



# KULLEĠĠ SAN BENEDITTU

## Boys' Secondary, Kirkop

Mark

### HALF-YEARLY EXAMINATION – 2012/2013

Track 3 (JL)



FORM 3

COMPUTING

TIME: 1h 30min

Question	1	2	3	4	5	6	7	8	Global Mark
Max. Mark	12	18	18	20	5	5	10	12	
Mark									

#### Instructions to students:

Answer **ALL** questions.

Calculators are **NOT** allowed; Good English and orderly presentation are important.

Read carefully each question

DO NOT WRITE ABOVE THIS LINE

Name: \_\_\_\_\_

Class: \_\_\_\_\_

#### 1. This question is on types of computers.

[12 marks]

- a. Use numbers between 1 and 5 to order the types of computers according to their speed. (Note: 1 refers to the fastest and 5 refers to the slowest). [5]

Microcomputer	Minicomputer	Supercomputer	Microcontrollers	Mainframe

- b. Give *four* examples of different types of *microcomputers*. [2]

_____	_____
_____	_____

- c. Mention *two* devices which have a *microcontroller* in them. [1]

_____	_____
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- d. State **TWO** *advantages* and **TWO** *disadvantages* of using a laptop rather than a desktop computer. [4]

Advantage 1: \_\_\_\_\_

Advantage 2: \_\_\_\_\_

Disadvantage 1: \_\_\_\_\_

Disadvantage 2: \_\_\_\_\_

**2. Figure A below shows an advert of a particular laptop.**

**[18 Marks]**

**Acer Aspire Windows 8 Laptop**

Processor: Intel Core i7-3517U 1.9 GHz  
Memory: 6GB DDR3  
Hard Drive: 1TB Solid-State SATA  
Screen Size: 15.6 inches  
Max Resolution: 1366 x 768  
Video Card: NVIDIA GeForce GT 640M  
Dedicated Graphics Memory: 1 GB DDR5  
Optical Drive: DVD Super-Multi Drive  
Card Reader: Yes  
Wi-Fi: Yes  
Webcam: Yes  
Bluetooth: Yes  
OS: Windows 8 Home Edition 64bit



**Figure A**

Look carefully at figure A and complete the following: [4]

a. Write down the **CPU type**:

\_\_\_\_\_

b. Write down the **CPU speed**:

\_\_\_\_\_

c. Write down the **amount of RAM**:

\_\_\_\_\_

d. Write down the **Hard disk space**:

\_\_\_\_\_

e. What is RAM used for?

\_\_\_\_\_

\_\_\_\_\_ [1]

f. What is ROM used for?

\_\_\_\_\_

\_\_\_\_\_ [1]

g. What do you understand by the terms **volatile** and **non-volatile**?

\_\_\_\_\_

\_\_\_\_\_ [2]

h. Which of these terms (volatile / non-volatile) applies to ROM?

\_\_\_\_\_ [1]

i. Mention another characteristic of ROM which differentiates it from RAM.

\_\_\_\_\_ [1]

- j. Write numbers (1-6) to order the following from the smallest (1) to largest (6). [3]

MB	TB	Byte	GB	KB	Bit

- k. State whether these storage devices are Optical, Magnetic or Electronic. [3]

Micro SD card		Hard Disk	
Floppy Disk		DVD	
CD		Pen Drive	

- l. Explain the difference between SERIAL and DIRECT access. [2]

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**3. This question is on the CPU and I/O subsystem.**

**[18 marks]**

- a. Draw a **diagram** which illustrates the main units of a computer system. Use all the words provided and also show the **directions of data flow** between the components. [9]

Output	Secondary Storage	ALU	I/O Subsystem
CU	MU		Input

b. What do these abbreviations stand for? [3]

i. ALU \_\_\_\_\_

ii. MU \_\_\_\_\_

iii. CU \_\_\_\_\_

c. Write a short description on these abbreviations. [6]

i. ALU \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ii. MU \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

iii. CU \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**4. This question is on Hardware and Software. [20 marks]**

a. Distinguish between Hardware and Software. [2]

