IT SUMMARY FOR THE FIRST SIX OUTLINES

NAME:PITY WANGECHI MWANGI

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Roles of information technology and computer operation in today's society

Communication

- Social media platforms eg Whatsapp have allowed people to stay connected from different parts of the world
- Video conferencing apps like zoom and google meet support online meetings
- Emails and instant messaging make communication fast and reliable

Education

- IT has created online learning platforms like Youtube learning that allow students to learn from anywhere around the world
- Online learning platforms like youtube have made learning to be more accessible
- Digital libraries give access to countless books making learning easy and accessible
- Smart classrooms now use projectors and computers to enhance learning

Healthcare

- Through electric record patients history files are able to be tracked quickly
- Machines like MRI scanners depend on computer technology to do scans
- Telecommunication allow patients to consult doctors remotely therefore saving lives

- Online banking and mobile money platforms eg mpesa have made transactions easy and fast
- E commerce platforms eg Jumia allow businesses to reach global markets
- Businesses use softwares for accounting and customer service thus saving time

Entertainment

- IT has helped in the creation of mobile games and animations that service as source of entertainment

2.Fundamentals of computer operations

1Input -Entering data into the computer
2.Output-   the computer giving back the processed data
3.Processing-process of the computer working on the raw data given so as to give output
4.Storage-saving of the data in the computer for future reference

3.Basics of computer hardware and software

Computer software

- System softwares- they are operating systems eg Windows,utilities and compilers
- Application softwares- these are word processors,spreadsheets,statistical packages eg Excel

Computer hardware-

1. Input devices-include keyboards,mouse,scanners,sensors
2. Output devices-monitors,printers,speakers,visualization devices
3. System units-CPU,memory,bus,registers
4. Storage devices-Hard disks,SSDs,optical media,cloud storage

5. Communication devices-Network cards,modems,wireless adapters

4.Constructing data files

-Is a collection of information stored in a computer

Ways of creating data files

- Using application softwares – this is done by use of word processors,spreadsheets,database programs and graphic softwares
- Using operation systems commands-can be done by use of systems eg Windows,linux
- Creating automatically using programs-is done through system logs,cache files and configuration files

Process of creating a data file

1.Naming the file
Choose a proper name and extension

2.Choosing storage location
Identify and select folder that the file will be stored

3.Write data
Enter information into the file

4.Saving the file
The computer converts data to binary

5.Different means of disk storage

Storage devices retain data permanently or temporarily

- Hard disks or SSDs -– stores structured or unstructured data
- USB flash drives/memory cards-secure data transfer across research labs
- CD/DVD/Optical media - used for archival back ups and compliance
- Networked/cloud storage - distributive systems for collaborative,research and enterprise

6.Different number systems and bases and application of the concepts in the four basic operations

It is the different ways of representing numbers using symbols

1.Decimal numbers– digits between 0 and 9
Used by humans in everyday life

2.Binary systems-digits 0 and 1 only .Used by computers.Everything in computers is converted into binary

3.Octal systems-digits 0 to 7 .Its used sometimes in programming

4.Hexadecimal systems-digits o to 9 and A-F often used to re[presents memory locations,colors and coding