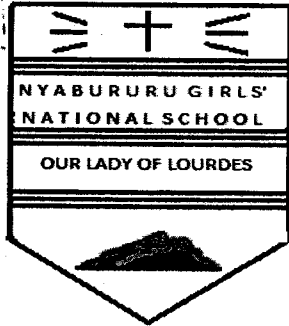


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451/1
COMPUTER STUDIES PAPER 1
Form four exam – January 2014
2 ½ hours.

INSTRUCTIONS TO CANDIDATES

- Write your name, stream and class number and signature in the spaces provided above
- Answer ALL questions.

SECTION A (40MARKS)

1. What is a peripheral device? (1mk)

2. Explain the following types of computers. (3mks)
 - a) General purpose computers

 - b) Digital computers

 - c) Hybrid computers

3. Name 3 keys on the keyboard that are toggle keys. (3mks)

4. Explain two types of special purpose memories. (4mks)

5. Explain 3 types of human computers interface. (6mks)

6. Differentiate between ASCII and BCD as used in data representation. (2mks)

7. State any 3 characteristics of the ENIAC computer. (3mks)

8. Give 2 primary functions of the UPS (2mks)

9. Explain the differences between the following terms. (4mks)

a) volatile memory and non-volatile memory

b) Softcopy and hardcopy

10. What is dry running as used in program development? (1mk)

11. List 3 factors to be considered when purchasing a microcomputer. (3mks)

12. Distinguish between cold booting and warm booting. (2mks)

13. State two tasks of the processor. (2mks)

14. List four examples of output devices. (2mks)

15. State two health issues that may result from prolonged use of computers. (2mks)

SECTION B (60 MARKS)

Answer question 16 and ANY other three questions from this section.

16. (a) State the 3 basic types of program control structures. (3mks)

(b) Design a flow chart from a simple program that can be used to categorize people according to age. If the person is above or equal to 18 years, output "Adult" otherwise output "Young" (7mks)

(c) Differentiate between analogue and digital data. (2mks)

(d) Indicate whether the following devices are used for input or output. (3mks)

i. Plotter

ii. Light pen

iii. Mouse

17. (a) (i) State the purpose of registers in a computer system. (1mk)
(ii) Give two types of registers found in the CPU. (2mks)
- (b) With the aid of a diagram, describe the structure of a hard disk in relation to cylinders, tracks and sectors. (3mks)
- (c) Highlight 4 factors one should consider when purchasing a printer. (4mks)
- (d) Give 2 advantages of using electronic point of sale as opposed to manual entry at a supermarket checkout counter. (2mks)
- (e) A school board of governor intends to put up a computer laboratory. Suggest 3 factors to be considered in accomplishing the above task. (3mks)
18. (a) List down 3 methods of data collection. (3mks)
- (b) What are some of the errors that influence the accuracy of data input and information output? (3mks)
- (c) List and explain 3 elements of a computer file. (3mks)
- (d) (i) What do you understand by file organization method. (1mk)
(ii) Name 3 file organization method. (3mks)
- (e) Differentiate between multi- processing and multi- programming as used in data processing modes. (2mks)
19. (a) Differentiate between mechanical and electronical data processing methods. (2mks)
- (b) Explain the stages of data collection . (6mks)
- (c) What is sorting and filtering as used in data management in excel. (2mks)
- (d) State 5 resources under the control of the operating systems. (5mks)
20. (a) Write the following in full (3mks)
- i. BCD
 - ii. EBCDIC
 - iii. ASCLL
- (b) Work out the following: (4mks)
- i. $10110_2 + 1011_2 + 111_2$
 - ii. $10101_2 - 110_2$
- (c) Explain 4 areas in which computer are used. (8mks)