\_\_\_\_\_

\_\_\_\_\_

b. Give an example of Hardware. [0.5]

\_\_\_\_\_

c. Give an example of Software. [0.5]

\_\_\_\_\_

d. What do you understand with the term System Software? [2]

\_\_\_\_\_

\_\_\_\_\_

e. What are output devices? [1]

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f. Write three output devices. [3]

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g. Three types of printers are the Dot Matrix, Inkjet and Laser printers. [5]

i. Which of these printers is an impact printer? \_\_\_\_\_

ii. Which printer prints character by character? \_\_\_\_\_

iii. Which printer prints page by page? \_\_\_\_\_

iv. Which printer is the cheapest? \_\_\_\_\_

v. Which is the fastest printer? \_\_\_\_\_

h. What is a plotter and what is it used for? [2]

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i. Mention a device which is considered to be both an input and an output device. [1]

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j. A short distance along the road from where I live there is a special school for children with disabilities. Many of these children cannot use the input and output devices that most of us use. [3]

i. Give an example of a **special input device** used by a **blind** child.

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ii. Give an example of a **special output device** used by a **blind** child.

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iii. Give an example of a **special input or output device** used by a child who cannot use his arms.

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**5. Five generations are recognized in the development of computers. State ONE type of computer component for every generation. Choose from below: [5 marks]**

<i>Integrated Circuits</i>	<i>Artificial Intelligence</i>	<i>Transistors</i>	<i>microprocessors</i>	<i>Vacuum tubes</i>
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First Computer Generation	
Second Computer Generation	
Third Computer Generation	
Fourth Computer Generation	
Fifth Computer Generation	

**6. This question is on Health and Safety. [5 marks]**

a. List *three* health problems linked to using the computer for long periods of time.

Health Problem 1: \_\_\_\_\_ [1]

Health Problem 2: \_\_\_\_\_ [1]

Health Problem 3: \_\_\_\_\_ [1]

b. Tick with a ☒ the correct answer.

i. What is ergonomics? [1]

- ☐ Ensuring that the hardware is reliable and won't break down
- ☐ Making sure that you don't have an accident at work
- ☐ The science concerned with designing safe and comfortable equipment for humans

ii. Which of the following statements is NOT a health and safety issue in a working environment? [1]

- ☐ There should be no trailing wires
- ☐ All hardware should be in perfect working order
- ☐ Electrical sockets must not be overloaded

**7. This question is on Database.****[10 marks]**

- a. Fill in the spaces in the paragraph on next page by using the words from the following list: [5]

<i>sort</i>	<i>database</i>	<i>item</i>	<i>utility</i>	<i>file</i>
<i>record</i>	<i>backup</i>	<i>fields</i>	<i>Key field</i>	<i>search</i>

In a hospital, a \_\_\_\_\_ for each patient is kept in a patient-record \_\_\_\_\_. One of the \_\_\_\_\_ in each record contains the patient's surname, e.g. GALEA. GALEA is called an \_\_\_\_\_ of information. Each patient has a unique patient-number which is used as the \_\_\_\_\_ when a \_\_\_\_\_ is undertaken for the details of a particular patient. The entire file is called a \_\_\_\_\_. When the records are required in alphabetical order, the surname field is used by a \_\_\_\_\_ program, sometimes known as a \_\_\_\_\_. A \_\_\_\_\_ copy of the file is made for security against accidental loss.

- b. What do you understand with the term **Primary key** or **Key Field**? [1]

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- c. Explain the meaning of the following terms and why these are used in a database: [4]

- i. Form

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- ii. Query

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8. This question is on Computer Logic. Convert the following: [12 marks]

Show your working and answers below:

Binary	Decimal	Hexadecimal
10101100		
		BE
	168	

Space for working

END OF EXAM