

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2020

Programme Name : BTech-ADE/GIE/CivilE-Sz-Infra/E&CE/Mechatronics/EL
Semester : II
Course Name : Programming for Problem Solving
Time : 02 hrs
Course Code : CSEG 1003
Max. Marks : 100

Description End Semester Exam 14 July 2020 10AM

Instructions
Do not access any other website except "learn.upes.ac.in."
Do not click the Back button on your browser.
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The question can be a Multiple Choice / Multiple Answer / TrueFalse
Exam Question pattern:
No of Questions: 60
Time : 2 Hour
Maximum Marks : 100

Total Questions 60
Total Points 100

1. Multiple Choice: CO1 A computer program that converts ...

Points: 1

Question CO1 A computer program that converts an entire program into machine language is called a/an

Answer Interpreter

Compiler

 Commander

 Simulator**2. Multiple Choice: CO1 On which aspect the analog comput...**Points: **1**

Question	CO1 On which aspect the analog computers are better than digital?
Answer	Speed
	<hr/> <input checked="" type="checkbox"/> Accuracy
	<hr/> <input type="checkbox"/> Relaiability
	<hr/> <input type="checkbox"/> Automatic

**3. Multiple Choice: CO1 Which of the following is interna...**Points: **2**

Question	CO1 Which of the following is internal memory?
Answer	Disks
	<hr/> <input type="checkbox"/> Pendrive
	<hr/> <input checked="" type="checkbox"/> RAM
	<hr/> <input type="checkbox"/> CDs

**4. Multiple Choice: CO1 A compiler is a translating progr...**Points: **2**

Question	CO1 A compiler is a translating program which
Answer	Translates instruction of a high level language into machine language

It is not involved in program s execution

both a and b

Translates entire source program into machine language program

5. Multiple Choice: CO1 Actual exectuion of program instr...

Points: **2**

Question	CO1 Actual exectuion of program instructions takes place inside
Answer	<p>Central Processing Unit</p> <p><input checked="" type="checkbox"/> Arithmetic Logic Unit</p> <p>Control Unit</p> <p>Memory Unit</p>

6. Multiple Choice: CO1 Algorithm halts in

Points: **1**

Question	CO1 Algorithm halts in
Answer	<p><input checked="" type="checkbox"/> Finite time</p> <p>Infinite time</p> <p>Logarithmic time</p> <p>Exponential time</p>

7. Multiple Choice: CO1 An Algorithm represented in the f...

Points: **1**

Question	CO1 An Algorithm represented in the form of programming languages is _____
Answer	Flowchart

Pseudo code

Program

None

8. Multiple Choice: CO1 Central Processing Unit is combin...

Points: 2

Question CO1 Central Processing Unit is combination of

Answer

Control and Input Unit

Control and Output Unit

Arithmetic and Control Unit

"Arithmetic, Logic and Control Unit"

9. Multiple Choice: CO1 Convert 11001001 (binary) to deci...

Points: 2

Question CO1 Convert 11001001 (binary) to decimal.

Answer 210

201

2001

20

10. Multiple Choice: CO1 Convert octal 6125 into binary

Points: 2

Question CO1 Convert octal 6125 into binary

Answer 110001010101

110001010100

10001010101

100001010101



11. Multiple Choice: CO1 Convert the binary number 1011010...

Points: 2

Question	CO1 Convert the binary number 1011010 to hexadecimal.
Answer	<input checked="" type="radio"/> 5A
	<input type="radio"/> 5B
	<input type="radio"/> 5F
	<input type="radio"/> 5C

12. Multiple Choice: CO1 Match the following:

Points: 2

Question

CO1 Match the following:

1.



a. Computational steps
or processing function
of a program

2.



b. Start or end of
program.

3.



c. Decision making and
branching

4.



d. Input or output
operation

Answer

1-a, 2-b, 3-c, 4-d

 1-b, 2-d, 3-a, 4-c

1-c, 2-a, 3-b, 4-d

1-b, 2-d, 3-c, 4-a

 13. True / False: CO2 A sentinel value is used to indic...

Points: 1

Question CO2 A sentinel value is used to indicate that the user is done entering data.

