



MACHAKOS UNIVERSITY

University Examinations for 2017/2018

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST YEAR FIRST SEMESTER EXAMINATION FOR
BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO 100: FUNDAMENTALS OF COMPUTING

DATE: 11/12/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

Answer **question ONE** and any other **TWO** questions in this paper.

QUESTION ONE (30 MARKS)

- a) Define the following terms (4 marks)
- i Computer
 - ii Peripheral device
 - iii System unit
 - iv Troubleshooting
- b) Discuss the classification of computers by:
- i. Speed (5 marks)
 - ii. Generations (5 marks)
- c) With the help of relevant examples, describe the **four** categories of computer hardware. (4 marks)
- d) List **four** types of keys found on a computer keyboard. Give an example of each (4 marks)
- e) Describe three interface cables (3 marks)

- f) Describe **five** functions of an operating system (5 marks)

QUESTION TWO (20 MARKS)

- a) Explain what the following acronyms represent and give each of their characteristics.
- i. PROM
 - ii. EPROM
 - iii. EEPROM (6 marks)
- b) With the aid of a well labeled diagram explain the functional parts of a digital computer (5 marks)
- i Troubleshoot the following computer problems stating their possible cause
The monitor is not working
 - ii The system is not booting
 - iii The mouse is not working properly (6 marks)
- c) Explain the mail merge process and give two reasons why it is used. (3 marks)

QUESTION THREE (20 MARKS)

- a) Distinguish between the following:
- i Warm booting and cold booting (2 marks)
 - ii Web client and web server (2 marks)
 - iii System software and application software (2 marks)
- b) Identify the parts of the following e-mail address labelled A, B, C, and D (4 marks)

Iat@africaonline.co.ke



A B C D

- c) Describe **five** components of the motherboard. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Define the following terms as used in database programs
- i. Table (1 mark)
 - ii. Field (1 mark)
 - iii. Record (1 mark)
 - iv. Primary key (1 mark)
- b) The following data of individuals seeking employment was collected and recorded in an excel worksheet as shown below.

ID	First Name	Second Name	Address	Code	Town	Telephone	Gender
10112	Mary	Mong'are	Box 14656	00206	Nyahururu	06720176	Female
10122	John	Njoroge	Box 46324	00401	Kitale	06512567	Male
10132	Simon	Maruge	Box 62001	00222	Mombasa	08578901	Male
10232	Risper	Musau	Box 16200	00802	Machakos	05432678	Female

- Write the design of the table structure that may be used to create a database in Microsoft Access. (6 marks)
- c) Outline four features of a word processor that makes it suitable for clerical work in the modern office. (4 marks)
- d) Describe the two types of printers and two examples and an advantage of each type. (6 marks)

QUESTION FIVE (20 MARKS)

- a) The following data of sales in each branch was collected and recorded in a worksheet as shown below.

	A	B	C	D	E	F	G	H	I	J
1	SALES IN TONNES									
2	BRANCH/ MONTH	MA R	MA Y	JUN E	JUL Y	SEP T	OCT	NO V	AVER AGE SALES	RANK
3	BRANCH A	2000	1240	1300	1340	1250	1100	1450		
4	BRANCH B	3500	1230	1200	1234	2300	1250	1340		
5	BRANCH C	1236	1300	1400	1350	1543	1432	1340		
6	BRANCH D	1200	2400	2300	2500	2600	2345	2000		
7	TOTAL									
8	HIGHEST									
9	AVERAGE									
10	REMARK									

- Explain how you could select the sales figures for the months of March and November only, hence describe the procedure you could use to create a chart for the selected data for all the four branches. (4 marks)
- Write the formulae you could use to calculate the Total sales and Highest sales for the month of March (2 marks)
- Assume that the branches are to be ranked from the first to the last based on the average sales write the formulae you could use to evaluate the branch average sales and the rank given that branches are ranked based on average. (2 marks)

- iv. A remark is required for each month based on monthly averages as follows

MONTHLY AVERAGE	REMARK
<1000	BAD
1000 - 1250	AVERAGE
>1250	GOOD

Write an expression you could write in cell B10 and then copy through to cell H10 to automatically generate the monthly remarks. (2 marks)

- b) Explain **five** security threats organizations and individuals face when using computers. (5 marks)
- c) Describe security measures that can be used to combat the above problems. (5 marks)