



**RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES**

**B.Sc. (General) Degree in Applied Sciences
First Year - Semester I Examination – March 2021**

FDN 1202 – Introduction to Computers

Time: Two (02) hours

Answer **ALL** questions

1.

- (a) Compare and contrast super computers and mini computers. (02 marks)
- (b) What are the wearable computers and briefly describe limitations of wearable computers? (03 marks)
- (c) Briefly describe the steps that you need to follow in mail merging. (05 marks)
- (d) Answer the questions using the excel sheet given below.

	A	B	C	D	E	F
1	Panda EST					
2	Monthly Sales Report - July					
3						
4	Emp. No.	Name	Salary	Sales Amount	Comission	Total Salary
5	S101	Ahmed	1600	2500	?	?
6	S105	Hassan	1800	3000		
7	S112	Ali	1500	2200		
8	S107	Waleed	2000	4500		
9	S110	Mohammed	1700	3500		
10	S103	Samir	1600	2500		
11						
12		Totals	?	?	?	?
13		Average	?	?	?	?
14		Highest	?	?	?	?
15		Lowest	?	?	?	?
16		Count	?			

- I. Write a formula to find COMMISSION for the first employee. The commission rate is 2% of sales, $\text{COMMISSION} = \text{SALES} * 2\%$
(02 marks)
 - II. Write a formula to find TOTAL SALARY for the first employee where:
 $\text{TOTAL SALARY} = \text{SALARY} + \text{COMMISSION}$
(03 marks)
 - III. Write a formula to find TOTALS, AVERAGE, HIGHEST, LOWEST, and COUNT values.
(05 marks)
- (e) What are the common components of a microprocessor?
(02 marks)
 - (f) Describe the steps followed by the CPU when a given instruction is processed.
(05 marks)
 - (g) A bus is a collection of lines (conductors or wires) used to transfer data between computer system units. These lines are divided into three groups. Mention those groups.
(03 marks)
- 2.
- (a) Briefly discuss the following terms.
 - I. Desk- checking
 - II. Translating
 - III. Debugging
(03 marks)
 - (b) What will be the output of the following pseudocode if $a=10$?

If $a > 10$
 Display "Smaller than 10"
 Else
 Display "Larger than 10"
 End if

(04 marks)
 - (c) Discuss advantages of an Integrated Development Environment (IDE).
(03 marks)

- (d) "Operating system is a System Software." Do you agree? Explain. (05 marks)
- (e) What is a utility program? Give two (02) examples of utility software. (06 marks)
- (f) List four (04) examples of application software you use in day-to-day life. (04 marks)

3.

- (a) What is the network topology that involves Tokens? Describe two (02) advantages and two (02) disadvantages of the identified topology. (04 marks)
- (b) "A network diagram shows how computers and network devices connect with each other within a network." Draw a computer network diagram that consists of the following networking devices.
 Modem
 Bridge
 Hub
 Switch
 Router
 Repeater
 (06 marks)
- (c) What are the legal protections that can be applied to prevent software piracy? (05 marks)
- (e) What is known as a Phishing attack? How would you identify a phishing scam? (04 marks)
- (f) Mary sells hardware and software to over 100,000 customers per year. She has 10 years experience. As part of the billing process she keeps information on customers. She buys and uses a data mining tool to derive useful information about her client's information such as zip codes, credit card numbers, ID numbers etc. Most of this information identifies groups and not individuals. Then she can use the information to market her products more efficiently.

According to you is Mary's conduct ethical if customers did not give her the information for this purpose? Justify your answer.

(06 marks)

4.

(a) Perform following conversions.

I. Decimal to Binary

a) 172.878_{10} b) 18.625_{10}

II. Octal to Binary

a) 377_8 b) 56.41_8

III. Hexadecimal to Binary

a) 70_{16} b) $9A.34_{16}$

IV. Decimal to BCD

a) 27_{10} b) 247_{10}

(02 x 8 marks)

(b) Briefly discuss the followings

I. Integer number representation in a computer.

II. Image representation in a computer.

(04 marks)

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