



RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Sciences
First Year - Semester I Examination – May 2022

COM 1201 – PRINCIPLES OF PROGRAM DESIGN

Answer all questions

Time: TWO (02) hours

1

- (a) Explain the algorithm development process. (06 marks)
- (b) Write two (02) algorithm representation methods. (04 marks)
- (c) Describe the features of a good algorithm. (08 marks)
- (d) Discuss the benefits of using algorithms. (07 marks)

2

- (a) “Flowcharts often facilitate communication between programmers and business people” Do you agree with this statement? Discuss. (06 marks)
- (b) Write an algorithm which asks the user to enter the age and check whether the entered age is greater than or equal to 18. If the entered age is greater than or equal to 18, then print a message “You are eligible for voting”, if not print as “You are not eligible for voting”, (Hint: use any algorithm representation method) (04 marks)
- (c) Draw a flow chart to simulate a simple calculator that reads two integers and a character.
If the character is +, the sum is printed;
If the character is -, the difference is printed;

If the character is *, the product is printed;

If the character is /, the quotient is printed

If the character is %, the remainder is printed (10 marks)

- (d) Write a pseudocode for the program that prompts the user to input an integer and output the number with the digits reversed. For example, if the input is 12345, the output should be 54321 (Hint: Use modulus operator to get remainder after dividing by 10). (05 marks)

3 Draw a flow chart and write a pseudo code to perform followings.

- (a) Enter 10 numbers including number 5. (04 marks)
- (b) Search and delete number 5 in the list in (a). (06 marks)
- (c) Calculate the median value of the list. (05 marks)
- (d) Prepare the list in ascending order (10 marks)

4

- (a) Write a short note on "Evolution of programming languages". (06 marks)
- (b) Mention two (02) types of programming paradigms? (04 marks)
- (c) Explain Procedural programming Vs Object Oriented Programming (06 marks)
- (d) Define the three (03) basic control structures of structured programming. Explain using suitable examples. (09 marks)

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