Answer True
False

 14. Multiple Choice: CO2 Assuming that x=5, y=0, and z=1 in...

Points: 2

Question

CO2 Assuming that $x=5$, $y=0$, and $z=1$ initially, what will be their values after executing the following code segments?

```
if(x && y)
```

```
x=10;
```

```
else
```

```
y=10;
```

Answer 5,10

10,5

10,10

5,5

15. Multiple Choice: CO2 C allows the three way transfer o...

Points: 1

Question CO2 C allows the three way transfer of control by using

Answer Unary operator

Ternary operator

Conditional operator

Comparison operator

16. Multiple Choice: CO2 If $a = 5$ and $b = 7$ then the state...

Points: 2

Question CO2 If $a = 5$ and $b = 7$ then the statement $p = (a > b) : a ? b$

Answer assigns a value 5 to p

assigns a value 7 to p

give an error message

assigns a value 8 to p

17. Multiple Choice: CO2 If a is an integer variable, a= 5/2 will return a value...

Points: 2

Question	CO2 If a is an integer variable, a= 5/2 will return a value
Answer	<p>2.5</p> <hr/> <p>3</p> <hr/> <p><input checked="" type="checkbox"/> 2</p> <hr/> <p>0</p>


18. True / False: CO2 Keyword void is a datatype in C

Points: 1

Question	CO2 Keyword void is a datatype in C
Answer	<p><input checked="" type="checkbox"/> True</p> <p>False</p>

19. Multiple Choice: CO2 What will be the output of the fo...

Points: 2

Question	<p>CO2 What will be the output of the following code?</p>  <pre> 1 - /***** 2 3 4 Online C Compiler. 5 Code, Compile, Run and Debug C program online. 6 Write your code in this editor and press "Run" button to compile and execute it. 7 *****/ 8 #include<stdio.h> 9 10 void main() 11 { 12 int a,b,x=10,y=10; 13 14 a = x - ; 15 b = --y; 16 17 printf("Value of a : %d",a); 18 printf("Value of b : %d",b); 19 } 20 </pre>
----------	---

Answer

Value of a: 9
Value of b: 10

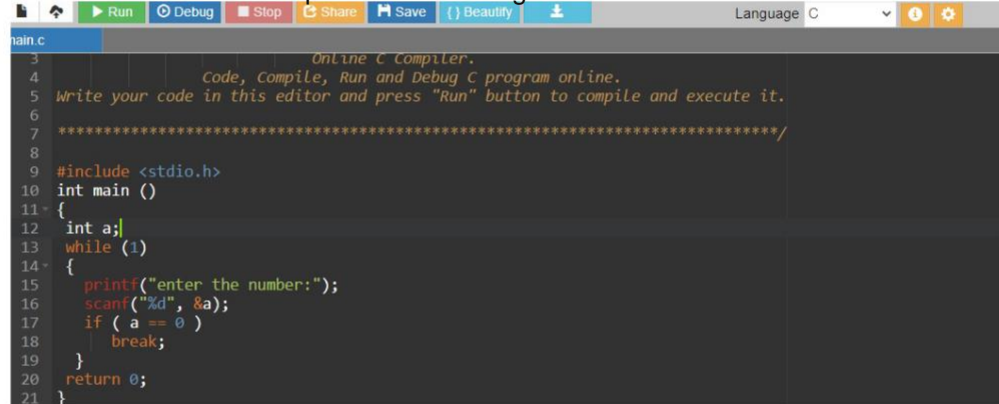
Value of a: 10
Value of b: 9

Program will give an error

The program won't terminate, No output

20. Multiple Choice: CO2 What will be the output of the fo...

Points: **2**

Question**CO2 What will be the output of the following code?**

```
main.c
Online C Compiler.
Code, Compile, Run and Debug C program online.
Write your code in this editor and press "Run" button to compile and execute it.
*****/
#include <stdio.h>
int main ()
{
  int a;
  while (1)
  {
    printf("enter the number:");
    scanf("%d", &a);
    if ( a == 0 )
      break;
  }
  return 0;
}
```

