



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
UNIVERSITY OF BARISAL

FINAL EXAMINATION-2021
Course Title: Computer Programming
Course Code: CSE-1103
1st Year, 1st Semester, Session: 2019-20

Time: 3 hours

Marks: 60

Answer any Five (5) Questions from the followings.

1. a) Differentiate between High level, Mid-level, and Low level language with example (s). Explain the C's Place in the world of programming languages. 6
b) Discuss: C is a structured language. 3
c) Differentiate between compilers and interpreters. 3
2. a) Describe Identifier and its naming style. 2
b) Differentiate between local and global variables with suitable example. 4
c) What will be the output of printf function at func1 () ? 6

```
int count;
void func1(void);
void func2(void);

int main(void)
{
    count = 10;
    func1();
    return 0;
}

void func1(void)
{
    int temp;
    temp = count;
    func2();
    printf("count is %d", count);
}

void func2(void)
{
    int count;
    for(count=1; count<10; count++)
        putchar('.');
}
```

3. a) Discuss about Static Local and Static Global variables with suitable example(s). 2
b) Differentiate with programming example(s) i) ++x vs x++, ii) --y vs y-- . 4
c) What will be output of these logical expression? 6
i) 10>5 && !(10<9) || 3<=4
ii) !0&&0 || 0
iii) !(0 && 0) || 0

4. a) What will be the output of the variable "target" ? Analyze this. 4

```
int main(void)
{
    int target, source;
    int *m;
    source = 10;
    m = &source;
    target = *m;
    printf("%d", target);
    return 0;
}
```


b) What is *Pointer* ? illustrate with suitable example. 3

- c) State the rules for naming variable in C language. Which of the following are invalid variable name and why? 5
i) Float, ii) 1st_row, iii) x1_x2, iv) last-name

5. a) Convert the following switch-case code to an if-else code. 7

```
switch ( a )  
{  
    case 0:  
    case 1:  
        x = 50;  
        break;  
  
    case 2:  
        x = 100;  
        break;  
  
    default:  
        x = 0;  
        break;  
}
```

- b) Briefly describe the purpose of **typedef** keyword in C with proper example. 5
6. a) What are the purposes of the *switch* statement? How does this statement differ from the other statements? 3.5
b) What is the difference between the *break* and *continue* statement? 3.5
c) Write a fragment of program that makes use of the *goto* statement. 5
7. a) Draw the "flow chart" to find out the 'biggest number' from given 10 integers. 4
b) Write C program for the following problem, it does not need to think about run-time optimization. 8

One day, one of the students of CSE dept. named Sumon is having a party, and he has invited his friends, p of them have arrived already, but some other are running late. To occupy his guests, Sumon tried playing some team games with them, but he found that it was impossible to divide the p guests into any number of equal-sized groups of more than one person. As a result, he had to wait until q guest(s) arrived, q may be single guest or group of guests arrived at the same time. Finally, Sumon could make teams of equal sized from the arrived $(p+q)$ guests and started his games.

Sample Input: The input will consist of 5 test cases. Each test case will be given as a non-negative integer $(p+q)$ and $(p+q) \leq 50$;

Sample output:

For each test case, output will be an integer q that is closest to $(p+q)$

Table 1

Sample Input	Corresponding Output
8	1
22	3

8. a) What do you know about call by reference and call by value? Explain with examples. 8
b) Describe about *user-defined function* with example(s). 4
