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Sub: PPL | Sub. Code: CSE 213
Time: 1.5 Hours | Max Marks: 20

Note: Attempt all questions. Answers should be brief and to the point.

Q.1) (A) Suppose your software development team has been assigned to create a device driver for a new hardware device. As the project manager. you are responsible for language selection and conducting a cost analysis of the selected programming language. Tell which programming language you will choose and why. Explain all points affecting the cost of programming language selection in this problem. (3)

(B) How does knowing about basic concepts of programming languages help us in better understanding of the significance of implantation in programming languages? Discuss it with the help of proper examples. (2)

Q.2 (A) How the programming languages based on compilation processes generate the final executable code? (3)

(B). Explain the step by step execution of program mentioned below. (3)

```
int f(int *ptr, int n){
if (n<= 0)return 0;
else if(*ptr%2 == 0) return  *ptr + f(ptr+1,n-1);
else return *ptr - f(ptr+1, n-1);  }
```

```
int main ( ) {
int A[]={11, 18, 34, 16, 4, 1};
cout<<f(A,6);
return 0;  }
```

Q.3 What is the use of function call stack? Show all entries of stack during the execution of the program given below with proper explanation. (4)

```
int function2(int a, int b){
   int t;
   t= a*b;
   return(t);  }
int function1(int x, int y) {
   int z=10;
   int q=0, p=0;
   q=function2(z, y);
   p=x+y+z+q;
   return(p);  }
```

```
int main()
{
   int A=10;
   int B=20;
   int C;
   C=function1(A, B);
   std::cout<<C;
   return 0;
}
```

Q.4 Write a program in which you have to define 2 linked lists each of four nodes using dynamic memory allocation. Every node should have two parts: first int data and second a pointer. Data at the nodes of the linked lists are (4, 8, 11,17) and (2,3, 9, 22) respectively. Merge both the liked lists so that in the merged list nodes are arranged in ascending order of their data values. (5)