Answer

0

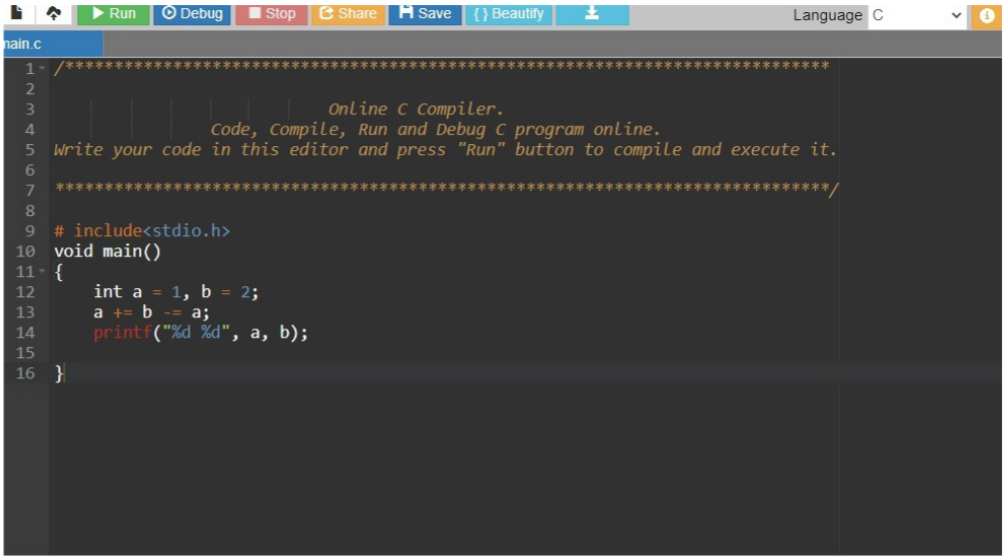
1
2
3
4
5

No output. while is an infinite loop that will be repeated forever and there is no exit from the loop.

The program will ask for input repeatedly until the user will input 0.

Points: 2

 21. Multiple Choice: CO2 What will be the output of the fo...

Question	CO2 What will be the output of the following program? 
Answer	11 ----- 12 ----- <input checked="" type="checkbox"/> 21 ----- 22

 22. Multiple Choice: CO2 a=3>2?1:0; the value of a will be

Points: 2

Question	CO2 a=3>2?1:0; the value of a will be
Answer	0 ----- <input checked="" type="checkbox"/> 1 ----- 2 ----- 3

 23. Multiple Choice: CO2 i=scanf("%d%d",&a,&b); th...

Points: 2

Question

CO2 i=scanf("%d%d",&a,&b); then i=?

Answer 1

2

6

5

24. Multiple Choice: CO2 Which of the following is n...

Points: 1

Question CO2 Which of the following is not a valid C variable name?

Answer

int number;

float rate;

int variable_count;

int \$main;

25. Multiple Choice: CO3

Points: 2

Question CO3

Match the following

1	Dereffressing Operator	a	&
2	Address Of Operator	b	%
3	Conditional Operator	c	*
4	Modulus Operator	d	<

Answer

c,a,d,b

a,b,c,d

c,a,b,d

b,d,c,a

 26. Multiple Choice: CO3 Find the line of code hidd...

Points: 1

Question	<p>CO3</p> <pre>#include <stdio.h> int main() { int num; FILE *fptr; // use appropriate location where the files is saved fptr = fopen("E:\\program.txt", "w"); printf("Enter num: "); scanf("%d", &num); [REDACTED] fclose(fptr); return 0; }</pre> <p>Find the line of code hidden in the highlighted portion above to store the number obtained into the file.</p>
Answer	<p><input checked="" type="checkbox"/> fprintf(fptr, "%d", num);</p> <hr/> <p><input type="checkbox"/> fprintf(fptr, num);</p> <hr/> <p><input type="checkbox"/> printf(fptr, "%d", num);</p> <hr/> <p><input type="checkbox"/> printf(fptr, num);</p>

