

Name..... School Number..... Class.....

451/1

Computer Studies

Paper 1

(THEORY)

July 2013

2½ hours

Date: Wednesday, July 17, 2013

ALLIANCE HIGH SCHOOL MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

Computer Studies

Paper 1

(THEORY)

2½ hours

INSTRUCTIONS TO CANDIDATES

- (a) Write your name, School number and Class in the spaces provided at the top of this page.
- (b) This paper consists of **TWO** sections; A and B.
- (c) Answer **ALL** the questions in section A.
- (d) Answer question **16** and any other **THREE** questions from section B.
- (e) All answers should be written in the spaces provided on the question paper.

For official Use Only

Section	Question	Candidates Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
TOTAL SCORE		

This paper consists of 9 printed pages

Candidates should check the question paper to ensure that all the
Printed pages are printed as indicated and no questions are missing.

SECTION A (40 marks)

1. State two data access methods in secondary storage media

(2 Marks)

.....

.....

2. A school's sports department wants to computerize the running of its operations.

- a) Name any two software packages that can be used by the sports department.

(1 mark)

.....

.....

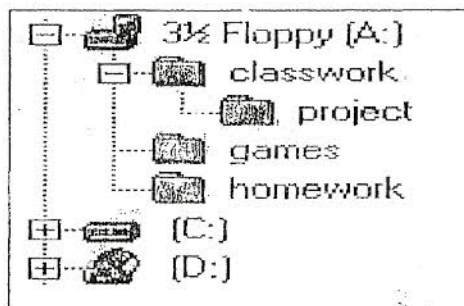
- b) Explain what each of the software package above can be used for in the sports department.

(2 marks)

.....

.....

3. The diagram below shows part of a directory structure displayed by an operating system.



1. State any two root directories.

(2 mark)

.....

.....

2. Name two sub-directories of $3\frac{1}{2}$ floppy(A)

(2 mark)

.....

.....

For More Free KCSE Past papers visit www.freekcsepastpapers.com

Explain the following computer mouse terminologies. (2 Marks)

- a) Clicking
- b) Double clicking

a) What is an analog device? (1 mark)

Describe any **three** ways in which ICT can be used as a tool for civic education. (3 marks)

A computer vendor uses Order Number to identify each order made by a client. The Order Number is comprised of a 10-digit number.

a) Explain three checks that can be used to ensure the value entered for Order Number is valid. (3 marks)

b) State two errors that are likely to occur when entering Order Number into a computer. (2 mark)

8. a) Convert 77_{10} to its binary equivalent.

(2 marks)

.....

.....

.....

.....

b) Using 8 bits, write the two's complement of 77_{10}

(1 mark)

.....

.....

10. a) Give two uses of each of the following types of documentation usually delivered with new information systems.

(2 marks)

i) Technical documentation

.....

.....

ii) User documentation

.....

.....

b) State any two functions of an information system in an organization.

(2 marks)

.....

.....

.....

11. a) Explain the following terms.

(2 marks)

i) Computer network

.....

.....

ii) Data communication

.....

.....

b) State any two resources that can be shared in a computer network. (2 mark)

.....

.....

12. a) Describe computer crime. (2 marks)

.....

.....

.....

a) List any two examples of computer crime. (2 mark)

.....

.....

13. State three functions of a network administrator. (3 marks)

.....

.....

.....

14. A school's bookshop sells stationery to students. A database is used to keep details of the stationery stock. Part of the database is shown below.

CODE	ITEM	INSTOCK	SOLD	ON ORDER	UNIT PRICE
C301	FLOPPY DISK	34	11	20	50
G101	RUBBER	56	45	70	10
G102	PEN	25	23	34	20
G103	PENCIL	10	0	67	5
M101	PROTRACTOR	23	14	40	10
M201	RULER	90	69	80	10

a) List the items output if the following search conditions are executed. (2 Marks)

i) (Code="M") OR (INSTOCK < 30)

ii) (ITEM= P*) AND (UNIT PRICE =10)

b) State the most appropriate data types for the following fields.

(1 mark)

CODE.....

UNIT PRICE

15. Explain two types of busses found on the computer motherboard.

(2 marks)

SECTION B (60 marks)

Answer question 16 and any other **three** questions from this section in the spaces provided.

i. a) Distinguish between a pseudo-code and a source code. (2 marks)

Describe an executable file. (2 marks)

State **three** program control structures in programming (3 marks)

List **two** types of errors that may be detected during program testing (2 marks)

Daniel lives in Italy and travels to Mexico, India and New Zealand. The times differences are as follows:

<u>Country</u>	<u>Hours</u>	<u>Minutes</u>
Mexico	-7	0
India	+4	+30
New Zealand	+11	0

us, if it is 10:15 in Italy it will be 14:45 in India.

