

Information Technology

Time Allowed – 1½ hours

Answer **TWO** questions. Each question answered will be worth 50 marks.

- 1.
- a) Boolean operators are fundamental to many strands of IT. Explain the behaviours of the binary Boolean operators OR, XOR and AND. [9 marks]
- b) How do the Boolean AND and OR operators compare to their natural language equivalents? [5 marks]
- c) Describe the behaviour of the unary Boolean operator NOT [3 marks]
- d) Many programming and search related tasks require that Boolean operators be combined to generate more complex expressions. Create a logic table that describes:

(A AND NOT B) OR C [8 marks]
- e) Computers fundamentally operate using the binary digits 0 and 1, although programmers often consider numbers as hexadecimal (rather than the usual decimal, base 10, used in everyday life).
What is hexadecimal and why is it commonly used by programmers? [8 marks]
- f) Convert the 16 bit binary number 01001110 11010010 to:
i) Hexadecimal
ii) Decimal
You should show your working. [10 marks]
- g) Explain how the different number bases used in IT affect consumers with respect to the storage sizes of IT products such as hard drives and mobile phones. [7 marks]

2

a) The following types of software packages are commonly used in businesses:

- Presentation Software
- Spreadsheets
- Word Processors

Name *two* programs that perform each of the above tasks.

[12 marks]

b) Compare and contrast Google's suite of 'office tools' with more traditional tools such as Microsoft Office or LibreOffice.

Your answer should address data security, functionality and data sharing, as well as any other topics that you consider to be relevant.

[23 marks]

c) What are the advantages and disadvantages of distributing documents as PDF rather than as editable file formats such as docx, odp etc..

[15 marks]

3)

a) Explain the terms Internet and Intranet and the difference between them.

[10 marks]

b) Suggest ways in which a company could make use of an Intranet, and why they might use the Intranet rather than some other communication method.

[8 marks]

c) Your line manager asks you whether your company should store its company files 'in the cloud' rather than on a company fileserver. Describe the advantages and disadvantages of the two storage mechanisms mentioned.

Your answer should address data security and data accessibility, as well as the various other topics that you consider to be relevant.

[20 marks]

d) Many companies make use of video conferencing for a variety of purposes. List three potential uses, and discuss the advantages and disadvantages of video conferencing in the workplace.

[12 marks]