KASNEB

CICT PART I SECTION 1

INTRODUCTION TO COMPUTING

MONDAY: 22 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)   A company XYZ Ltd. wanted to develop a warning lamp to light if any of the following occur:

-    All systems are down.
-    Systems A, B down but C is okay.
-    Systems A, C down but B is okay.
-    System A down but B, C are okay.

Required:

(i)   Define the problem arising from the above scenario and formulate its truth table.   (5 marks)

(ii)   Write its simplified logic equation and draw its logic table.   (5 marks)

(b)   (i)   Convert 11011.011 base 2 to base 10.   (2 marks)

       (ii)   Convert 5DEA base 16 to base 8.   (2 marks)

       (iii)   Compute 4DA1 base 16 – 45B base16.   (2 marks)

(c)   Recommend the metrics used to determine the following hardware evaluation criterion:

(i)   Reliability.   (2 marks)

(ii)   User friendliness.   (2 marks)
                                        (Total: 20 marks)

QUESTION TWO

(a)   Discuss the five components of an information system.   (10 marks)

(b)   When installing a computer software, the user has the option of choosing between "express setup" and "custom setup".

Required:
Distinguish between "express setup" and "custom setup".   (4 marks)

(c)   You have been employed as a computer technician.

Required:
Highlight six maintenance activities you would be carrying out on a daily basis.   (6 marks)
                                        (Total: 20 marks)

QUESTION THREE

(a)   Describe the three additional steps of expanded data processing cycle.   (6 marks)

(b)   Explain the following types of computer keyboard keys:

(i)   Alphanumeric keys.   (2 marks)

(ii)   Punctuation keys.   (2 marks)

(iii)   Special keys.   (2 marks)

(c)   Discuss four main steps in bootstrapping process of a computer system.   (8 marks)
                                        (Total: 20 marks)

QUESTION FOUR

(a) The main objectives of an office information system is to facilitate communication between members of an organisation and between the organisation and its environment.

Required:
Suggest five uses of an office information system. (5 marks)

(b) Outline five computer mouse standard semantic gestures. (5 marks)

(c) Examine the differences between "cache memory" and "virtual memory". (10 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Information communication technology (ICT) programs help to open the doors to a rewarding profession that emphasises multiple skill sets, and allows students to pursue various options in traditional ICT, traditional communications or new combined careers.

Required:
Suggest four reasons why a career in ICT could be rewarding to an ICT student. (4 marks)

(b) The main types of computer network topologies are ring, bus and star.

Required:
Explain a situation where each of the above topologies would be most appropriate to install. (6 marks)

(c) Identify two situations that would necessitate one to clear complementary metal-oxide-semiconductor (CMOS). (2 marks)

(d) The performance of a computer system is important as users want the best possible performance of the computer they wish to buy.

Required:
Summarise eight factors that would contribute to the overall performance of a desktop computer. (8 marks)

(Total: 20 marks)

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