

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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