

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR
OF SCIENCE IN APPLIED COMPUTER SCIENCE

ACSC 101: INTRODUCTION TO INFORMATION TECHNOLOGY

STREAMS: BSC APPLIED COMP SCI Y1S1

TIME: 2 HOURS

DAY/DATE: FRIDAY 6/12/2019

11.30 A.M – 1.30 P.M

INSTRUCTIONS:

Answer question 1 and any other two

SECTION A: Answer all questions in this section

QUESTION ONE (30 Marks)

- a) Briefly explain the ASCII encoding scheme. [3 marks]
- b) Describe the stored program concept. [3 marks]
- c) Faith, a first year in Applied Computer Science wishes to acquire a laptop for personal and educational purposes. Explain **THREE** factors that she must consider. [3 marks]
- d) Giving an example of real applications, explain how **OLAP** works. [4 marks]
- e) Describe **THREE** functions of a DBMS. [6 marks]
- f) Social media presents the second revolution in modern computing. Using examples of actual trends in major social media channels, Discuss:
 - i. Any **TWO** merits of this revolution. [4 Marks]
 - ii. Any **TWO** ills of the revolution. [4 Marks]
- g) Outline the challenges in building computer networks. [3 Marks]

SECTION B (ANSWER ANY TWO QUESTIONS FROM THIS SECTION)

QUESTION TWO (20 MARKS)

- a) Modern organizations rely on web based systems in their daily operations. Discuss the data processing mode employed in such systems and outline at least **THREE** advantages of the data processing mode. [6 Marks]
- b) List **FOUR** characteristics of the main memory. [4 marks]
- c) Giving examples discuss the different technologies in the production of storage media. [6 marks]
- d) Discuss any **TWO** utility programs. [4 marks]

QUESTION THREE (20 MARKS)

- a) Discuss any **TWO** benefits of using computers. [4 marks]
- b) Describe how the internet works. [4 marks]
- c) Explain the constraints that should be enforced in database design. [6 marks]
- d) Discuss any **THREE** network topologies. [6 marks]

QUESTION FOUR (20 MARKS)

- a) Briefly describe the fifth generation computers. [6 marks]
- b) Emerging technologies in computing have led to the redefinition of systems in businesses and other organizations:
 - (i) Discuss any **TWO** such emergent technologies. [4 Marks]
 - (ii) List any **TWO** merits of such technologies. [2 Marks]
 - (iii) List any **TWO** challenges of such technologies. [2 Marks]
- c) Giving examples, distinguish between Custom and Generic software. [6 Marks]

QUESTION FIVE (20 MARKS)

- a) Describe the instruction execution cycle using a diagram. [6 Marks]
 - b) Discuss **THREE** ways by which you can protect data and programs. [6 Marks]
 - c) Work out the following conversions. [4 Marks]
 - (i) 110100101_2 to decimal equivalent
 - (ii) 45_{10} to octal equivalent
 - d) Discuss automation clearly explaining any **TWO** tools used in modern automation. [4 Marks]
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