

KASNEB

DICT LEVEL II

COMPUTER SUPPORT AND MAINTENANCE

TUESDAY: 24 May 2016.

Time Allowed: 3 hours.

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

QUESTION ONE

- (a) A virus has attacked your computer. When you startup the computer, the system freezes and displays a blue screen and an error message on a blue background. You have important document files on the hard drive that you cannot afford to lose.

Required:

- (i) Explain the effect of the virus on the computer. (2 marks)
 - (ii) Propose how you could recover your documents from the hard drive. (2 marks)
 - (iii) Outline four regular maintenance practices that could secure or help recover your computer data. (4 marks)
- (b) Describe four main stages of information system selection. (4 marks)
- (c) Phoebe Nyawira got a job in an information communication technology (ICT) firm as a data entry clerk. Poor sitting posture has led to strain, injury and limb fatigue.

Required:

Suggest six guidelines on adjustment to the furniture that could solve her problems. (6 marks)

- (d) Images on Moffat Owuor's screen are shaking and he has invited you to assist him.

Required:

Highlight two troubleshooting actions you would undertake to diagnose the problem. (2 marks)

(Total: 20 marks)

QUESTION TWO

- (a) (i) List three potential prompts that could signify the need for the installation of a new or upgraded software within an organisation. (3 marks)
- (ii) Highlight three ways in which configuration information could be stored on a computer motherboard. (3 marks)
- (b) Sally Kioko a computer technician is intending to assemble a computer system unit.

Required:

- (i) List four tools she would be required to have in order to realise her objective. (4 marks)
 - (ii) Outline three precautions she should observe when handling the components during the assembling of the computer. (3 marks)
- (c) (i) Describe three characteristics of a computer motherboard of the form factor named BTX. (3 marks)
- (ii) Highlight two differences between mini tower and full tower computer cases. (4 marks)

(Total: 20 marks)

QUESTION THREE

- (a) Using a block diagram, illustrate the interaction between the following components in a computer architecture:
- (i) Arithmetic Logic Unit (ALU). (1 mark)
 - (ii) Control Unit (CU). (1 mark)
 - (iii) Registers. (1 mark)
 - (iv) Random Access Memory (RAM). (1 mark)
 - (v) Read Only Memory (ROM). (1 mark)
- (b) Distinguish between “internal cache memory” and “external cache memory”. (4 marks)
- (c) (i) Explain the term “server motherboard” citing how it differs from a desktop computer motherboard. (3 marks)
- (ii) Write a procedure for defragmenting a computer hard disk installed with windows operating system. (4 marks)
- (d) Highlight four disadvantages of enabling the advanced clock calibration (ACC) feature in the System BIOS. (4 marks)
- (Total: 20 marks)**

QUESTION FOUR

- (a) Standard power supply wall outlets provide alternating current (AC) yet computers require direct current (DC) to power their electronic components and to represent data and instructions.
- Required:**
Explain how alternating current is converted by a computer into direct current in order to be used by the computer. (4 marks)
- (b) Outline eight factors that should be considered when selecting a computer monitor. (8 marks)
- (c) Rapid Software Development Company has opted to dedicate one of its web pages in its website to marketing a software they have just developed.
- Required:**
- (i) Suggest three benefits that this approach would have over the manual booklets. (6 marks)
 - (ii) Other than the internet, identify two other storage media which could be used to deliver content to the users. (2 marks)
- (Total: 20 marks)**

QUESTION FIVE

- (a) A tutor was taking the students through computer assembling and disassembling procedures.
- Required:**
Explain the purpose of each of the following precautionary measures:
- (i) Touching the unpainted part of the system unit with bare hands. (2 marks)
 - (ii) Having a documentation on each computer being fixed. (2 marks)
 - (iii) Wearing proper clothing. (2 marks)
- (b) Describe the purpose of each of the following characteristics when selecting a memory module for a computer:
- (i) Size of the data bus. (2 marks)
 - (ii) Memory frequency. (2 marks)
- (c) (i) Explain the term “bus” as used in computer hardware architecture. (2 marks)
- (ii) Outline four functions of buses in bus architecture. (8 marks)
- (Total: 20 marks)**
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