

# UNIVERSITY OF ESWATINI



FACULTY OF SCIENCE AND ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE

## Main Examination

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Course Name: Computer Applications  
Course Code: CSC 104  
Time allowed: Three (3) Hours

### INSTRUCTIONS TO THE CANDIDATES

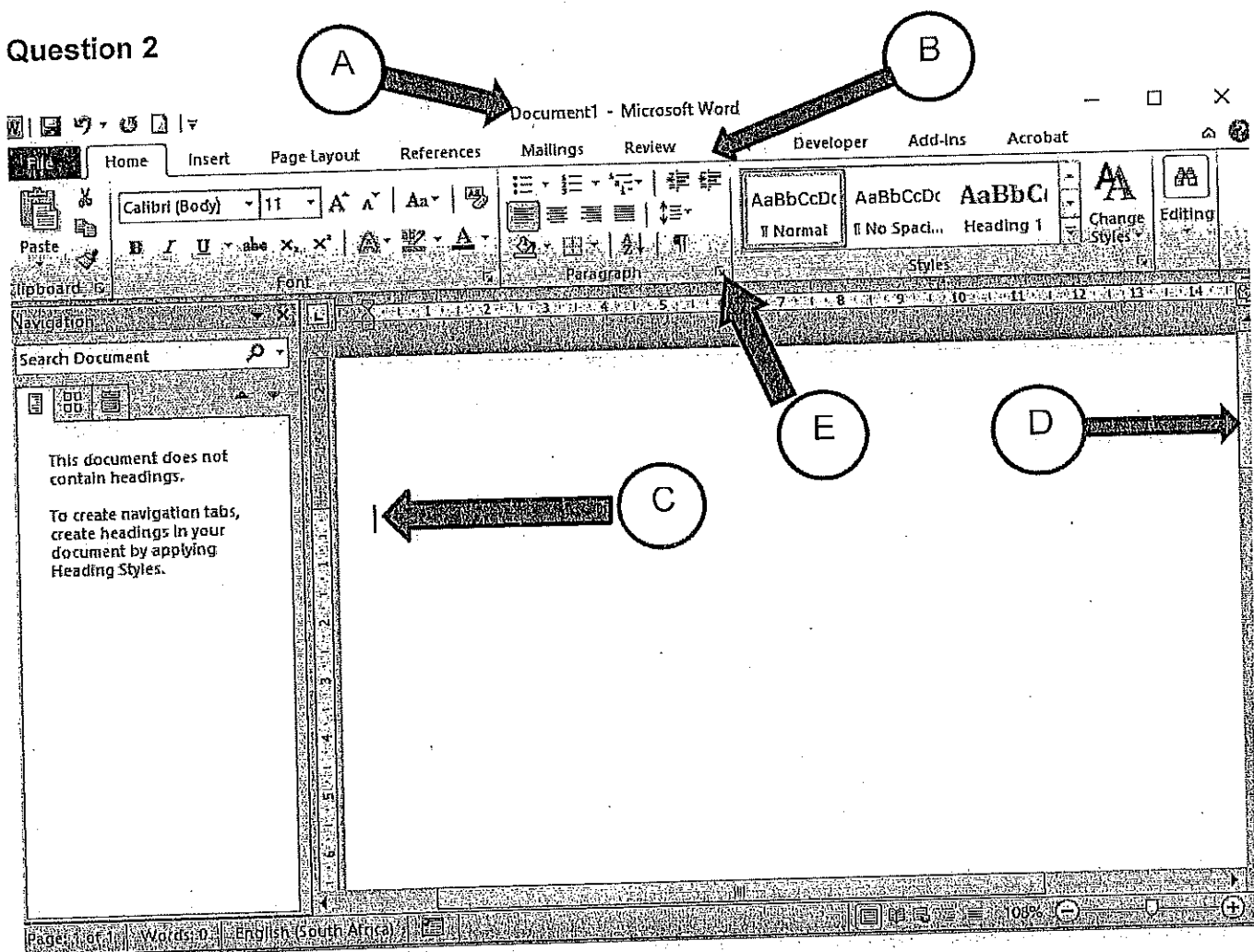
- 1) Answer **ALL** questions in Section A and select any **three (3)** in Section B
- 2) Each question carries **twenty (20)** marks
- 3) This examination paper should **NOT** be opened until permission has been granted by the invigilator
- 4) Number of marks per each question is written at the end of each question

## SECTION A- Answer ALL Questions

### Question 1

- a) Describe the differences between a program and a process. [3 marks]
- b) With the aid of a diagram, explain the data processing cycle. [4 marks]
- c) Explain the functions of three major components of the Central Processing Unit  
[6 marks]
- d) With the aid of examples, describe any four types of Operating Systems. [7 marks]

### Question 2



**Figure 1: Microsoft Office Word Snapshot**

- a) The **Figure1** shows a snapshot of Microsoft Office Word 2010, describe the function of each labelled bar and or icon from A to E. [5 marks]
- b) With the aid of relevant examples, explain any two differences between word processor and spreadsheet. [5 marks]

- c) Describe any five characteristics of Database Management Systems. [10 marks]

**SECTION B: Choose any THREE (3) Questions**

**Question 3**

As a Computer Science teacher, you have been approached by ABC secondary school to advise them on whether to adopt and infuse online learning platforms or applications into their teaching and learning activities. With the aid of examples of the existing online learning platforms, write a comprehensive report highlighting the benefits, opportunities, barriers and challenges of using online learning platforms in high schools for teaching and learning activities. [20 marks]

**Question 4**

- a) Describe the differences between relational database, object-oriented and hierarchical database management systems. [8 marks]
- b) Explain four types of Database Management Systems languages. [8 marks]
- c) Describe the difference between relative referencing and absolute referencing in Microsoft Excel. [4 marks]

**Question 5**

Make a comparative analysis of the Kahoot and Socrative game-based learning platforms as educational technologies; consider the benefits, applicability, feasibility and sustainability of each. [20 marks]

**Question 6**

- a) With the aid of relevant examples, explain the difference between high-level programming and low-level programming language. [10 marks]
- b) One of the methods of evaluating and assessing computer programming source code is to use Programming Assignment Assessment System (PASS). As a Computer Science teacher, why it is relevant to perform programming code evaluating and assessment using online and offline computer applications. [10 marks]