 27. True / False: CO3: /**/ /**/ /**/ document.oncopy = ...

Points: 1

Question	CO3 C language has a string datatype.
Answer	<p>True</p> <p><input checked="" type="checkbox"/> False</p>

Points: 1

 28. Multiple Choice: CO3: /**/ /**/ document.oncopy = new Fu...

Question	CO3 In C Programming, If we need to store word "INDIA" then syntax is as below – char name[]; name = "INDIA"
Answer	<input type="checkbox"/> char name[6] = {'I','N','D','I','A'}; <input checked="" type="checkbox"/> char name[6] = {'I','N','D','I','A','\0'} <input type="checkbox"/> char name[6] = {"I","N","D","I","A"} <input type="checkbox"/> name = "INDIA"

Points: 1

 29. Multiple Choice: CO3: /**/ /**/ document.oncopy = new Fu...

Question	CO3 "*" in pointers is _____ operator.
Answer	<input type="checkbox"/> Indirection operator <input type="checkbox"/> Address Operator <input checked="" type="checkbox"/> Multiple Indirection Operator <input type="checkbox"/> Dereferencing Operator

Points: 1

 30. Multiple Choice: CO3: /**/ /**/ document.oncopy = new Fu...

Question	CO3 Modularity and Code reusability concept is achieved in C by ?
Answer	<input type="checkbox"/> Structures <input type="checkbox"/> Unions <input type="checkbox"/> Arrays

Function

Points: **1**

31. Multiple Choice: CO3: CO3 Abstraction simply means that how...

Question CO3 Abstraction simply means that how able one can or we can say that it means the ability to look at something without knowing about its inner details. In C structured programming language, _____ satisfies its requirement and performs a specific task.

Answer Structures

Unions

incorrect

Function

32. Multiple Choice: CO3: CO3 Array declaration goes us

Points: **1**

Question CO3 Array declaration goes us

Answer int a[5];

int a{5}

int a(5)

None of the above

33. Multiple Choice: CO3: CO3 Assuming int is of 4bytes, what i...

Points: **2**

Question CO3 Assuming int is of 4bytes, what is the size of int arr[15];?

Answer 15

19

11

 60

34. Multiple Answer: CO3: CO3 Check the valid preprocessor directives...

Points: **2**

Question	CO3 Check the valid preprocessor directives in C
Answer	<input checked="" type="checkbox"/> #if
	<input checked="" type="checkbox"/> #include
	<input checked="" type="checkbox"/> #define
	<input type="checkbox"/> #redefine

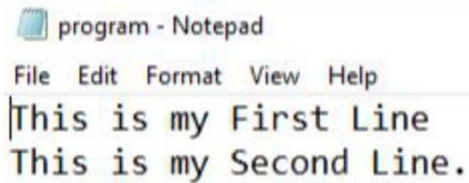


35. Multiple Choice: CO5 Consider the program.txt as Fi...

Points: **2**

Question

CO5 Consider the program.txt as



```
program - Notepad
File Edit Format View Help
This is my First Line
This is my Second Line.
```

Find the output of the below given program

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    char c[1000];
    FILE *fptr;

    if (( fptr = fopen("E:\\program.txt", "r")) == NULL)
    {
        printf("Error! opening file");
        //Program exits if file pointer returns NULL.
        exit(1);
    }

    // reads text until newline is encountered
    fscanf(fptr, "%s", c);
    printf("Data from the file:\n%s", c);
    fclose(fptr);

    return 0;
}
```

Answer

Data from the file:

This

Data from the file:

This is my First Line

This is my Second Line

Data from the file:

This is my First Line

Data from the file:

 36. Multiple Choice: CO3: CO3 Find out the scanf statement...

Points: 2

Question

CO3 Find out the scanf statement that is highlighted in the code snippet below?

