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PAPER CODE	U111-202A(REQ)
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MAY 2022 (INSEM+ ENDSEM) EXAM
F.Y. B. TECH. (SEMESTER - II)
COURSE NAME: Fundamentals of Programming
COURSE CODE: CS1020A
(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

Q.1

Select the correct option for following questions.

- i) Which one of the following statement is best suitable? [2]

- (A) High Level Language is Platform independent Language
 (B) High Level and Scripting Level Languages are Platform independent Language
 (C) High Level Languages is platform dependent Language and Scripting Level Languages is Platform independent Language
 (D) High Level and Scripting Level Languages are Platform Dependent Language

- ii) What will be the output of following C code? [2]

```
#include <stdio.h>
int main()
{
    int a=1;
    switch(a)
    {
        case 1: printf("One ");
        case 2: printf("Two ");
        case 3: printf("Three "); break;
        default: printf("Four ");
    }
}
```

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

- iii) What will be the output of following C code? [2]

```
#include <stdio.h>
int main()
{
    int a;
    switch(a);
    {
        printf("DEER ");
    }
    printf("LION");
}
```

- (A) DEER (B) DEER LION (C) Compiler error (D) None of the above

iv) What will be the output of following C code? [2]

```
#include <stdio.h>
int main()
{
    char code='A';
    switch(code)
    {
        case 'A': printf("ANT ");
        case 'K': printf("KING ");
        default: printf("NOKING "); break;
    }
    printf("PALACE");
}
```

- (A) KING PALACE (C) KING NOKING PALACE
(B) KING NOKING (D) ANT KING NOKING PALACE

v) What will be the output of following C code? [2]

```
#include "stdio.h"
int main()
{
    int a = 15;
    int b = 10;
    a=b++;
    printf("%d %d %d %d ",a++,b++,a,b);
    return 0;
}
```

- (A) 15 16 15 17 (B) 15 16 16 16 (C) 10 16 12 17 (D) 10 11 11 12

vi) What will be the output of following C code? [2]

```
#include <stdio.h>
int main()
{
    int a=21, b=31, c=41;
    b=a++;
    c=++a;
    printf("%d %d ", ++a, b++);
    return 0;
}
```

- (A) 23 20 (B) 23 21 (C) 23 22 (D) 24 21

vii) Which one of the following statement is best suitable? [2]

- (A) Machine Level Language is Hardware independent Language
(B) Machine Level and Assembly Languages are Hardware Independent Language
(C) Machine Level and Assembly Languages are Hardware Dependent Language
(D) Assembly Languages are hardware independent

viii) What will be the output of following C code? [2]

```
#include<stdio.h>
int main()
{
    int x;
    for(x=20;x>=10;x--)
    {
        if(x==3)
        {continue;}
        printf("%d ",--x);
    }
    return 0;
}
```

- (A) 19 17 15 13 (C) 19 17 15 13 11 9
(B) 19 17 15 13 11 (D) 19 17 13 11 9

ix) What will be the output of following C++ code? [2]

```
#include <iostream>
```

```

int main()
{
    int x = 4;
    if(x++ == 5)
        cout<<"Five "<<endl;
    else
        if(++x == 6)
            cout<<"Six"<<endl;
    return 0;
}

```

- (A) Six (B) Five (C) None (D) Compiler error
 x) What will be the output of following C++ code? [2]

```

#include <iostream>
using namespace std;
int main()
{
    int m=10;
    m=++m + ++m;
    cout<<"value of m is : "<< m;
    int n=4 ;
    n = n++ + n++;
    cout<<" , value of n is : "<< n<<endl;
    return 0;
}

```

- (A) value of m is : 24, value of n is : 9
 (B) value of m is : 24, value of n is : 10
 (C) value of m is : 23, value of n is : 10
 (D) value of m is : 23, value of n is : 9
 xi) What will be the output of following C++ code? [2]

```

#include <iostream>
using namespace std;
int a=20;
int main()
{
    int a =20;
    cout<<++a<<+::a;
}

```

- (A) 2020 (B) 2120 (C) 2121 (D) 2122
 xii) What will be the output of following C++ code? [2]

```

#include <iostream>
using namespace std;
int main()
{
    int a = 3;
    switch(a)
    {
        case 1: cout<<"One ";
        case 2: cout<<"Two ";
        case 3: cout<<"Three ";
        default: cout<<"Default";
    }
    return 0;
}

```

- (A) Three (B) One Two (C) One Two Three (D) Three Default
 xiii) What will be the output of following C++ code? [2]

```

#include <iostream>
using namespace std;
int main()
{
    int friend = -10;
    cout<<"friend is: "<<friend++;
}

```

}
 (A) friend is: -10 (C) Compiler Error
 (B) friend is: 11 (D) friend is: 09
 xiv) What will be the output of following C++ code? [2]

```

#include <iostream>
int main()
{
    for(int i=10; i< 15; i++);
    std::cout<<"Welcome to C++ programming";
    return 0;
}
  
```

(A) Welcome to C++ programming
 (B) Compiler Error as 'using namespace std;' statement is missing
 (C) Compiler Error as 'using namespace std;' and value of 'i' in cout statement are missing
 (D) Compiler Error as value of 'i' in cout statement is missing
 xv) What will be the output of following C++ code? [2]

```

#include <iostream>
using namespace std;
int main()
{
    cout<<"Welcome to FP Exam";
    return 0;
}
  
```

(A) Welcome to FP Exam (C) Compiler Error
 (B) Welcome to FP Exam; (D) In sufficient Data

Q.2

Solve any three out of four

- Define class and object, data abstraction, encapsulation, inheritance and polymorphism. [5]
- Discuss Memory Allocation for Objects (data members and member function). [5]
- Compare between C language and C++ language. [5]
- Define Constructor. Enlist the categories of Constructor. Enlist the features of Constructor. [5]

Q.3

Solve any three out of four

- Identify the role of 'mode of inheritance' in C++ programming. Write a program for 'protected' mode of inheritance with correct syntax and output. [5]
- Identify the role of 'static data members' in C++. Write a C++ program for static data member with correct syntax and output. [5]
- Enlist the categories of compile time polymorphism. Write a C++ program for function overloading with correct syntax and output. [5]
- Write a C++ program with correct syntax and output to demonstrate the role of "friend function can become friend to more than one function". [5]