



UNIVERSITY OF RUHUNA
FACULTY OF MANAGEMENT AND FINANCE

No. of Pages : 05
No. of Questions: 04
Total Marks : 70

BACHELOR OF BUSINESS ADMINISTRATION HONOURS DEGREE

1000 LEVEL FIRST SEMESTER END EXAMINATION - AUGUST/SEP. 2023

Three Hours

BBA 11043 - Information and Communication Technology

Academic Year 2022/2023

Instructions

- Answer all the questions

- Write the **letter** of the correct answer for the relevant question **in the answer book**.
 - Which of the following is a type of malware intentionally inserted into a software system that will set off a malicious function when specified conditions are met?
 - Worm
 - Logic Bomb
 - Spyware
 - Trojan
 - Which of the following are major issues arising out of the growing reliance on information technology?
 - Privacy concerns
 - Security threats
 - Profitability
 - (1) and (2) only
 - (1) and (3) only
 - (2) and (3) only
 - All of the above
 - Bluetooth is a type of radio wave information transmission system that is good for about _____.
 - 300 miles
 - 30 yards
 - 30 feet
 - 30 miles
 - Which of the following is/are features of cloud computing?
 - Large Network Access
 - Security
 - Availability
 - All of the above
 - Which of the following is **not** a feature of DBMS?
 - Support ACID Property
 - Minimum Duplication and Redundancy of Data
 - High Level of Security
 - Single-user Access only

vi. Put the following units of storage according to the correct order, starting with the smallest unit to the largest unit.

- (1) Kilobyte (2) Megabytes (3) Byte
(4) Terabyte (5) Bit (6) Gigabyte

- a. (3), (5), (1), (2), (6), (4) c. (5), (3), (1), (2), (6), (4)
b. (5), (3), (1), (6), (2), (4) d. (3), (5), (1), (6), (2), (4)

vii. A Personal Computer uses a number of chips mounted on a circuit board called,

- a. Microprocessor c. System Board
b. Motherboard d. Daughterboard

viii. Bit stands for,

- a. Binary tree c. Binary information term
b. Bivariate theory d. Binary digit

ix. The process of finding and correcting errors in a computer program is known as,

- a. Cracking c. Bugs
b. Debugging d. Hacking

x. The process of copying files to a CD-ROM is known as,

- a. Burning c. Ripping
b. Zipping d. Digitizing

xi. An ASCII is a character-encoding scheme that is employed by personal computers in order to represent various characters, numbers, and control keys that the computer user selects on the keyboard. ASCII is an acronym for,

- a. American Standard Code for Isolated Information
b. American Standard Code for Information Interchange
c. American Standard Code for Intelligent Information
d. American Standard Code for Information Integrity

xii. What could be the error showing in the following source code?

```
2 #include <stdio.h>
3
4 int main() {
5     printf("Hello World!")
6     return 0;
7 }
```

[Source Code]

```
prog.c: In function 'main':
prog.c:4:25: error: expected ';' before 'return'
4 |     printf("Hello World!")
  |                               ^
  |                               ;
5 |     return 0;
```

[Output]

- a. The program needs a '.' at the end of line 5
b. The program needs a ';' at the end of line 4
c. The program needs a ';' at the end of line 5
d. The program needs a '.' at the end of line 4

xiii. Which of the following is **not** true about RAM?

- a. RAM is a temporary storage area
- b. RAM is the same as hard disk storage
- c. RAM is volatile
- d. Information stored in RAM is gone when you turn the computer off

xiv. What will be the output of the following source code?

```
2 #include <stdio.h>
3
4 int main() {
5
6     int i = 0;
7
8     while (i < 9){
9
10        printf("Hello, Sri Lanka!\n");
11        i = i + 1;
12    }
```

- a. Prints "Hello, Sri Lanka!" 8 times continuously in a row
- b. Prints "Hello, Sri Lanka!" 9 times continuously in 9 rows
- c. Prints "Hello, Sri Lanka!" 8 times continuously in 8 rows
- d. Prints "Hello, Sri Lanka!" 9 times continuously in a row

xv. Which of the following statements is correct for the given source code?

```
2 <!DOCTYPE html>
3 <html>
4 <body>
5
6 <h1 style="background-color: DodgerBlue;">Hello World</h1>
7
8 <p style="background-color: Tomato;">
9 Performance <br>
10 Endurance <br>
11 Load <br>
12 Volume <br>
13 Scalability <br>
14 Usability <br>
15 So on <br>
16 </p>
17
18 </body>
19 </html>
```

- a. The complete web page background is Dodger Blue color
- b. The paragraph background is Tomato color
- c. The complete web page background is Tomato color
- d. The paragraph background is Dodger Blue color

[Total: 15 Marks]

2.

a. "A computer is a digital electronic machine that can be programmed to carry out sequences of arithmetic or logical operations automatically". Briefly explain any five characteristics of a computer. [05 Marks]

b. Perform the following calculations according to the conversions given.

- i. 100_{10} : Decimal to Binary
- ii. 910_{10} : Decimal to Hexadecimal
- iii. 1275_8 : Octal to Decimal
- iv. 10110_2 : Binary to Octal
- v. $23A_{16}$: Hexadecimal to Octal

[05 Marks]

c. Briefly explain the components of a computer-based database management system.

[05 Marks]

[Total: 15 Marks]

3.

a. What is known as a network? Briefly explain the types of networks categorized based on their size. [05 Marks]

b. Briefly explain the two types of websites with their applications in the real world.

[05 Marks]

c. What is an operating system? Briefly explain four functions of an operating system.

[05 Marks]

d. The application of ICT in government to improve the outreach of government assistance to the general public is known as e-government. Briefly explain G2C services offered by the Sri Lankan government to its citizens using at least with three examples.

[05 Marks]

[Total: 20 Marks]

4.

a. Assume that you have to develop a database for the following scenario.

➡ XYZ Pharmacy is one of the famous pharmacies which provide medicines to customers.

➡ The pharmacy has medicines for different diseases. Also, there are several members of the pharmacy to keep/take medicines in or from the relevant cupboards to facilitate customers and to make bills for customers.

- To make the XYZ Pharmacy more reliable and convenient for staff as well as for customers:
 - a. Propose suitable tables for the XYZ_Pharmacy database.
 - b. Identify suitable fields for each table entering five rows of data to each table.
 - c. Identify suitable primary key/s, foreign key/s (if any) for each table, and illustrate relationships for the proposed tables.

[05 Marks]

- b. Prepare a program flowchart showing the process of cash withdrawal from Bank ABC's ATM for the following scenario.

- The ATM machines of ABC Bank contain biometric security features besides conventional PIN control. The customers of the bank have a choice either to use Card + PIN or Card + Biometric option.
- Customers of other banks can also withdraw cash from ABC's ATM; however, they can only use Card + PIN option.
- A customer's card is captured by the machine after three consecutive unsuccessful attempts.
- Assume that transactions other than cash withdrawals are not allowed.

[07 Marks]

- c. Briefly explain **four** of the following concepts/terms used in information technology.

- | | |
|-----------------------------------|---|
| i. Computer Malware | v. Internet Services |
| ii. Unguided Transmission Media | vi. Hard Disk Drive (HDD) vs. Solid State Drive (SSD) |
| iii. Operating System Types | |
| iv. Central Processing Unit (CPU) | |

[08 Marks]

[Total: 20 Marks]
