



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)

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