



DAYANANDA SAGAR UNIVERSITY

USN No:

I Semester B.C.A. Examinations – December 2018 / January 2019

Course Title: Fundamentals of Programming

Course Code: 16CA102

Duration: 03 Hours

Date: 03-01-2019

Time: 10:00 AM to 01:00 PM

Max Marks: 60

- Note:
1. Answer 5 full questions choosing one from each Section
 2. Each Section carries 12 Marks
 3. Draw neat sketches wherever necessary
 4. Missing Data may be suitably assumed

SECTION – 1

- 1.a. What is an Algorithm? List the properties of an Algorithm. (04 Marks)
- 1.b. Write an algorithm to. (08 Marks)
(i) print the square of a number (ii) Add n numbers and print the sum

OR

- 2.a. Explain the standard data types in C programming language. (06 Marks)
- 2.b. Write a program to solve the following arithmetic expression: $(a+b/c)*(d-e)$. (06 Marks)

SECTION – 2

- 3.a. Explain the different types of decision making statements with examples. (08 Marks)
- 3.b. List the differences between break and continue. (04 Marks)

OR

- 4.a. Write an algorithm to find the largest of three numbers. (06 Marks)
- 4.b. Write an algorithm to print the Fibonacci series. (06 Marks)

SECTION – 3

- 5.a. Explain for loop syntax in C with an example. (06 Marks)
- 5.b. Write a C program to print n prime numbers using for loop. (06 Marks)

(P.T.O)

OR

- 6.a. Explain the differences between while and do-while looping statements. (06 Marks)
- 6.b. Write a program to add all the numbers entered by user until zero is entered using do while loop. (06 Marks)

SECTION - 4

- 7.a. What is a Python set? Discuss the characteristics of Python set with examples. (06 Marks)
- 7.b. Illustrate file operations using examples. (06 Marks)

OR

- 8.a. What are the operations on dictionaries? Write a program to delete a an entry, all entries and the entire dictionary. (06 Marks)
- 8.b. Explain the various operations on sets with examples. (06 Marks)

SECTION - 5

- 9.a. Write Python code snippets for the following: (08 Marks)
- (i) Initialize Python set
 - (ii) Add an element to the set
 - (iii) Add multiple elements to the set
 - (iv) Add list and set
- 9.b. What is a Python function? Write a Python function that takes a string as input parameter and prints it on standard screen. (04 Marks)

OR

- 10.a. Write short notes on: (12 Marks)
- (i) Python modules
 - (ii) Regular Expressions



SCHOOL OF ENGINEERING
KUDLU GATE, BANGALORE-560068
Department of Computer Applications
1stSemester B.C.A.– IA Test2

FUNDAMENTALS OF PROGRAMMING (16CA102)

Max Marks: 50

Duration: 1 ½ hrs

- Note:**
1. Answer any FIVE full Questions
 2. Each question carries 10 marks

- 1a. Explain the various forms of “if-else” decision making statements in C. 8marks ✓
- b. Write a C program to find whether the given natural number is divisible by 6. 2marks
- 2a. Draw the flow diagram for the “switch-case” statement. 4 marks
- b. Write a C program to implement a simple calculator using the switch –case statement. 6 marks ✓
- 3. Write a menu driven program which has following options: 10 marks
 - 1. Factorial of a number.
 - 2. Prime or not
 - 3. Odd or even
 - 4. Exit
- 4a. Mention the various looping statements in C and explain any two looping statements. 6marks ✓
- b. Write a program to print the multiplication table of the number entered by the user. The table should get displayed in the following form. 4marks ✓
msg in ()
 - 29 * 1 = 29
 - 29 * 2 = 58
- 5. Explain the use of the following statements in C with example for each: 10marks ✓
 - i. goto
 - ii. break
 - iii. continue
- 6. A certain grade of steel is graded according to the following conditions: 10 marks
 - (i) Hardness must be greater than 50
 - (ii) Carbon content must be less than 0.7
 - (iii) Tensile strength must be greater than 5600



The grades are as follows:

Grade is 10 if all three conditions are met

Grade is 9 if conditions (i) and (ii) are met

Grade is 8 if conditions (ii) and (iii) are met

Grade is 7 if conditions (i) and (iii) are met

Grade is 6 if only one condition is met

Grade is 5 if none of the conditions are met

Write a C program, which will require the user to give values of hardness, carbon content and tensile strength of the steel under consideration and output the grade of the steel.

```
4. main()
{
    int n, i = 1;
    printf("\n");
    scanf("%d", &n);
    for (i = 1, i <= 10, i++)
    {
        printf("%d * 1.0 = %d\n", i, i * 1.0);
    }
}
```

```
int j = 1;
printf
if (j == 8)
{
    continue;
    i++;
}
printf("%d * 1.0", j);
{
}
```