



DICT LEVEL II

COMPUTER SUPPORT AND MAINTENANCE

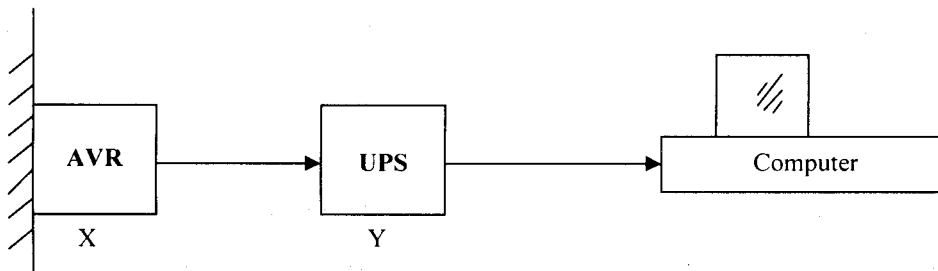
TUESDAY: 27 November 2018.

Time Allowed: 3 hours.

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

QUESTION ONE

- (a) Explain the term “cyberwarfare” in the context of computer security. (2 marks)
- (b) Describe each of the following computer disk management techniques:
- (i) Format drive. (2 marks)
 - (ii) Partition drive. (2 marks)
- (c) The diagram below shows a typical power supply to a computer system:



Required:

- (i) Explain the functions of the devices labelled X and Y on the diagram. (4 marks)
 - (ii) Give two alternatives to the device labelled Y on the diagram. (2 marks)
- (d) Eddie Moraa has a malfunctioning personal computer and suspects that the processor is about to fail.
- Required:
Suggest three indicators of a processor that is about to fail. (3 marks)
- (e) Naliaka Maua’s laptop has a number of redundant software that are slowing it down. She intends to remove them and has approached you for help.
- Required:
Outline to her five steps of uninstalling a program. (5 marks)

(Total: 20 marks)

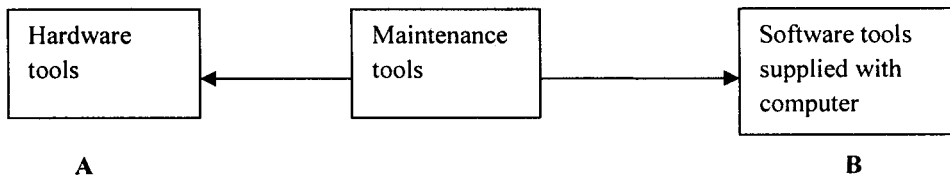
QUESTION TWO

- (a) State four types of processors. (4 marks)
- (b) Propose six features to look for in your next generation firewall. (6 marks)
- (c) Argue four cases in favour of installing two operating systems in one machine. (4 marks)
- (d) Identify six common symptoms associated with faulty computer display unit. (6 marks)

(Total: 20 marks)

QUESTION THREE

(a) Study the diagram below of computer repair and maintenance tools:



Required:

Give three examples of maintenance tools under category:

- (i) A. (3 marks)
 - (ii) B. (3 marks)
- (b) Explain the importance of each of the following features in a computer:
- (i) Expansion slot cover. (2 marks)
 - (ii) RAM heat spreader. (2 marks)
- (c) Distinguish between “cold plugging” and “hot swapping” as used in computer assembly. (4 marks)
- (d) A supermarket cashier noted that an optical scanning peripheral device attached to his computer was not responding.

Required:

Explain three steps he might take to ascertain whether the port in the port cluster is damaged.

(6 marks)

(Total: 20 marks)

QUESTION FOUR

- (a) Outline four benefits of preventive maintenance. (4 marks)
- (b) Summarise two differences between central processing unit (CPU) and graphics processing unit (GPU). (4 marks)
- (c) Killian Mosoti an IT technician realised that after installing a new motherboard, it failed to work.

Required:

Advise him on six issues that he should check to troubleshoot.

(6 marks)

- (d) Highlight four advantages and two disadvantages of the cache memory over main memory. (6 marks)

(Total: 20 marks)

QUESTION FIVE

- (a) (i) Explain the term “service level agreement” in the context of computer maintenance. (2 marks)
- (ii) Identify three components included in a service level agreement. (3 marks)
- (b) Discuss the following terms as used in computer security:
 - (i) Identity management. (2 marks)
 - (ii) Two factor authentication. (2 marks)
 - (iii) Unified threat management systems. (2 marks)
- (c) Outline three advantages of unified extensible firmware interface (UEFI) over traditional BIOS system. (3 marks)
- (d) Examine three techniques used to protect computer technicians and equipment from electrostatic discharge (ESD) when working with computer components. (6 marks)

(Total: 20 marks)

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