```
Matrix Addition.c
1  #include<stdio.h>
2  void main()
3  {
4  int a[2][2],b[2][2],c[2][2];
5  int i,j;
6
7  printf("Enter the values of A Matrix");
8  for(i=0;i<2;i++)
9  for(j=0;j<2;j++)
10 scanf("%d",&a[i][j]);
11 }
```

Answer

 scanf("%d",&a[i][j]);

 scanf("%d",a[i][j]);

 scanf("%d",a[i,j]);

 scanf("%d",&a[i,j]); 37. Multiple Choice: CO5 Find the correct choice after com...

Points: 2

Question

CO5 Find the correct choice after compilation and executing the given program

```
#include <stdio.h>
struct sample
{
    int a=0;
    char b='A';
    float c=10.5;
};
int main()
{
    struct sample s;
    printf("%d,%c,%f",s.a,s.b,s.c);
    return 0;
}
```

Answer

 Compiler Time Error

 Run Time Error

 0 , A , 10.50001

 0 ,A,10.5

 38. Multiple Choice: CO3 Find the correct code to get the ...

Points: 2

Question

CO3 Find the correct code to get the below output

```
Enter the first Name:UPES
```

```
The full name is UPES
```

Answer

```
#include<stdio.h>
#include<string.h>
void main()
{
    char fname[20];
    printf("Enter the first Name:");
    scanf("%s",fname);
    printf("\n The full name is %s",fname);
}
```

```
#include<stdio.h>
#include<string.h>
void main()
{
    char fname[20];
    printf("Enter the first Name:");
    scanf("%s",&fname);
    printf("\n The full name is %s",fname);
}
```

```
#include<stdio.h>
#include<string.h>
void main()
{
    string fname;
    printf("Enter the first Name:");
    scanf("%s",fname);
    printf("\n The full name is %s",fname);
}
```

```
#include<stdio.h>
#include<string.h>
void main()
{
    string fname;
    printf("Enter the first Name:");
    scanf("%s",&fname);
    printf("\n The full name is %s",fname);
}
```

39. Multiple Choice: CO4 Find the missing highlighted line...

Points: 2

Question

CO4 Find the missing highlighted line to get the below given output

```
#include<stdio.h>

float myprintf(int x)
{
    return x;
}

void main()
{
    float ans;
    _____
    printf("ans=%f",ans) ;
}
```

Output:

```
ans=20.000000
-----
```

Answer

ans=myprintf(20);

myprintf(20);

ans=myprintf();

ans=30;

40. Multiple Choice: CO4 Find the output

Points:

Question

CO4 Find the output

```
# include <stdio.h>
void myfun(int x)
{
    x = 30;
}

int main()
{
    int y = 20;
    myfun(y);
    printf("%d", y);
    return 0;
}
```

Answer

 20 30 Compiler Error No Output 41. Multiple Choice: CO5 Find the output

Points: 2

Question

CO5 Find the output

```
#include <stdio.h>
int main()
{
    union myunion
    {
        char x[2];
        int y;
    };

    union myunion v;
    v.x[0]='A';
    v.x[1]='B';

    printf("\n%c,%c,%d",v.x[0],v.x[1],v.y);
    return 0;
}
```

Answer

A,B,0

 A,B,16961 B,B,66 A,A,65 42. Multiple Choice: CO4 Find the output

Points: 2

Question

CO4 Find the output

```
#include<stdio.h>
int myfun()
{
    static int a = 0;
    a++;
    return a;
}

int main()
{
    printf("%d ", myfun());
    printf("%d ", myfun());
    return 0;
}
```

Answer

1 1

 1 2 Compile Time Error Run Time Error 43. Multiple Choice: CO4 Find the output for the given pro...

Points: 2

Question

CO4 Find the output for the given program

