

Total No. of Questions – [3]

Total No. of Printed Pages: 4

G.R. No.

PAPER CODE

V113-202A(BE)

MAY 2023 (INSEM+ ENDSEM) EXAM

F.Y. B.TECH. (SEMESTER - II)

COURSE NAME: FUNDAMENTALS OF PROGRAMMING

COURSE CODE: CS10202A

(PATTERN 2020)

Time: [2Hr]

[Max. Marks: 60]

(\*) Instructions to candidates:

- 1) Figures to the right indicate full marks.
- 2) Use of scientific calculator is allowed
- 3) Use suitable data where ever required
- 4) Write correct syntax while writing program

Question No.	Question Description	Marks	CO mapped	Blooms Taxonomy Level
Q.1	<p>Select the correct option for following questions</p> <p>i. A program _____ and a processor is _____</p> <p>(A) is a sequence of instructions , is a device that performs a sequence of operations specified by instructions in memory</p> <p>(B) is the device where information is stored , is a sequence of instructions</p> <p>(C) is a device that performs a sequence of operations specified by instructions in memory, is the device where information is stored</p> <p>(D) none of the above</p> <p>ii. What is the output of the following C code?</p> <pre>#include &lt;stdio.h&gt; int main() {     for (int i=0;i&lt;10;i++)     {         printf("1\n");         while (i&lt; 8)         {             i++;             printf("2\n");         }     }     return 0; }</pre> <p>(A) 1 is printed 10 times, 2 8 times and then 1 4 times</p> <p>(B) 1 is printed 2 times, 2 8 times and then 1 4 times</p> <p>(C) 1 is printed 1 times, 2 8 times and then 1 1 times</p> <p>(D) 1 is printed 1 times, 2 8 times and then 1 8 times</p> <p>iii. What does #include&lt;stdio.h&gt; does in C language?</p> <p>(A) It includes stdio.h into existing C program.</p> <p>(B) #include increases the size of C program by including</p> <p>(C) the specified file contents like functions, constants</p> <p>(D) #include includes specified file before compilation.</p> <p>(E) All of the above</p> <p>iv. What will be the output of following C code?</p> <pre>#include &lt;stdio.h&gt; int main() {     int a=4;     switch(a)     {         case 1: printf("One ");         case 2: printf("Two ");         case 3: printf("Three "); break;         default: printf("Four ");break; } return 0; }</pre>	<p>[2]</p> <p>[2]</p> <p>[2]</p> <p>[2]</p>	<p>CO1</p> <p>CO1</p> <p>CO1</p> <p>CO1</p>	<p>A</p>

- (A) One
- (B) One Two
- (C) Two Three Four
- (D) Four

v. C is a \_\_\_\_\_ programming language.

[2]

CO1

- (A) Object Oriented
- (B) Procedural Oriented
- (C) Imperative
- (D) Functional

vi. What will be the output of following C code?

[2]

CO1

```
#include <stdio.h>
int main()
{
    int i = 0, j = 0;
    for (i; i < 2; i++)
    {
        for (j = 0; j < 3; j--)
        {
            printf("1 ");
            break;
        }
        printf("2 ");
    }
    printf("after loop"); return 0;
}
```

- (A) 1 will print infinite time
- (B) 1 after loop
- (C) 1 2 1 2 after loop
- (D) compile time error

vii. What will be the output of following C code?

[2]

CO1

```
#include <stdio.h>
void sum() {
    int a = 5;
    int result = a-- + a++ + --a + ++a + ++a;
    printf("%d", result);
}
int main()
{
    sum();
    return 0;
}
```

- (A) 12
- (B) 24
- (C) 20
- (D) 29

viii. What will be the output of following C code?

[2]

CO1

```
#include <stdio.h>
int main()
{
    double k = 0;
    for (k = 0.0; k < 4.0; k++)
    {
        if(k==2.0)
        { printf("Hi ");
          continue; }
        printf("Hello ");
    } return 0;
}
```

- (A) Hello Hello Hi
- (B) Hello
- (C) Hi
- (D) Hello Hello Hi Hello

<p>ix. _____ object is a part of _____ class.</p> <p>(A) ostream, cout (B) cout, cin (C) istream, cin (D) cout, ostream</p>	[2]	CO2	
<p>x. What is the output of the following C++ program?</p> <pre>#include &lt;iostream&gt; using namespace std; int main() {     int m=4;     m=++m + ++m;     cout&lt;&lt;"value of m is : "&lt;&lt; m;     int n=4 ;     n = n++ + n++;     cout&lt;&lt;" , value of n is : "&lt;&lt; n&lt;&lt;endl;     return 0; }</pre> <p>(A) value of m is : 10, value of n is : 8 (B) value of m is : 10, value of n is : 10 (C) value of m is : 9, value of n is : 12 (D) value of m is : 12, value of n is : 9</p>	[2]	CO2	
<p>xi. What will be the output of following C++ code?</p> <pre>#include &lt;iostream&gt; using namespace std; int a=10; int main() {     int a =20;     cout&lt;&lt;a&lt;&lt;::a; }</pre> <p>(A) syntax error (B) 1020 (C) 2010 (D) 2020</p>	[2]	CO2	
<p>xii. What will be the output of following C++ code?</p> <pre>#include &lt;iostream&gt; using namespace std; void play(int x,int y) void play(int x,int y) {     int z;     z=x+y;     cout&lt;&lt;"Result is : "&lt;&lt;z; } int main() {     int x,y;     x=4; y=3;     play(x,y);     return 0; }</pre> <p>(A) 7 (B) 8 (C) compile time error (D) 9</p>	[2]	CO2	
<p>xiii. What will be the output of following C++ code?</p> <pre>#include &lt;iostream&gt; using namespace std; int main() {     int arr[] = {4, 5, 6, 7};</pre>	[2]	CO2	

	<pre> int *p = (arr + 1); cout &lt;&lt; arr; return 0; } </pre> <p>(A) 5 (B) 4 (C) address of arr (D) 7</p> <p>xiv. What will be the output of following C++ code?</p> <pre> #include &lt;iostream&gt; using namespace std; int fun(int x, int y) {     int z;     x = 20;     y = 10;     return x+y; } int main() {     int x = 10;     fun (x, x);     cout &lt;&lt; x;     return 0; } </pre> <p>(A) Compiled Time Error (B) 11 (C) 10 (D) 20</p> <p>xv. If ptr is an float pointer with a value 1000, then what will the value of ptr + 5 if compiler is 32 bit?</p> <p>(A) 1020 (B) 1005 (C) 1004 (D) 1010</p>	[2]	CO2	
Q.2	<p><b>Solve any three out of four</b></p> <p>a) Distinguish between procedure oriented programming and object oriented programming?</p> <p>b) What is the need of constructor? How it is different from the member function?</p> <p>c) How memory is allocated to an object? Explain with an example</p> <p>d) Write C++ program using class object and function to find factorial of the number.</p>	[5] [5] [5] [5]	CO3 CO3 CO3 CO3	U A R A
Q.3	<p><b>Solve any three out of four</b></p> <p>a) Write a C++ program to overload area() function to calculate area of shapes like triangle, circle using function overloading.</p> <p>b) Define and List types of Inheritance? Demonstrate Single inheritance with the help of suitable example.</p> <p>c) What is Virtual function in C++? Explain the concept of virtual function with an example and list the rules associated with it</p> <p>d) Explain what is an inline function with an example? What are the advantages of inline function?</p>	[5] [5] [5] [5]	CO4 CO4 CO4 CO4	A R U U