS):** website-www.ncs.or.ng   
This is a group of people interested in computing technology within Nigerian. They share ideas and knowledge and formulate policies that relate to ICT.   
**2. Institute of Management Information System (IMIS):** website-www.imis.org.uk   
This is an internal body devoted to supporting and promoting the profession of information systems management.   
**3. Computer Professional Registration Council of Nigeria (CPN):** website-www.cprcn.org   
This is a body responsible for the science and use of computer machines and techniques in the country.   
**4. Information Technology Association of Nigeria (ITAN):** website-www.itan.org.ng   
This body provides professional services for IT bodies in Nigeria.   
**5. Nigeria Internet Group (NIG):**   
It is a Non-Governmental Organization (NGO) that promotes and facilitates full internet connectivity in Nigeria.   
**6. Nigeria Communication Commission (NCC):**   
This body controls and regulates all communication operations in Nigeria.   
**7. Internet Service Provider Association of Nigeria (ISPAN):**   
This body regulates and monitors Internet service operators in the country.   
**8. IT Industry Association of Nigerian (ITIAN):**   
The body controls the development of locally manufactured computer systems in Nigeria.   
**9. Association of Telecom Companies in Nigeria (ATCN)**:   
This body monitors and controls all telecom service operators in Nigeria.   
**10. Computer Association of Nigeria (COAN):**   
This is a body that motivates and promotes Nigerian software developers and their products in the software industry.