



kasneb

CICT PART I SECTION 1

INTRODUCTION TO COMPUTING

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MONDAY: 20 May 2019.

Time Allowed: 3 hours.

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

**QUESTION ONE**

- (a) (i) Explain the term “bus” as used in computing. (1 mark)
- (ii) Describe three types of computer buses. (3 marks)
- (b) Citing an example in each case, distinguish between “logical security” and “physical security”. (4 marks)
- (c) Describe three features of a database management system (DBMS). (6 marks)
- (d) Explain three factors used to determine data transmission media capabilities. (6 marks)
- (Total: 20 marks)**

**QUESTION TWO**

- (a) If the tyre is flat then I will have to remove it and take to a petrol station.  
With reference to the above statement, construct a truth table. (6 marks)
- (b) Describe the following classification of computers:
- (i) Personal computer. (2 marks)
- (ii) Workstation. (2 marks)
- (iii) Minicomputer. (2 marks)
- (c) Highlight three electric power problems that may interfere with steady operations of a computer. (3 marks)
- (d) Summarise five characteristics of the fourth generation computers. (5 marks)
- (Total: 20 marks)**

**QUESTION THREE**

- (a) Explain the following types of software installations:
- (i) Attended installation. (2 marks)
- (ii) Silent installation. (2 marks)
- (iii) Network installation. (2 marks)
- (iv) Scheduled installation. (2 marks)
- (b) Compute the binary form of the following numbers:
- (i)  $17_{10}$ . (2 marks)
- (ii)  $25_{10}$ . (2 marks)
- (c) Find the 1’s complements of the binary numbers computed in (b) (i) and (b) (ii) above. (2 marks)
- (d) Convert  $398_{10}$  to BCD equivalent. (3 marks)
- (e) List three types of computer networks based on geographical dispersion. (3 marks)
- (Total: 20 marks)**

**QUESTION FOUR**

- (a) Distinguish between the following terms:
- (i) "Default installation" and "custom installation" of new software. (4 marks)
  - (ii) "Virtual memory" and "cache memory". (4 marks)
- (b) Describe four measures that you could use to protect your computer from being infected by computer viruses. (4 marks)
- (c) Explain four reasons why a programmer may prefer to develop an application program using fourth generation language instead of assembly language. (4 marks)
- (d) Highlight two benefits of using a digital computer over an analogue computer. (4 marks)
- (Total: 20 marks)**

**QUESTION FIVE**

- (a) Explain the function of the following utility programs:
- (i) Defrag. (2 marks)
  - (ii) Scandisk. (2 marks)
  - (iii) Backup. (2 marks)
  - (iv) Data compression. (2 marks)
- (b) Identify two limitations of real-time processing systems. (2 marks)
- (c) Discuss five benefits of cloud computing to a business organisation. (10 marks)
- (Total: 20 marks)**
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