

Index Number:



University of Kelaniya - Sri Lanka

Centre for Distance and Continuing Education

Faculty of Commerce & Management Studies

Bachelor of Business Management (General) Degree First Examination (External) – 2021

October - 2023

BMGT E 1065 – Information Technology

Time: 03 Hours

Instructions:

- This paper consists of two parts: Part I and Part II.
- Part I contains 20 multiple choice questions that are compulsory, and the answers should be **underlined** on the paper itself. Taking the Part I paper out of the examination hall is strictly prohibited.
- Part II contains five (05) Essay-Type questions. Select any **three (03) questions** and answer them in the booklet provided.
- Using mobile phones or any other digital device is not allowed.
- Total 100 marks.

PART I - MULTIPLE-CHOICE QUESTIONS

- 1) Which of the following is an example of system software?
 - a) Microsoft Word
 - b) Windows Operating System
 - c) Adobe Photoshop
 - d) Google Chrome

- 2) What is the primary purpose of application software?
 - a) To manage computer hardware resources
 - b) To perform low-level system tasks
 - c) To provide a user-friendly interface for specific tasks
 - d) To protect the computer from viruses and malware

- 3) What does CPU stand for in the context of computer technology?
 - a) Central Processing Unit
 - b) Computer Peripheral Unit
 - c) Common Program Utility
 - d) Computer Power Unit

- 4) Which component of a computer system is responsible for storing data and programs even when the power is turned off?
 - a) RAM (Random Access Memory)
 - b) CPU (Central Processing Unit)
 - c) HDD (Hard Disk Drive)
 - d) GPU (Graphics Processing Unit)

- 5) Which of the following is an example of an input device?
- a) Printer
 - b) Monitor
 - c) Keyboard
 - d) Speaker
- 6) Which of the following is a good example for business intelligence and data visualization tool?
- a) Microsoft Power BI
 - b) Adobe Premiere Pro
 - c) IBM SPSS Statistics
 - d) VLC Media Player
- 7) What should be the top-level domain for non-profit organizations?
- a) .com
 - b) .org
 - c) .edu
 - d) .net
- 8) Which of the following statements is NOT accurate when it comes to connecting to the internet?
- a) Dial-up connection is a method of internet access using a telephone line and a modem to establish a temporary connection.
 - b) Digital Subscriber Line (DSL) is a high-speed internet connection that uses existing telephone lines to transmit data, providing faster internet access than traditional dial-up.
 - c) DSL offers a continuously connected and faster internet experience compared to Dial-up.
 - d) Dial-up and DSL connections are identical in terms of speed and reliability.

- 9) What term is used to describe the practice of intentionally exploiting software vulnerabilities for malicious purposes, such as gaining unauthorized access or causing harm to computer systems?
- a) Encryption
 - b) Hacking
 - c) Firewall
 - d) Authentication
- 10) What is the term for a type of malicious software that disguises itself as a legitimate program or file to trick users into downloading and executing it, often leading to unauthorized access and harm to the computer system?
- a) Virus
 - b) Phishing
 - c) Ransomware
 - d) Trojan Horse
- 11) What does a diamond shape represent in a flowchart?
- a) Decision
 - b) Start/End
 - c) Input/Output
 - d) Process
- 12) Which flowchart symbol is used to represent a process or action?
- a) Rectangle
 - b) Parallelogram
 - c) Oval
 - d) Diamond

- 13) In pseudocode, what does the keyword "IF" typically signify?
- a) The start of a loop
 - b) A decision or conditional statement
 - c) A function definition
 - d) A comment
- 14) Which of the following is NOT a high-level programming language?
- a) Java
 - b) Python
 - c) Assembly
 - d) C++
- 15) What is the primary function of a DBMS (Database Management System)?
- a) To design hardware components
 - b) To manage and organize data in a database.
 - c) To create web applications
 - d) To develop algorithms
- 16) Which of the following data types is typically used to store text or characters in a database?
- a) Integer
 - b) Float
 - c) String
 - d) Boolean
- 17) In a flowchart, which direction does an arrow typically point to indicate the flow of the process?
- a) Left
 - b) Right
 - c) Up
 - d) Down

