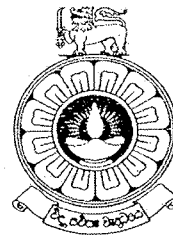


The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc. Degree Programme



Department	: Computer Science
Level	: Level 03
Name of the Examination	: Final Examination
Course Title and – Codes	: Fundamentals of Computers – CSU3315/CPU1140
Academic Year	: 2023/2024
Date	: 27.10.2023
Time	: 09.30am – 11.30am

General Instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of **SIX (06)** questions in **03** pages.
 3. Answer **FOUR (04)** questions ONLY.
 4. Answer for each question should commence from a new page.
 5. Draw clear diagrams where necessary.
 6. Involvement in any activity that is considered as exam offense will lead to punishment.
 7. Use blue or black ink to answer the questions.
 8. Clearly state your index number in your answer script.
-

Q1).

- a. Some characteristics of computers are recognized as limitations or drawbacks of computer technology. Describe three of them.
- b. What are the five generations of computers and the technology used in each generation?
- c. How does the size of a computer affect its use?
- d. Draw a simple block diagram to describe the computer's architecture.
- e. Briefly describe the following components of a computer:
 - i. Central Processing Unit
 - ii. Processor Registers
 - iii. Memory
 - iv. Motherboard
 - v. Peripherals

Q2).

- a. Explain three differences between RAM and ROM.
- b. "EPROM and flash EPROM can be erased and reprogrammed multiple times, but they are still described as Read-Only memory". Give a reason for this statement.
- c. What are the advantages of an Optical Mouse over a Mechanical Mouse?
- d. Explain three drawbacks of LCD monitors compared to CRT monitors.
- e. Write the steps of the Laser printing process and explain them briefly.

Q3).

- a. Provide a brief description of computer software.
- b. Mention and briefly describe five different types of Operating Systems.
- c. Briefly describe the following terms:
 - i. Source code
 - ii. Compiler
 - iii. Interpreter
 - iv. Object file
 - v. Debugger
- d. Differentiate between Application Software and System Software.
- e. What are the uses of Learning Management Systems?

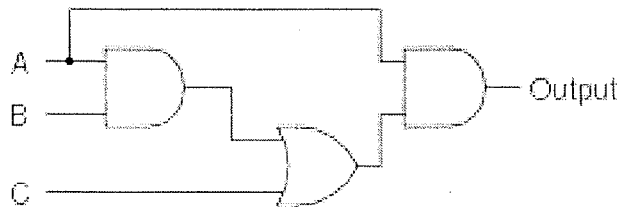
Q4).

- a. What is the importance of Binary Numbers in computers?
- b. Convert the following numbers:
 - i. 47.125_{10} into binary.
 - ii. 6531_8 into hexadecimal.
- c. Use 2's complement representation to solve the following operation:
$$34_{10} - 18_{10}$$
- d. What is the importance of character representation?
- e. Subtract the following using BCD representation.

$$565 - 33$$

Q5).

- a. Create five truth tables for the logic gates you have studied.
- b. What are the differences between Boolean Algebra and Binary Logic?
- c. Derive the Boolean equation for the output of the following logic circuit.



- d. Minimize the above derived Boolean equation using Boolean Laws.
- e. Construct the Logic Circuit for the above-minimized equation.

Q6).

- a. What are the four classes of Computer Networks? Describe each class giving examples.
- b. Draw diagrams to show four Network Topologies.
- c. Describe the following terms:
 - i. Internet
 - ii. Intranet
 - iii. Extranet
- d. What is a Web Browser?
- e. Identify and name the parts of the following URL.

http://www.house.gov/house/2004_House_Calendar.html

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