



GRE TSA UNIVERSITY - THIKA

UNIVERSITY EXAMINATIONS JAN – APRIL 2025 SEMESTER

BACHELOR OF COMPUTER SCIENCE

COURSE CODE: BSCS 101

COURSE TITLE: FUNDAMENTALS OF COMPUTER SCIENCE

DATE: APRIL 2024

TIME: 11:30 AM – 2:30 PM

INSTRUCTIONS TO CANDIDATES

1. SECTION A IS **COMPULSORY**.
2. SECTION B: ANSWER ANY OTHER **TWO** QUESTIONS.
3. **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
4. ALL ROUGH WORK SHOULD BE AT THE BACK OF YOUR ANSWER BOOKLET AND CROSSED OUT.

CAUTION: *All exam rooms are under CCTV surveillance during the examination period*

SECTION A: COMPULSORY

- a) Companies utilize computers as an enabler of automating their processes. Discuss functions of computers with regard to data processing [5 marks]
- b) Convert 11001011_2 to decimal number and octal number [5 marks]
- c) Mary wrote a program and run using her computer. Discuss different computer memories that could enabled her to perform the task successfully. [5 marks]
- d) Computers have evolved over time to the present. Discuss different computer generations highlighting their main features and their advantages [5 marks]
- e) Convert $26F1E_{16}$ to binary and decimal number system [5 marks]
- f) Grets University would like to network a new computer lab. Discuss different devices that will enable them accomplish the work [5 marks]

SECTION B: ANSWER ANY TWO QUESTIONS

Question Two

- a) Onyango was working on his computer he later realized that it was infected by viruses. Discuss different types of virus likely to have infected his computer [6 marks]
- b) Using a well labeled diagram. Discuss the von Neumann architecture/structure of a compute. [8 marks]
- c) State and explain different input devices that can be used to capture data giving examples [6 marks]

Question three

- a) Identify the type of network that runs the Grets University. Discuss this type of network and state its main functions. [8 marks]
- b) You have been appointed a network expertise. Discuss different types of network he can set up for different organizations depending on size and area coverage [8 marks]
- c) Computers have been considered to be an enabler of technology. Discuss different applications of computers [4marks]

Question Four

- a) Define protocol. Discuss its importance and significance [4 marks]
- b) Discuss different network topologies that can be used to set up a local area network for the county government of Nakuru [6 marks]
- c) Input devices are an important aspect for providing mechanism through which data is input. Discuss different devises that can be used [4 marks]
- d) Discuss the world wide web and the significance of the search engine when to trying to find information on a web page [6 marks]

Question five

- a) Convert 11111.011 into decimal number system **[3 marks]**
- b) Discuss important characteristics of an operating systems that enables it to operate more efficiently. **[8 marks]**
- c) Define internet and state, explain the main components that are necessary for its functionality. **[5 marks]**
Discuss the difference between the internet and intranet **[4 marks]**