CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF CERTIFICATE IN COMPUTER SCIENCE

COSC 00101: COMPUTER SYSTEMS AND ORGANIZATION

STREAMS: **CERT COMP SCI.**   **TIME: 2 HOURS**

DAY/DATE: WEDNESDAY 14/07/2021   **8.30 A.M. – 10.30 A.M.**

INSTRUCTIONS:

- Answer question **ONE** and **TWO** other questions
- Do not write anything on the question paper
- This is a **closed book exam**, no reference materials are allowed in the examination room
- There will be **NO** use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely.

SECTION A

Question one (30 marks)

1. Define the following terms in Computer Systems

    i.   Language Processor   [2 marks]

    ii.   Computer System   [2 marks]

    iii.   EEPROM   [2 marks]

2. List any Two Quantum computers that are operational in the world as of July, 2021 [2 marks]

3. Mugendi, a student in the school of Nursing, wants to buy a new laptop, how would you advise Mugendi to check specifications of laptops he's interested in [Hint: Windows version, RAM, hddsk, GPU speed]   [4 marks]

5. The following Binary Number: 10101_2 is translated by a CPU machine library, Calculate its Octal Equivalent [3 marks]

6. Perform the 1'^{s} and 2'^{s} complements of the following binary: 10011110. [3 marks]

7. Define the Booting Process and explain the two Types of booting [6marks]

8. List and Explain Any THREE system utilities [6marks]

SECTION B (Answer Any Two Questions)

Question two (20 marks)

a. List and Explain the Three Main Differences between Primary and Secondary Memory [6 marks]

b. List SIX most prominent features of system software [6 Marks]

c. List and explain any four functions of an Operating System [8 marks]
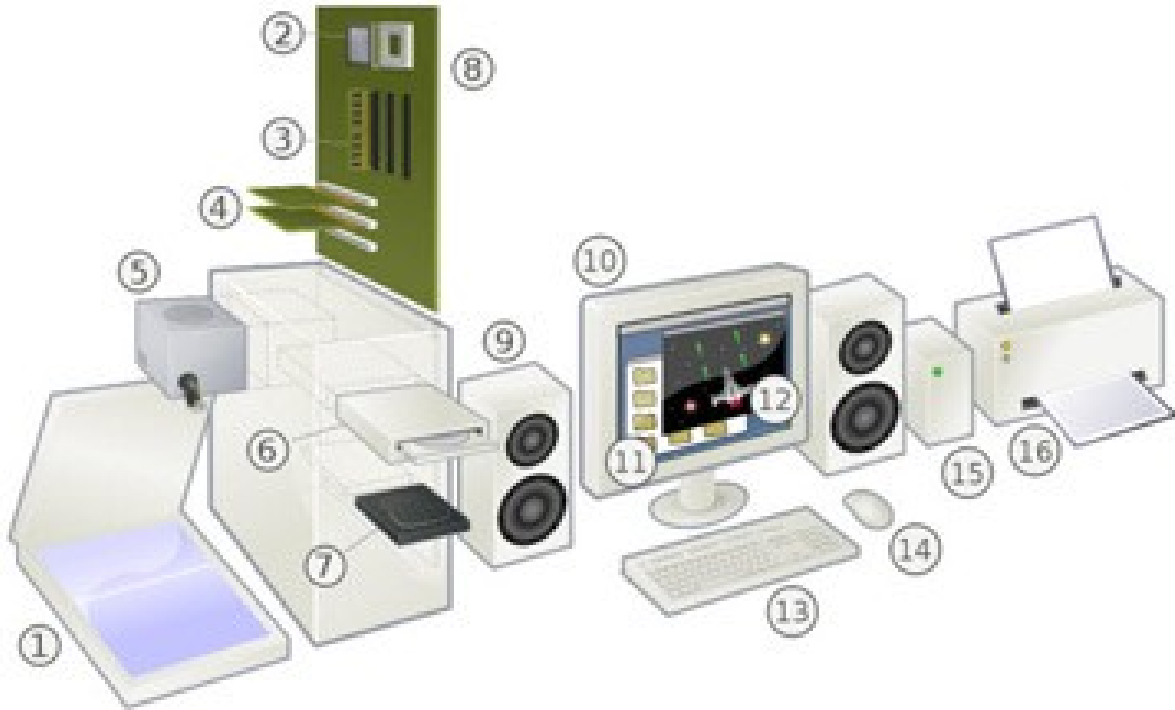
Question Three (20 marks)

a. State & Explain Three Main Types Of System Buses [6 Marks]

b. Define and Explain GUI OS [4 Marks]

c. Briefly Explain any Four Benefits and Four Risks of using Computers in an Organization [10 Marks]

Question Four (20 marks)

a. Briefly Outline the Classification of Computers by Generations [10 Marks]

b. Write Brief Notes on Data Processing Cycle [6 Marks]

c. List Four internationally recognized encoding schemes for number systems [4 marks]

Question Five (20 marks)

a. Below is an image of a Personal Computer System, Name the numbered components and state their functions. [16 marks]

b. Explain & List Functions of The Central Processing Unit.   [4 marks]

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