```
# include <stdio.h>
void fun(int *ptr)
{
    *ptr = 30;
}

int main()
{
    int y = 20;
    fun(&y);
    printf("%d", y);

    return 0;
}
```

Answer

 30 20 Compiler Error No Output

44. Multiple Choice: CO5: CO5 Find the output of the below give...

Points: 2

Question

CO5 Find the output of the below given program

```
#include <stdio.h>

struct sample
{
    int x;
}x1;

int main()
{
    x1.x=500;
    printf("%d",x1.x);
    return 0;
}
```

Answer

 200 No Output Compile Time Error Run Time Error

45. Multiple Choice: CO4 Find the output of the code given...

Points: 2

Question

CO4 Find the output of the code given

```
#include<stdio.h>
void main()
{
    char sample[5]={'a','e','i','o','u'};
    int i;
    printf("Enter the vowels");
    printf("The vowels are\n");
    for(i=0;i<5;i++)
        printf("%c\t",sample[i]);
}
```

Answer

Enter the vowelsThe vowels are
a e i o u

Enter the vowelsThe vowels are
a e o u i

Enter the vowelsThe vowels are
a e o u i



46. Multiple Choice: CO4: CO4 Find the output of the given prog...

Points: 2

Question

CO4 Find the output of the given program

```
#include<stdio.h>
void main()
{
    int a;
    int *ptr;
    a=10;
    ptr=&a;
    printf("%d\n",a);
    printf("%p\n",ptr);
}
```

Answer



10

000000000062FE00

10

54

10

10

10

 47. Multiple Choice: CO4 Find the output of the given prog...

Points: 2

Question

CO4 Find the output of the given program

```
#include <stdio.h>

void main()
{
    int *p;
    int x;

    p = &x;
    *p = 0;
    printf(" The value of x is %d\n", x);
    *p += 100;
    printf(" The value of x is %d\n", x);
    printf(" The value of the pointer ptr = %d\n", *p);
}
```

Answer

The value of x is 0
 The value of x is 100
 The value of the pointer ptr = 100

The value of x is 89456
 The value of x is 100
 The value of the pointer ptr = 100

The value of x is
 The value of x is 100
 The value of the pointer ptr = 100

The value of x is 0
 The value of x is 100
 The value of the pointer ptr =

48. Multiple Choice: CO5 Guess the output for the given pr...

Points:

Question

CO5 Guess the output for the given program

```
#include<stdio.h>

struct aa
{
    int a[10];
    float b;
};

struct bb
{
    int c[30];
    struct aa a1;
};

void main()
{
    struct bb b1;
    printf("%d", sizeof(b1));
}
```

Answer

164

70

160

74

49. Multiple Choice: CO4 Identify the highlighted statemen...

Points:

Question

CO4 Identify the highlighted statement in the given program below

