



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
UNIVERSITY OF BARISAL

FINAL EXAMINATION-2022

Course Title: Computer Programming

Course Code: CSE-1103

1st Year, 1st Semester, Session: 2021-22

Time: 3 hours

Marks: 60

Answer any Five (5) Questions from the followings.

1.
 - a) Differentiate between compiler and interpreter. 3
 - b) Why C is a structured language ? 3
 - c) Explain the C's Place in the world of programming languages. Differentiate between High level, Mid-level, and Low level language with example (s). 6
2.
 - a) Differentiate between local and global variables with suitable example. 4
 - b) Describe Identifier and its naming style. 2
 - 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) 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;
}
```
- c) What will be output of these logical expression? 6
    - i)  $10 > 5 \ \&\& \ ! (10 < 9) \ || \ 3 \leq 4$   $\top$
    - ii)  $!0 \ \&\& \ 0 \ || \ 0$   $\text{F}$
    - iii)  $!(0 \ \&\& \ 0) \ || \ 0$   $\top$
4.
    - a) Differentiate with programming example(s) i)  $++x$  vs  $x++$ , ii)  $--y$  vs  $y--$ . 4
    - 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) Write a program to read a  $n$  bit long binary string and then search how many times pattern '000' occurs. Do not consider same '0' in two adjacent '000' pattern. For example, '100001' or '1000001' has only one '000' pattern, but '100000001' has two '000'. 7  
**Sample input:** 101000111001000010110000010000001110  
**Output:** 5
- b) What will be the output of the following code? 5

```
#include<stdio.h>
#include<conio.h>
int y(int n);
int main(){
 int x=y(50); printf("Final Output=%d",x);
 getch();}
int y(int n){
 if(n==0) printf("In Terminating Condition=%d \n",n); return n; }
 else printf("In Recursive Calling=%d \n",n);
 return n+y(n-5);}
 printf("CSE %d Times \n",n);}
```

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) What is the difference between 'while' and 'do-while' loops? 4  
 b) What will be the output(s) of the following program? 8

```
#include<stdio.h>
#include<conio.h>
int x[5][5]={ {1,4,3,6,8},
 {2,9,0,5,7},
 {5,9,2,6,8},
 {9,0,2,6,8},
 {3,6,0,1,7}};
int i,j,k,l tmp,big,p;
main(){
 for(i=0; i<=4; i++){
 for(j=0; j<=4; j++){
 for(k=j; k<=4; k++){
 for(l=k; l<=4; l++){
 x[k][l]=x[k][l]+1;
 }
 }
 }
 }

 for(i=0; i<=4; i++){
 for(j=0; j<=4; j++){
 printf("%d",x[i][j])
 }
 printf("\n");
 }
 getch();
}
```

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

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