



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY  
SCHOOL OF INFORMATION AND INNOVATIVE SYSTEM  
BACHOLER IN SCIENCE INFORMATION AND COMMUNICATION  
TECHNOLOGY**

**JANUARY /APRIL 2025, YEAR 1 SEMESTER 2, MAIN CAMPUS  
COURSE CODE: ITB 1102  
COURSE TITLE: COMPUTER SYSTEMS FUNDAMENTALS**

**EXAM VENUE: LAB 8**

**DATE: 25/04/2025**

**TIME: 2HOURS                      SESSION: 15.00-17.00**

**INSTRUCTIONS**

- 1. Answer question ONE (compulsory) and any other Two questions.*
- 2. Candidates are advised not to write on the question paper*
- 3. Candidates must hand in their answer booklet to the invigilator while in the examination room*
- 4. No mobile devices (e.g. laptops, phones. etc.) are allowed into the Examination Room*
- 5. This paper consists of two printed pages*

### QUESTION ONE (20 MARKS)

- a) Define the following terms
  - i. Computer (2mks)
  - ii. Computer System (2mks)
  - iii. Data (1mks)
  - iv. Information (1mk)
- b) Explain two advantages and two disadvantages of computer (4mks)
- c) Explain the booting process (4mks)
- d) Differentiate between Virus and Vaccine (4mks)
- e) Explain two ways of protecting data from a virus (4mks)
- f) State the unit of measuring memory capacity of a computer (1mk)
- g) State the technologies used in the following computer generations.
  - i. First Generation (1mk)
  - ii. Second Generation (1mk)
  - iii. Fifth Generation (1mk)
- l) Explain two areas where computers are used (4mks)

### QUESTION TWO (20 MARKS)

- a) Define operating system(OS) (2mks)
- b) Differentiate between Kernel and Shell (2mks)
- c) Explain four types of Operating Systems(OS) (8mks)
- d) Explain three functions of Operating System (6mks)
- e) State two examples of Operating System (2mks)

### QUESTION THREE (20 MARKS)

- a) Explain two components of Central Processing Unit (4mks)
- b) Differentiate between compiler and interpreter (4mks)
- c) State two reasons why computer uses binary numbers (2mks)
- d) Differentiate between a file and a directory (4mks)
- e) Explain three features of Windows Desktop (6mks)

### QUESTION FOUR (20 MARKS)

- a) Differentiate the following number systems
  - i. Binary Number and Octal number (2mks)
  - ii. Decimal number and Hexadecimal Number (2mks)
- b) Calculate the number to Decimal equivalent
  - i.  $1010_2$  (3mks)
  - ii.  $12570_8$  (3mks)
  - iii.  $19FDE_{16}$  (3mks)
- c) Explain the following Coding Schemes
  - i. BCD (1mk)
  - ii. ASCII (1mk)
  - iii. EBCDIC (2mks)
- d) Convert  $77_8$  to binary number (3mks)

**QUESTION FIVE (20 MARKS)**

- a. Describe data processing cycle (6mks)
- b. Define web browser (2mks)
- c. State two functions of web browser (2mks)
- d. Define URL (2mks)
- e. Explain the classification of computers according to Size and Processors (8mks)

JOOUST OBSERVES ZERO TOLERANCE TO EXAM CHEATING