- 18) Which of the following is a fundamental component of structured programming?
- a) GOTO statements
 - b) Object-oriented programming
 - c) Procedures and functions
 - d) Spaghetti code
- 19) What does the acronym SQL stand for in the context of databases?
- a) Structured Query Language
 - b) System Query Language
 - c) Server Quality Layer
 - d) Software Query Layer
- 20) In pseudocode, what is the purpose of the "FOR" loop?
- a) To define a function
 - b) To perform a set of decisions a specified number of times
 - c) To perform a set of instructions a specified number of times
 - d) To write comments

(02 marks for each)

(Total 40 marks)

Part II

Question No. 01

- a) Differentiate between 'data', 'information', 'knowledge' and 'wisdom', using a suitable example.
(04 Marks)
- b) Briefly explain any three (03) strategic business objectives where business organizations aim to attain through the utilization of computer-driven technology.
(06 Marks)
- c) Explain the role of the Operating System (OS) in Hardware Management and providing a User Interface (UI) using appropriate examples.
(10 Marks)
- (Total 20 Marks)**

Question No. 02

- a) Information security has emerged as a pivotal challenge for organizations. Outline four (4) strategies that business entities can adopt to guarantee information security.
(08 Marks)
- b) Discuss the significant impact of the internet on modern business operations. How has the internet revolutionized various aspects of business, including communication, marketing, e-commerce, and global expansion?
(12 Marks)
- (Total 20 Marks)**

Question No. 03

- a) Define what a logic gate is and explain its fundamental purpose in digital circuits.
(02 marks)

- b) List and briefly describe the two basic types of logic gates, indicating whether they are considered fundamental or universal.

(03 marks)

Consider the following truth table for a 2-input logic gate (A and B) that produces the output Y:

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	1

- c) Identify the type of logic gate (e.g., AND, OR, XOR) represented by this truth table and explain your reasoning.

(03 marks)

- d) Draw the logic gate symbol for this gate and provide its Boolean expression.

(03 marks)

- e) For the given truth table, calculate the decimal value of the output Y.

(04 marks)

You are designing a digital circuit that requires implementing the following logical expression:

$$F = (A \text{ AND } B) \text{ OR } (\text{NOT } C)$$

- f) Draw a logic diagram using appropriate logic gates to represent the expression F.

(02 marks)

- g) Provide a simplified Boolean expression for F using the fewest possible gates.

(03 marks)

(Total 20 Marks)

Question No. 04

- a) Define what a flow chart is and briefly explain its purpose in the field of Information and Communication Technology (ICT).

(02 marks)

- b) List and briefly describe three (03) essential symbols commonly used in flow charts.

(02 marks)

c) Create a flow chart to represent a simple process: "Making a Cup of Coffee." Using appropriate symbols and sequence, design a basic flow chart for this process, starting from boiling water to serving the Coffee.

(06 marks)

d) In a computer program, you need to write an algorithm to determine whether a given number is even or odd. Create a flow chart to represent this algorithm, including input (the number to be checked) and output (displaying whether it's even or odd). Ensure that your flow chart is clear and easy to follow.

(06 marks)

Consider the following pseudo-code for calculating the average of three numbers: A, B, and C.

Input A
Input B
Input C
Sum = A + B + C
Average = Sum / 3
Output Average

e) Design a flow chart to represent this pseudo-code, covering the steps from input to output.

(04 marks)

(Total 20 Marks)

Question No. 05

Choose any five (05) of the following and explain their business application with short notes.

- a) Computer software platform trends
- b) Green computing
- c) Cloud computing
- d) Computer ethics
- e) Internet vulnerabilities
- f) Nano technology
- g) Artificial Intelligence

(05 marks for each * 4 = **Total 20 Marks**)