



**CICT PART I SECTION 2**

**COMPUTER SUPPORT AND MAINTENANCE**

**WEDNESDAY: 28 November 2018.**

**Time Allowed: 3 hours.**

**Answer ALL questions. Marks allocated to each question are shown at the end of the question.**

**QUESTION ONE**

(a) Describe the functions of each of the following computer maintenance tools and equipment:

- (i) Tweezers. (2 marks)
- (ii) Sash brush. (2 marks)
- (iii) Magnifying glass. (2 marks)

(b) When purchasing a computer, specifications for processor, hard disk, memory and monitor are often quoted.

**Required:**

Identify the unit for measuring each of the following:

- (i) Processor speed. (1 mark)
  - (ii) Monitor resolution. (1 mark)
  - (iii) Hard disk speed. (1 mark)
  - (iv) Memory size. (1 mark)
- (c) Highlight four indicators of CMOS battery failure in a computer. (4 marks)
- (d) Suggest six hardware considerations to be made before installing an operating system. (6 marks)

**(Total: 20 marks)**

**QUESTION TWO**

(a) Explain the following alternating current (AC) power fluctuations that could cause data loss or hardware failure:

- (i) Brownout. (2 marks)
- (ii) Spike. (2 marks)
- (iii) Power surge. (2 marks)

(b) Analyse five factors to consider when deciding whether to repair or to replace a component. (5 marks)

(c) Michael Muli an information technology (IT) technician knows that CPU speed is determined by its clock speed.

**Required:**

Explain to Michael, five factors that make the CPU faster other than clock speed. (5 marks)

(d) Differentiate between “front side bus (FSB)” and “back side bus (BSB)”. (4 marks)

**(Total: 20 marks)**

### QUESTION THREE

- (a) A newly established computer firm would like to acquire new equipment to be used in a polling project. The computer equipment needed for the project is expensive and its useful life lasts only for the project duration.

**Required:**

- (i) Suggest the best procurement method that the firm should use. Justify your answer. (2 marks)
- (ii) Outline two disadvantages of the method identified in (a) (i) above. (2 marks)
- (b) (i) Give three reasons why it is necessary to use standard furniture in a computer laboratory. (3 marks)
- (ii) Highlight three risks which could result from improper cabling in a computer laboratory. (3 marks)
- (c) Marion Chiliku tried opening an application program on a computer that was functioning well. The program did not load and the operating system reported that the memory was insufficient.

**Required:**

Suggest four possible causes of such a response. (4 marks)

- (d) Jobas Mulu's computer is slow in loading programs and he has been advised to upgrade the computer's memory.

**Required:**

Summarise the steps to follow when upgrading the memory module. (6 marks)

**(Total: 20 marks)**

### QUESTION FOUR

- (a) Analyse how the following improve performance of the hard disks:

- (i) Disk caching. (2 marks)
- (ii) Redundant Arrays of Independent Disks (RAID). (2 marks)
- (iii) File compression. (2 marks)

- (b) (i) Propose four risks associated with installation of pirated software. (4 marks)
- (ii) Citing an example of open source operating system, explain how open source software could be installed in a cybercafe to avoid pirated risks in (b) (i) above. (2 marks)

- (c) The BIOS setup offers information about the hard drive(s) installed in a computer.

**Required:**

Outline the steps to follow to gather information about your computer's hard disk using BIOS setup. (4 marks)

- (d) Distinguish between "standby mode" and "hibernate mode" computer power management modes. (4 marks)

**(Total: 20 marks)**

### QUESTION FIVE

- (a) Explain three instances where the anti-virus software might not protect the computer. (3 marks)

- (b) Discuss four types of change that create the need for software maintenance. (8 marks)

- (c) Analyse four benefits of creating partitions within a hard disk drive. (4 marks)

- (d) (i) Explain the term "E-support" as used in computer support. (2 marks)

- (ii) Summarise three advantages of online customer support. (3 marks)

**(Total: 20 marks)**

.....