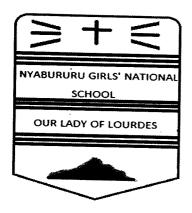
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FORM 3 COMPUTER STUDIES CAT 1 TERM 2 2016 TIME: 2 HOURS

Date done	
Invigilator	
Date returned	
Date revised	

Instructions

- Write your name and admission number in the spaces provided above.
- Answer all questions in the spaces provided.
- 1. With the aid of a diagram explain the difference between a digital signal and analog signal. (4mks)

2. Explain the role of a modem in communication.

(2mks)

am	ne Adm No C	lass	. No	. Sign
3.	State two reasons for using binary digital technology.			(2mks)
4.	Perform the following computer arithmetic. In each case, show answer.	how y	ou arri	ve at your
	Convert the following decimal numbers to their binary equivale	ent.		
	(i) 45 ₁₀			(2mks)
	(ii) 4.75 ₁₀ (ii) 4.75 ₁₀			(2mks)
5.				(2mks)
	$4_{10} + 3_{10}$ (b) Convert 10100000011111111_2 to its hexadecimal equivalent	•		(2mks)
	(c) Convert 767 ₈ to hexadecimal equivalent.			(2mks)

- 6. (a) Perform the following binary arithmetic.
 - (i) 11100111 + 00101110

(1mk)

(ii) $10101_2 - 11_2$

(1mk)

(b) Use two's compliment to subtract 101 from 1000.

(3mks)

7. With an aid of a diagram, explain the stages of data processing cycle.

(6mks)

8. Clearly differentiate between data collection and data capture.

(2mks)

9. (a) Explain the relevance of the term garbage in garage out (GIGO) in reference to errors in data processing. (1mk)

(b) Explain two transcriptions and two computational errors committed ruing data processing. (8mks)

10. (a) Define the term data integrity.

(2mks)

(b) State three ways of minimizing threats of data integrity.

(3mks)

11. (a) Briefly explain real-time processing.

(2mks)

(b) Give three advantages and two disadvantages of real time system.

(5mks)

- Name Adm No...... Class.... No...... Sign 12. In a computer based information system, state the purpose of the following files and give one example where such a file may be required in a school. (i) Report file (ii) Back-up file (iii) Reference file (iv) Sort file 13. (a) What is file organization? (2mks) (b) Differentiate between the following file organization methods. (4mks) (i) Sequential and series
 - (ii) Random and indexed-sequential

Name Adm No Class No Sig	gn
14. Define the following terms:-	(3mks)
(i) Computer program	
(ii) Programming	
(iii) Programming language	
15. Explain the meaning of the following as used in computing programming. (i) Syntax	(2mks)
(ii) Sematic	
16. (a) What are low level languages? Give their features.	(4mks)
(b) Give three advantages of high level language as opposed to low level language	e. (3mks)

lame	Adm No Class No	Sign
17. (a) Examine four features of fourth gen	eration language (4GLS).	(4mks)
(b) List three examples of fourth genera	tion programming languages.	(3mks)
	~	
18. Differentiate between the following term	ns as used in programming.	(4mks)
(i) Source program and object code	\$1	
(ii) Flowchart and pseudo code		
To.		
19. Explain the following types of computer	program errors.	(3mks)
(i) Syntax error		
(ii) Logical errors		
(iii) Run time (executive error)		

20. (a) Explain two error detection methods in program development.

(2mks)

(b) Describe three types of program documentation in reference to programming. (6mks)

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