NAME: ……………………………………………………………ADM NO:…....……

SCHOOL: …..……………………………………………………………………………...

451/1
COMPUTER STUDIES
PAPER 1
THEORY
OPENER EXAMS 2017
TIME 2 ½ HOUR.

GATITU SECONDARY SCHOOL - GATUNDU
Kenya Certificate of Secondary Education 2017

COMPUTER STUDIES
PAPER 1
THEORY
OPENER EXAMS 2017

INSTRUCTION TO CANDIDATES

❖ Write your name and index number in the spaces provided above
❖ *This paper consists of **two** sections A and **B***.
❖ *Answer **ALL** questions in section A.*
❖ *.Answer question 16 and any other THREE questions from section B.*
❖ *All answers should be written in the spaces provided on the question paper.*

For Examiners Use Only

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

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This paper consists of 14 printed pages.
Candidates should check the question paper to ascertain that
all pages are printed and no questions are missing

Answer ALL the questions in this section in the space provided.

1. Give two advantages of digital data over analog data.   2mks

2. Differentiate the following as used in word processors

   (a) Page break and column break.   (2mks)

   (b) Footnotes and endnotes.   (2mks)

3.   (a)   Name **two** special purpose memories found either inside or outside the microprocessor.
                                                                 2mks

        (b)   Distinguish between the two memories named above.   2mks

4.   (a) Explain the difference between broadband signal and baseband signal in data communication.
                                                                 2mks

(b)   Give **two** ways in which ICT is used in shipping industry.   (2mks)

5. Dickitoto visited a computer shop and noted stickers (labels) on desktop and laptop computers with the following information:

- ✓ Intel core- i 3   :-
- ✓ 3.0 GH   :-
- ✓ Windows 10 ®   :-
- ✓ 4 GB RAM   :-
- ✓ 500GB SATA HDD :-

  i)   Identify the : **processor speed; primary storage; type of OS and the type of processor** (indicate your answer against the match)   (2 marks)

6.   (a)   Define the term normalization as used in a database design.   (1mk)

       (b)   Explain **two** objectives of normalization.   (2mks)

7.   Describe **two** methods used to secure data in a database.   (2mks)

8.   Explain the meaning of the following terms as used in DTP.   (4mks)

       i). Crop

       (ii) Embedded object

(iii) Master page

(iv) Toolbox

9. Make a clear difference between a Website and Web portals.

(2mks)

10. State **one** advantages of using wireless transmission media to connect to the internet.

(1mks)

11. a). Give **TWO** reasons why operating systems were developed. (2mks)

(b) Write the following in full:- TCP/IP, HTML, HTTP and FTP.

(2mks)

TCP / IP : –
HTML : –
HTTP :–
FTP : -

12. Make a clear difference between Log file and Firewall. (2mks)

13.	Explain the meaning of the terms below as used in data security and controls. (3mks)

(i)	Information security :

(ii)	Fraud :

(iii)	Eavesdropping :

14.	Make a clear difference between observation and questionnaire as used in information gathering
	method.							(2mks)

	Observation –

	Questionnaire -

15.	Explain the importance of control structure in program development. (1mk)

SECTION B (60 MARKS)

Answer question 16(compulsory) and any other THREE questions from this section.

16. (a) State the stage of program development in which:		**4mks**
	(i) A flowchart would be drawn

	(ii) The programmer would check whether the program does as required

	(iii) The user guide would be written

(iv) The requirements specifications would be written

(b) A programmer uses program design tools to design a program that can list the odd numbers between 0 and 100.

(i). Write a pseudo code for this problem.   (5mks)

ii). Draw a flow chart for the pseudo code in 16 (b) (i) above.   (6mks)

17. A systems analyst has been asked by a doctor to computerize the records that she keeps about her patients. He must first of all collect information about the existing system.

   (a) Describe **four** methods he could use to collect this information.   4mks

   (b) Once the whole system has been designed it will need to be implemented.
      (i) Describe **two** methods of implementation that could be used.   **2mks**

      (ii)   Write down two reasons why one of the methods you gave in (b) (i) is better than the other.