Write an algorithm, using pseudo code, which: (5 marks)

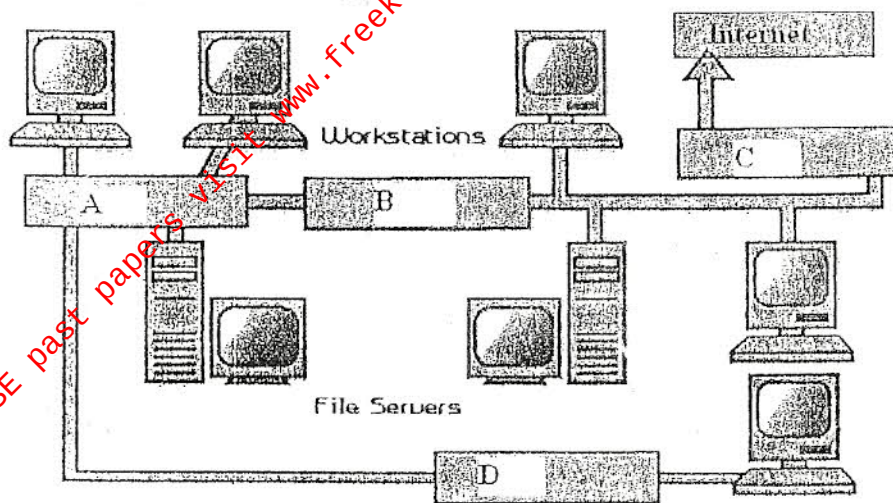
outputs the name of the country

inputs the time in Italy in hours (H) and minutes (M)

calculates the time in the country input using the data from the table

outputs the country and the time in hours and minutes

17. a) The diagram below represents a computer network.



i) Name the network devices represented by the following letters.

(2 marks)

A.....B.....

C.....D.....

ii) State the function of the devices labeled C and D.

(2 marks)

C:.....

D:.....

iii) Explain any two network topologies that have been employed in the above network.

(2 marks)

.....

.....

.....

.....

iv) State two functions of the devices labeled 'file servers'.

(2 marks)

b) Explain two network related data security threats.

(2 marks)

c) Give three ways in which ICT can be used in Hospitals.

(3 marks)

d) State two advantages of telecommuting to an organization.

(2 marks)

18. a) The figure below shows a spreadsheet used for managing a company's payroll. Use it to answer the questions that follow.

	A	B	C	D	E	F	G
1	MZIMA SPRINGS TILES						
2	PAYROLL 2007/2008						
3							
4	Employee No	Name	SALARY	Medical Allowance	Travel	Gross Pay	Tax Paid
5	33341	Tom Kijana	34000	3400	1700		
6	33342	Ann Mwaniki	41000	4100	2050		
7	33343	Jane Kwamboka	23000	2300	1150		
8	33344	Timothy Okeyo	19000	1900	950		
9	33345	Msafiri Mghanga	67000	6700	3350		
10	33346	Samson Kyalo	54000	5400	2700		
11	TOTAL						
12							
13	Tax rate		15%				

- i) The Gross Pay of an employee is the sum of SALARY, Medical Allowance and Travel. Write a formula that would return the Gross pay of Employee No 33343. (1 mark)

- ii) In cell B13, it is given that the Tax Paid is 15% of the Gross Pay. Using absolute cell referencing, write the formula that can be used in G5. (2 marks)

- iii) Write a single formula that returns the average salary of those employees who earn 40000 and above. (3 marks)

- iv) State how the formula written in G5 will read when copied to cell J7. (2 marks)

b) i) Differentiate between **formatting** and **editing** as used in word-processing. (2 marks)

ii) State **four** formatting activities that can be performed on a block of text. (2 marks)

c) i) List any **two** types of DTP software. (2 marks)

ii) Explain the purpose of a **master page** in a publication. (1 mark)

19. a) A new communications start-up company wishes to put in place security control measures against potential dangers to their computer systems. The company's directors, aware that sometimes computer criminals may penetrate and render havoc on the company systems, also want recovery mechanisms instituted. The company has decided to contract your company, specialized in systems security and control to advice and give recommendations by answering the following questions.

i) Define the term Data Security (2 marks)

ii) State the **four** major threats to data security. (4 marks)

b) State any **three** provisions that should be included a data protection law.

(3 marks)

.....

.....

.....

.....

c) i) Describe **four** major dangers of the Internet

(2 marks)

.....

.....

.....

ii) List four Internet connectivity requirements.

(2 marks)

.....

.....

.....

.....

d) Define the term Data Privacy

(2 marks)

.....

.....

.....

20. a) Explain the following terminologies as used in data representation.

(3 marks)

i) Word

ii) Byte

iii) Bit

b) i) Using six-bit two's complement, perform the following arithmetic.

(3 marks)

$$1111_2 - 111_2$$

ii) Perform the following arithmetic in binary notation.

(3 marks)

$$1011000011 \div 111$$

c) Explain three file organization methods.

(3 marks)

.....

.....

d) State the system development stages in their logical order.

(3 marks)

.....

.....

.....

.....

.....

.....

.....