

Name..... Index Number...../.....  
451/1  
Computer Studies  
Paper 1  
(THEORY)  
June 2016  
2½ hours

Candidate's signature.....

**KASSU JET EXAMINATIONS**  
**Kenya Certificate of Secondary Education**  
**Computer Studies**  
**Paper 1**  
**(THEORY)**  
2½ hours

**INSTRUCTIONS TO CANDIDATES**

*Write your name and index number in the spaces provided above.*

*This paper consists of **TWO** sections; **A** and **B**.*

*Answer **ALL** the 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 official Use Only*

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

*This paper consists of 11 printed pages.*

*Candidate should check the question paper to ascertain all pages are printed as indicated  
And no questions are missing.*

**SECTION A (40 MARKS)**  
**ANSWER ALL QUESTIONS FROM THIS SECTION**

1. State THREE factors to be considered when setting up a computer laboratory. (3marks)  
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2. A mobile phone is regarded as a computer. Give two reasons why. (2marks)  
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3. What is the difference between a Gas Plasma Display and Liquid Crystal Display (2marks)  
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4. In reference to CPU explain **fetch-execute** cycle (3marks)  
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5. Give anyTHREE reasons why magnetic Ink Character recognition are too popular in banking industry for processing cheques (3marks)  
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6. Mention any THREE parameters that makes up the access time of storage media (3marks)  
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7. Highlight the use of the following keys found on a standard keyboard. (2marks)
- a) *Esc*

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b) *Home*

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8. a) Define a candidate key (1 mark)

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- b) Describe anyTHREE data integrity constraints in a database. (3 marks)

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9. MrMatano is a teacher at Kassu High school and wishes to use Spreadsheet to process the marks obtained by his students during the term. The worksheet below shows the details used.

A	B	C	D	E	F	G	H	I
1	NAME	CAT-1	CAT-2	CATTOTAL	EXAM	TOTAL	GRADE	RANK
2	Susan M.	14	06		56			
3	Peter K.	13	08		34			
4	Mary Ann. N	10	04		59			
5	Paul P.	11	07		57			
6	Janet F.	06	09		48			
7	Justin G.	08	07		50			

**NB:CAT -1 and CAT -2 are out of 15 marks each and EXAM is out of 70 marks**

- a) Write a function that displays “PASSED” when the total marks is >60 otherwise display “FAIL”. (2 marks)

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- b) Write a function that arranges the students according to their performance (2marks)

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10. State any TWO duties of a database administrator

(2marks)

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11. A student in KASSU High School was working with computer using windows operating system. After sometime he started experiencing the following problems.

- The computer failing to load the operating system during the booting process.
- The computer hangs (stops responding) now and then.
- Abnormal restarting.
- Displays a blue screen with the message such as fatal exception error has occurred.

State any TWO possible causes of the above problems?

(2marks)

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12. List any THREE ways in which ICT can be used to enhance security in a supermarket.

(3marks)

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13. Mention any TWO components of an expert system

(2marks)

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14. State any TWO negative impacts of ICT on the environment

(2marks)

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15. State what should be considered when carrying out requirement analysis for selecting a computer system?

(3marks)

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## SECTION B (60 MARKS)

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

16. A lecturer is in need of calculating the percentage mark for individual students who took two CATs that were marked out of 30 marks each, for a class of 150 students and grade the student as follows.

- Marks from 95 and above, one would get grade 'A'
  - Marks from 80 and above, one would get grade 'B'
  - Marks from 60 and above, one would get grade 'C'
  - Marks from 50 and above, one would get grade 'D'
  - Anyone whose score is less than 50, would get a 'F'
- a. Draw a flowchart that can be used to compute the percentage mark and output Grade for each student. (8marks)

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b. Write a pseudo code for the above flow chart.

(7marks)

17. (a) Do the binary calculations in binary numbers

(2marks)

i.  $11101.0011_2 + 101.011_2$

ii.  $101001.10101_2 - 110.01101_2$

iii. Using twos complement, perform the following calculation leaving your answer in decimal number.

(4marks)

$$23_{10} - 41_{10}$$

iv. Determine the BCD representation of  $(-890)_{10}$

(2marks)

(a) With a relevant example Distinguish between the following terms as used in data processing.

(i) Online processing and real time processing.

(2marks)

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(ii) Backup file and Archive file.

(2marks)

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(b) (i) During manual data entry, the data entry clerks need to verify and validate their data to ensure that it is free from errors. Define the term error as used in this context (1 mark)

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(ii) In an exam, where the subject marks for each student was summed and the mean calculated from the sum, the students realized that their marks were inaccurate by a fraction of the mean mark. Likewise a great difference between the actual class mean and the sum of the recorded mean mark.

Describe any two types of errors that may have caused the difference between the recorded mean marks and the actual mean marks. (2 marks)

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18. (a) Prime systems Ltd. is a record label company. It wishes to introduce a computerized system, so it has asked a team of consultants to investigate the possibility.

**i.** The consultants first carried out an initial study and produced a feasibility report.

Explain the purpose of a feasibility report (2marks)

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**ii.** Give TWO reasons why some clerical staff at Prime systems Ltd. might have been worried with the prospect of computerization. (2marks)

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(b) State the stage at which the following activities are performed in system development lifecycle (3marks)

(i) Flowcharting.

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(ii) Staff training

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(iii) Changeover

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(c) (i) What is pilot running in system development? (1mark)

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(ii) State TWO circumstances under which pilot strategy may be used during system changeover. (2marks)

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(d) (i) State THREE disadvantages of observation method of information gathering (3marks)

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(ii) Explain the importance of using automated methods of fact finding (2marks)

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19. a) Describe the following wireless communication devices (6 marks)

i. Access point (AP)

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ii. Wireless Antenna

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iii. PCMCIA cards

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b) Explain the following

(4marks)

i. Search engine

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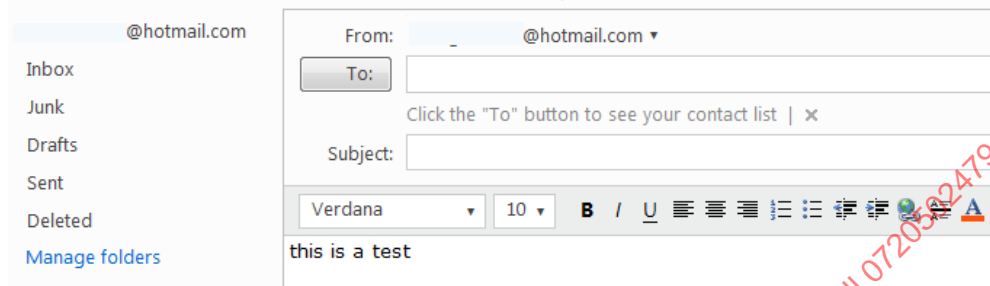
ii. Web browser

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c) The diagram below shows an e-mail extract.



What is purpose of the following folders?

(2 marks)

a) Junk

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b) Drafts

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d) Differentiate between Pasteboard, master page and printable area as used in desktop publisher.

(3marks)

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20. a) Explain each of the following type of operating systems (4marks)  
i. Distributed

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ii. Multi-user.

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b) List any TWO types of embedded operating systems used in modern cell phones (2marks)

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c) Most operating systems provide a file system. Mention any TWO file systems used in windows environment. (2 marks)

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(i) Mwangingi an IT expert would like to create a table of contents for his 50 page dossier. Explain to him how he could do this. (3marks)

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(ii) As an IT expert, explain how a 20 page document can be formatted to have first five pages numbered i,ii,iii,iv,v while the remaining pages numbered from 1,2,3,4....15. (4marks)

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