MOKASA JOINT EXAMINATION

Kenya Certificate of Secondary Education

451/1 - COMPUTER STUDIES - Paper 1

JUNE/JULY 2021 – 2½hrs

Name	. Index Number
Admission Number	Class
Date	

Instruction to candidates

- *a)* Write your name and index number in the space provided above.
- b) Sign and write the date of examination in the spaces provided above.
- c) This paper consists of two sections A and B.
- d) Answer all the questions in section A.
- e) Answer question 16 and any other three questions from section B.
- f) All answers should be written in the space provided in the question paper.
- g) This paper consists of 14 printed pages.
- h) Do not remove and pages from this booklet.
- i) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- i) Candidates should answer the questions in English.

For Examiner's Use Only

Section	Question Number	Candidate's Score
A	1-15	
	16	
В	17	
_	18	
	19	
	20	
	Total Score	

SECTION A (40 MARKS) ANSWER ALL QUESTIONS IN THIS SECTION

1.	Name the two common types of system units and differentiate them.			1.	(2 marks)	
2.	Define the following char (i) (ii)	Versatile			(2 marks)	
3.	Digital computers work w	vith digital content	. Describe a digital dev	ice.	(2 marks)	
	D.00	1 10 4				
4.	Differentiate between thir	d and fourth gener	ration computers		(2 marks)	

_		to protect the users in their computerized a	
	• • • • • • • • • •		
(b) Give two rea		y powder and liquid extinguishers are not i	recommended unlike gaseous (2 marks
	• • • • • • • • • • • • • • • • • • • •		
		g, a business cannot survive in a competitive	· · · · · · · · · · · · · · · · · · ·
being used in a r		f ways to enhance marketing. List any three	(3 mark
being used in a r			(3 mark
	number ((3 marks
	tween th	following as used in computers. Tab Key	(3 marks
	tween th	following as used in computers. Tab Key Spacebar	(3 marks
	tween th	following as used in computers. Tab Key	(3 marks
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8.	Control unit is an essential component of the CPU. Describe the functions of the control unit.	(2 marks)
9.	(a) Differentiate between buffers and Registers	(2 marks)
	(b) Speech recognition devices are used to capture natural sound and convert the input into c form. State two problems related to speech recognition devices.	digital (2 marks)
10.	. Define Solid-state storage and give two examples.	(2 marks)
11.		(1 mark)

	(b) List two types of computer output on microform (COM).	(2 marks)
12.	Differentiate between high definition multimedia interface and Firewire interface.	(2 marks)
13.	A warranty is an agreement between the buyer and the seller. It spells out terms and condition selling a product in case of failure or malfunction. Describe any three basic requirements a go warranty should cover.	ns after ood (3 marks)
14.	(a) Differentiate between pasteboard and master page as used in DTP	(2 marks)

	(b) Differentiate between graphic-based and layout based desktop publishing software.	(2 marks)
15.	. Differentiate between Network database and Relational database.	(2 marks)

SECTION B (60 MARKS)

ANSWER QUESTION 16 AND ANY OTHER THREE QUESTIONS IN THIS SECTION

fine the following te ource code	rms as used in programming	(2 marks)
Object code		
fferentiate between A	Assembler and Interpreter as used in programming.	(2 marks)
ntify the type of prog 1101 1101 1110 0001 0010 1110	gramming language used in the codes below; 1011 1011 1100 0111 1011 0011	(1 mark)
LDA A, 20 ADD A, 10 STO B, A NOP		
	Dbject code Terentiate between A 1101 1101 1110 0001 0010 1110 LDA A, 20 ADD A, 10 STO B, A	Debject code Ferentiate between Assembler and Interpreter as used in programming. Intify the type of programming language used in the codes below; 1101 1101 1011 1011 1110 0001 1100 0111 0010 1110 1011 0011 LDA A, 20 ADD A, 10 STO B, A

