

KASNEB

DICT LEVEL II

COMPUTER SUPPORT AND MAINTENANCE

TUESDAY: 23 May 2017.

Time Allowed: 3 hours.

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

QUESTION ONE

(a) Describe each of the following computer advanced power management techniques:

- (i) Hibernate. (2 marks)
- (ii) Allow wake timers. (2 marks)
- (iii) Allow hybrid sleep. (2 marks)

(b) Explain the following electronic components as used in computer systems:

- (i) Voltage divider circuits. (2 marks)
- (ii) Energy changers. (2 marks)
- (iii) Transistors. (2 marks)

(c) (i) Define the term “form factor” as used in computer cases, power supply systems and computer motherboards.

(2 marks)

(ii) Highlight six reasons for using a matching form factor for motherboard, power supply and computer case.

(6 marks)

(Total: 20 marks)

QUESTION TWO

(a) Summarise five prominent features of a microprocessor. (5 marks)

(b) Mary Muoki intends to replace her personal computer memory with a double-sided memory.

Required:

(i) Differentiate between “single-sided” and “double-sided” computer memory. (2 marks)

(ii) Outline in four steps, how she could remove the memory. (4 marks)

(c) Apart from insuring your computer, analyse three steps which you could take to protect your computer system.

(9 marks)

(Total: 20 marks)

QUESTION THREE

(a) Juma acquired a new laptop for his studies and was given a warranty for the same. His friends claim that he was given a raw-deal because it was very expensive.

Required:

(i) Highlight two qualities of a good warranty that Juma should have looked for. (2 marks)

(ii) Suggest four methods that Juma should have used to ascertain the correct price of the laptop before buying. (4 marks)

- (b) Differentiate between the following terms:
- (i) “Connector header” and “jumper header” with reference to a computer motherboard. (4 marks)
 - (ii) “Symmetric multiprocessing” and “asymmetric multiprocessing” in the context of a computer processor. (4 marks)
- (c) (i) Distinguish between a “crowd-sourced technical support” and “managed-services technical support” in reference to computer support. (4 marks)
- (ii) Highlight two software-end factors that could affect maintenance costs. (2 marks)
- (Total: 20 marks)**

QUESTION FOUR

- (a) Explain the following categories of computer software:
- (i) Productivity software. (2 marks)
 - (ii) Utility software. (2 marks)
- (b) Outline three maintenance practices for efficient and proper use of a liquid-crystal display (LCD) projector. (3 marks)
- (c) Explain the term “re-imaging a computer” as used in software installation and uninstallation. (3 marks)
- (d) Outline six ways in which data in the computer hard drive could be damaged. (6 marks)
- (e) Describe a procedure of identifying power supply related problems in a computer. (4 marks)
- (Total: 20 marks)**

QUESTION FIVE

- (a) Describe two main types of motherboard power supply connectors. (4 marks)
- (b) Examine the relationship between a computer processor and the following components:
- (i) Address bus. (2 marks)
 - (ii) Internal cache. (2 marks)
 - (iii) Registers. (2 marks)
 - (iv) External data bus. (2 marks)
- (c) Citing four reasons, explain why service level agreement is important in systems selection and acquisition process. (8 marks)
- (Total: 20 marks)**
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