                                                                              2mks

   (c) After a system is implemented, it is evaluated. Give **two** reasons why a system should be evaluated.

                                                                              2mks

(d). State one difference between system flowchart and program flowchart. **(2 marks)**

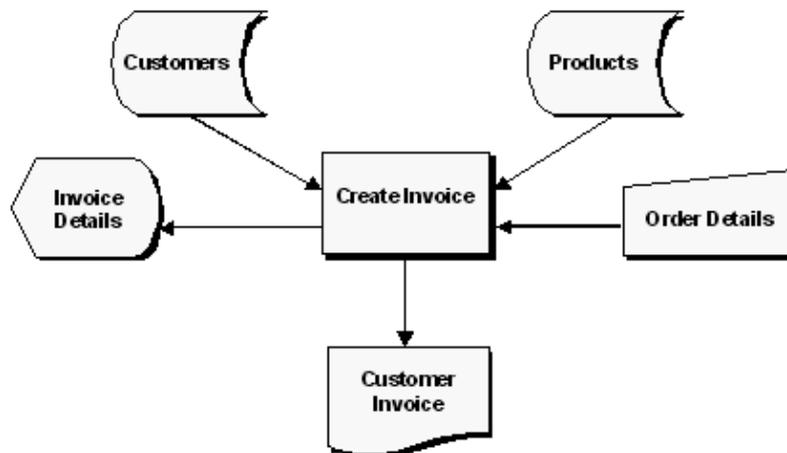e). Study the following flowchart then answer the questions that flow.

Figure 1

i). Identify the **<u>type</u>** of flowchart represented above in figure2. ½ mk

ii). Name all the flowchart symbols used in this flowchart (e) figure 2 above**. 2 ½ mks**

18. (a) Describe each of the following data processing methods and give an example of where used. (6mks)

    (i) Online processing:-

    Use:-

    (ii) Batch processing

    Use:-

    (iii) Real-time

    Use:-

(b) Make a clear difference between: (6mks)

    (i) Logical file and physical file –

    ii). Master file and back-up file –

    (iii) Random and indexed sequential file organization methods.

(c) An organization is facing threats to data integrity. Explain **three** of how the threats can be minimized. (3mks)

19. (a) Give **Two** reasons why data and information in a computer system needs to be converted to other number systems other than binary. (2mks)

(b) Explain **one** reason for use of binary in digital technology. (1mks)

(c) ii). Using twos complement, workout : $15_{10} - 8_{10}$ in binary form. **(4mks)**

ii) Twos complement is the most popular way of representing negative numbers in computer Systems. Give an advantage of using this method. 1mks

(d) i) Using BCD coding system convert 796 to binary. (3mks)

(e) Differentiate Database administrator from web administrator. (2mks)

(f) (i) Define the term accreditation as used in education. (2mks)

20. a) Differentiate between the terms workbook and worksheet (2mks)
…………………………………………………………………………………………………
…………………………………………………………………………………………………

ii) A part from when saving a workbook for the very first time, state other two situations
when it is advisable to use the save as command. (2mks)
…………………………………………………………………………………………………
…………………………………………………………………………………………………

b) State **four** categories of inbuilt functions in Microsoft excel giving an example of each.
(4mks)
…………………………………………………………………………………………………
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c) A family business earned Ksh. 2,000 on Monday, Ksh. 3,000 on Tuesday, Ksh. 1,000 on
Wednesday, Ksh. 3,500 on Thursday and Ksh. 6,000 on Friday. The expenditure over the
same period was Ksh. 1,500 on Monday and Ksh. 500 on Tuesday. There was no
expenditure the rest of the week.

i) Design a spreadsheet to calculate the profit per day (3mks)

ii) State the expression that would be used to obtain: (2mks)

    a) The maximum profit for the week

    b) The minimum profit for the week

    c) The total profit for the week

    d) The highest income during the week

d) The grading system below was used to assign grades to a list of students based on their mean scores.

80-100   A
60-79   B
40-59   C
Below 40 F

Assuming that the first mean score is in cell B3, write a function that would be used to assign grades to the students based on their mean scores. (2mks)