- (d) On the Nairobi-Nakuru highway, the Kenya Police have put speed cameras at a certain point to read the time a vehicle passes a point (A) on the road and then reads the time it passes a second point (B) on the same road. (Points A and B are 200 meters apart). The speed of the vehicle is calculated using:
 - Speed = $\frac{100}{\text{(time at point } B-time at point } (Km/hr)$
 - The maximum allowed speed is 100 kilometers per hour.
 - 500 vehicles were monitored using these cameras over a 1-hour period.
 - (i) Write a pseudo code, which:

(5 marks)

- Inputs the start time and the end time for the 500 vehicles that were monitored
- Calculates the speed for each vehicle using the formula above.
- Outputs the speed for each vehicle and a message if the speed exceeded 100 km/hour.
 - >=100km/hr "High Speed"
 - <100km/hr "Normal Speed"

(ii) Draw a flow chart for the above pseudo code.

(5 marks)

17. (a) In order to generate information from data items, a set of processing activities have to be per on the data items in a specific sequence depending on the desired result. Draw a well labeled diagram to illustrate data processing cycle.(2)	
 (b) A data entry clerk experiences some common errors when typing. Most of the time, she find (i) After every calculation, the result is less than the expected number of digits require 345.7896543 the result is given as 345.789. (ii) Different characters are typed wrongly, for example instead of typing 12873457 st 128734S7. 	red e.g.
Identify the two types of errors commonly experienced by the clerk during data processing i and (ii) above respectively. (2	in (i) 2 marks)
(c) State two ways a user can ensure data accuracy is maintained during data processing. (2	marks)
(d) (i) State three advantages of a computerized filing system as used in data processing. (3	marks)
	• • • • • • • • • • • • • • • • • • • •

(ii) S	State two disadvantages of	f a serial file organizatio	on method in computing.	(2 marks)
	erentiate between distribute cation area of each.	ed processing and intera	active processing modes;	stating one (4 marks)
18. (a) Write the fo	following acronyms in full	as used in operating sys	stems.	(½ mark)
(ii)	WIMP			(½ mark)
(b) State three	e factors considered when	choosing an operating s	ystem for use in a compu	iter. (3 marks)
	ng system manages and or er and Drive . State the me			tructures: (3 marks)

(d) (i) Differentiate between error handling and interrupt handling as used in operating system	ns. (2 marks)
(ii) State three reasons why most network technicians prefer using command line operating to configure networking equipment.	systems (3 marks)
(e) Disk management is one important aspect in secondary storage in computer systems. Exp following tools used by an operating system to manage disks in the computer. (i) Formatting	lain the (3 marks)
(ii) Partitioning	

	(ii	i) Defragmentation	
19. (a)	Define (i)	the following terms as used in networking. Network	(3marks)
	(ii)	Intranet	
	(iii)	Browser	
(b)	compi	Vorld Health Organization is global entity that deals with health issues around the water networks linking its regional and continental offices using internet. State two in internet to such organization.	
(c)	impro	uma, the Principal of a school wishes his school to have an internet connection ve its service delivery. Mention four internet connectivity requirements that must ble the connection.	

(c) Explain the following as used in e-mail:• Inbox	(1 mark)
• Drafts	(1 mark)
(e) (i) Failure of information systems is a major concern in the security of da State two causes of such failure.	ta in computing systems. (2 marks)
(ii) Explain the following computer crimes.● Fraud	(1 mark)
Industrial espionage	(1 mark)

(f) Excluding passwords, state two other security control measures used unauthorized access to computers in a network.	d to guard agains (2 marks)
20. (a) Convert the 1010.011 ₂ to decimal equivalent.	(3 marks
(b) Perform the following number system conversions.(i) 342.25₈ to binary.	(3 marks)
(ii) 503 ₁₀ to hexadecimal	(3 marks)
(c) (i) Compute the binary arithmetic given below: $10111 + 10001 + 101$	(3 marks)

. ,	binary.	(4 marks)

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