

Topic 1: Sample Questions

- Q1 (a) Define the following terminologies as used in computer systems;
- (i) Bit
 - (ii) Microcomputer.
 - (iii) Nibble
 - (iv) Program
 - (v) Peripherals
 - (vi) Computer generation
 - (vii) Firmware
- (b) With the aid of a block diagram, explain the functions of the main block of a microprocessor unit.
- (c) With the aid of a schematic diagram, describe the functions of the various parts of a microprocessor-based system.
- (d) Outline the technological development that gave rise to the first FOUR computer generations.
- (e) Explain the phrase “64-bit computer system”
- (f) State 4 areas where microprocessor systems are used.
- Q2. (a) Describe the effect of the following on parameters on microprocessor/computer performance.
- (i) CPU clock frequency
 - (ii) Number of registers
 - (iii) Number transistors used in fabrication
 - (iv) Size of main memory, RAM
- (b) A bank account provides its current account holders with a chequebook so that they can transfer money to people. A sample cheque and stub from a chequebook is shown below.

<p>_____ Date</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>£ _____</p> <p>000144</p>	<p>ITCD Bank 03-41-68</p> <p>73 Grimsley Road, Werstown WT4 3QW _____ Date</p> <p>Pay _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p style="text-align: right;">£ _____</p> <p style="text-align: right;">MR A R PATEL</p> <p style="text-align: right;">_____ Signature</p> <p style="text-align: center;">⑈000 144⑈ 03114 168⑈ 09137 184⑈</p>
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- (i) Give two pieces of information which are printed on the cheque in magnetic ink.
 - (ii) Describe two benefits of using Magnetic Ink Character Recognition (MICR) for reading cheques.
 - (iii) Give one reason why the process of reading cheques is still not fully automatic.
- (c)
- (i) Write down TWO differences between RAM and ROM.
 - (ii) Give one reason why computers need to use ROM. (6 marks)
- (d) Outline any TWO advantages of using TFT (LCD) Monitors over CRT Monitors.
- Q3. (a) You have been approached to recommend specifications for the computers and printers to be purchased. Outline any TWO major factors that will guide your recommendations for:
- (i) Printers
 - (ii) Computers
- (b) A company is replacing the personal computers used by its employees. Each employee has been offered the choice of a laptop or a desktop computer. For each of the computer types, describe TWO one advantage to an employee of choosing it. Your advantages must be different in each case.

- (c) Biometrics is the technology of using human physical data to identify a person uniquely. State any TWO pieces of physical data which can be used for identification purposes.
 - (d) Kanzungu was involved in an accident two year ago and lost his ability to use both hands. Propose any two input devices/methods, giving reasons, which Kanzungu can use to continue working with his computer at home and in the office.

 - (b) DVD-R, CD-R and CD-RW are three commonly used types of storage media. Give example situations where each of these would be more appropriate than the other two.
- Q4.
- (a) With the aid of a block diagram, explain the functions of the various units of a computer system.
 - (b) Name, giving reasons, any TWO applications areas for the following input devices;
 - (i) Barcode readers
 - (ii) Magnetic Ink Character Reader (MICR)
 - (c) Which device that reconciles the differences between computers and phones?
 - (d) State the technique whereby part of the program is stored on disk and is brought into memory for execution as needed.
 - (e) One of the workers in the firm has noticed that the computers are running slowly. Identify two hardware upgrades and one software upgrade that could be carried out to improve the performance of the computers.
- Q5
- (a) You have been asked by a fellow student on your course to produce a guide to buying a personal computer. Name any the three major parameters your specifications will have, as first entries, and state their importance.
 - (b) Name, giving reasons, the most appropriate
 - (i) Memory device for performing backup tasks by students undertaking Music course at the Technical University of Kenya.

- (ii) Input devices for
 - I clearing of cheques in banks
 - II marking multiple choice exams
 - III capturing product information at point of sales in a supermarket

- Q6
- (a) Discuss the effects of Information Technology in your professional area.
 - (b) Companies use ICT systems because of the benefits that they provide. Giving examples, discuss how the use of ICT systems can result in each of the following benefits to a Printing firm. Your example must be different in each case.
 - (i) Reduction in costs
 - (ii) Increased speed of operation
 - (iii) Increased business opportunities
 - (c) Select the most suitable type of input device to perform these functions:
 - (i) Entry of an application for a loan, received on paper form, into an operational system for processing loan applications;
 - (ii) Entry of details of a house for entry into a system for an estate agent;
 - (iv) Entry of details collected in a ward visit by a hospital consultant;
 - (v) A field map from a geologist's survey into a mapping system.