



DICT LEVEL II

COMPUTER SUPPORT AND MAINTENANCE

WEDNESDAY: 27 November 2019.

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 function of each of the following motherboard components:
- (i) Jumper. (2 marks)
 - (ii) Bus. (2 marks)
- (b) Describe each of the following computer problem response:
- (i) Hardware error codes. (2 marks)
 - (ii) System error codes. (2 marks)
 - (iii) STOP code. (2 marks)
- (c) Differentiate between “product key” and “product activation” as used in computer software installation. (4 marks)
- (d) Madzo Wekesa, a technician at Uzuri College, installed a new hard drive in a computer but noticed that it was not detected by the BIOS.

Required:

Outline six possible reasons why the BIOS did not detect the hard drive. (6 marks)
(Total: 20 marks)

QUESTION TWO

- (a) Explain the following hard disk drive terminologies:
- (i) Average seek time. (2 marks)
 - (ii) Active partition. (2 marks)
 - (iii) Full stroke seek time. (2 marks)
- (b) Distinguish between “Ransomware” and “spyware” as used in computer security. (4 marks)
- (c) XYZ Ltd. technician upon switching on his personal computer realised that the computer displayed wrong memory size error.

Required:

- (i) Outline two causes that could have led to the above problem. (2 marks)
 - (ii) Propose two solutions to the problem mentioned in (c) (i) above. (2 marks)
- (d) Identify six common operations performed during software installation. (6 marks)
(Total: 20 marks)

QUESTION THREE

- (a) Highlight four symptoms of a faulty CMOS battery in a computer. (4 marks)
- (b) Outline four steps on how you could add extra memory to your personal computer. (4 marks)
- (c) Citing two probable causes and solutions in each case, analyse the following computer problems:
 - (i) Your personal computer becomes slower than usual and the CPU usage is 100%. (4 marks)
 - (ii) You are in the process of disk fragmentation. Several hours later, the disk fragmentation process is still going on. (4 marks)
 - (iii) On turning on the computer, it prompts you to type a password to continue the boot process. Unfortunately, all known passwords fails. (4 marks)

(Total: 20 marks)

QUESTION FOUR

- (a) Nancy Sindi, a technician at Mapema Company, was requested by her supervisor to perform preventive maintenance on all computers in the office.

Required:

Propose to Nancy Sindi four software-based preventive maintenance tools that she could use. (4 marks)

- (b) Explain the purpose of each of the following in relation to computer system's processor:
 - (i) Heat sink. (2 marks)
 - (ii) Processor fan. (2 marks)
 - (iii) Overclocking. (2 marks)
- (c) Suggest four methods of troubleshooting faulty internal speaker problem. (4 marks)
- (d) Marion Chacha purchased a new computer for her office work and noticed several stickers on the personal computer.

Required:

Explain to her the meaning of each of the following stickers:

- (i) Intel inside CORE i7. (2 marks)
- (ii) QR code. (2 marks)
- (iii) CE marking. (2 marks)

(Total: 20 marks)

QUESTION FIVE

- (a) State four characteristics of a computer with an unstable power supply. (4 marks)
- (b) Help desk services in some firms tend to worsen the customer service.

Required:

Discuss three key factors in help desk service that would lead to an improved customer service. (6 marks)

- (c) Describe the following display technology performance measures:
 - (i) Viewing angle. (2 marks)
 - (ii) Contrast ratio. (2 marks)
 - (iii) Refresh rate. (2 marks)
- (d) The management of Brightway Ltd. has approached you for advice on whether to buy or lease computer.

Required:

Advise them on four benefits of leasing computers. (4 marks)

(Total: 20 marks)

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