```
#include<stdio.h>
```

```
void myprintf() ;
```

```
void main()  
{  
    myprintf();  
}
```

```
void myprintf()  
{  
    printf("Hello myprintf function");  
}
```

Answer

Function Prototype

Function Declaration

Function Call

Function Definition

50. Multiple Choice: CO4 In the below given picture find t...

Points: 1

Question

CO4 In the below given picture find the value of $a[1][0]$

		col →			
		0	1	2	3
row ↓	0	1	2	3	4
	1	5	6	7	8
	2	9	10	11	12

Answer

 2

 5

 6

 10

 51. Multiple Choice: CO5 Let x be an array. Which of the f...
Points:

Question

CO5 Let x be an array. Which of the following operations are illegal?1. $++x$ 2. $x+1$ 3. $x++$ 4. $x*2$

Answer

 1 & 2

 1, 2 & 3

 1 & 3

✔ 1,3 and 4

52. Multiple Choice: CO5 Match the following

Points: 2

Question CO5 Match the following

Match the following

1	String Function to find the Length	a	strjoin()
2	String Function to join	b	strcmpare()
3	String Function to Compare	c	strlen()
4	String Function to reverse	d	strcmp()
		e	strcat()
		f	strrev()

Answer ✔ c,e,d,f

c,a,b,f

c,a,d,f

c,e,b,f

53. Multiple Choice: CO5 The following figure shows which ...

Points: 2

Question CO5 The following figure shows which storage organization for 2D arrays

Low Addresses High Addresses

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----

0	1	2	3
4	5	6	7
8	9	10	11
12	13	14	15

Answer Column major

Row major

 Row minor

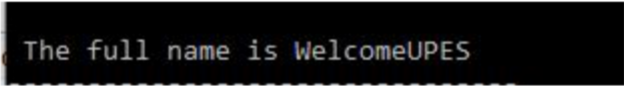
 column minor 54. Multiple Choice: The operator used for dereferencing is

Points: 1

Question	The operator used for dereferencing is
Answer	<input type="checkbox"/> &
	<input type="checkbox"/> scope
	<input checked="" type="checkbox"/> *
	<input type="checkbox"/> arrow

 55. Multiple Choice: CO5 To get the below given output&nbs...

Points: 2

Question	CO5 To get the below given output  Identify the correct code
Answer	<input checked="" type="checkbox"/> <pre>#include<stdio.h> #include<string.h> void main() { char fname[20]="Welcome",lname[5]="UPES"; strcat(fname,lname); printf("\n The full name is %s",fname); }</pre>


```
#include<stdio.h>
#include<string.h>

void main()
{
char fname[20]="Welcome",lname[5]="UPES";
fname+=lname;
printf("\n The full name is %s",fname);
}
```

```
#include<stdio.h>
#include<string.h>

void main()
{
char fname[20]="Welcome",lname[5]="UPES";
fname=fname+lname;
printf("\n The full name is %s",fname);
}
```

```
#include<stdio.h>
#include<string.h>

void main()
{
char fname[20]="Welcome",lname[5]="UPES";
strjoin(fname,lname);
printf("\n The full name is %s",fname);
}
```



56. Multiple Choice: CO5 What happens in the given code sn...

Points: **2**

Question

CO5 What happens in the given code snippet

```
#include <stdio.h>
void function()
{
    function();
}
void main()
{
    function();
}
```

Answer

The code will be executed successfully and no output will be generated

The code will be executed successfully and random output will be generated

The code will show a compile time error

The code will run for some time and stop when the stack overflows

57. Multiple Choice: CO5 What is the highlighted variable ...

Points: 1

Question

CO5 What is the highlighted variable called\

```
#include<stdio.h>
void main()
{
    int a[5]={10,20,30,40,50};
    int *j;
    int *i;
    j=&a[0];
    printf("%u\n",j);
}
```

Answer

Pointer Variable

Static Variable

Local Variable

Global Variable

58. Multiple Choice: CO5 Which of these is not a valid fil...

Points: 1

Question	CO5 Which of these is not a valid file operation
Answer	<p>Open</p> <hr/> <p>Close</p> <hr/> <p>Read</p> <hr/> <p><input checked="" type="checkbox"/> Permission</p>

59. Multiple Choice: CO5 Which will be the data structure ...

Points: 2

Question	CO5 Which will be the data structure used in C programming for every possible situation where you need to gather similar objects at one place. For example can be collection of all the book titles in a Library Management systems
Answer	<p>Structures</p> <hr/> <p>Unions</p> <hr/> <p><input checked="" type="checkbox"/> Arrays</p> <hr/> <p>Function</p>

60. Multiple Choice: CO5 _____ is a technique in C t...

Points: 1

Question	CO5 _____ is a technique in C to keep breaking the problem down into smaller and smaller pieces, until one of those pieces become small enough to be a piece-of-cake.
Answer	<p>Repetition Function</p> <hr/> <p>Iterative Function</p>

Recursive Function

Looping Function

Select: All None Select by Type:

Points