1)void main()
```
  {
     int i=10, j=2;….
    int *ip= &i, *jp = &j;
    int k = *ip/*jp;
   printf(“%d”,k);
}
```

A)0 B)5 C)4 D)Compilation Error

2) i) const char *a ii)char* const a;
-Differentiate the above declarations.

***Answer:***

1. 'const' applies to char * rather than 'a' ( pointer to a constant char )
*a='F' : illegal
a="Hi" : legal
2. 'const' applies to 'a' rather than to the value of a (constant pointer to char )
*a='F' : legal
a="Hi" : illegal

3)
```
#include<stdio.h>
 main()
 {
     static int a[3][3]={1,2,3,4,5,6,7,8,9};
     int i,j;
    static *p[]={a,a+1,a+2};
     for(i=0;i<3;i++)
   {
      for(j=0;j<3;j++)
        printf("%d\t%d\t\n",*(*(p+i)+j),*(*(j+p)+i));
   }
}
```

| A) | | | B) | | C) | | D) | |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 4 | | 2 | 4 | 2 | 4 | 2 | 4 |
| 3 | 7 | | 3 | 7 | 3 | 7 | 3 | 7 |
| 4 | 2 | | 4 | 2 | 4 | 2 | 4 | 2 |
| 5 | 5 | | 5 | 5 | 5 | 4 | 5 | 6 |
| 6 | 8 | | 6 | 8 | 6 | 5 | 6 | 4 |
| 7 | 2 | | 7 | 3 | 7 | 4 | 7 | 5 |

8 7 8 6 8 9 8 4
9 9 9 9 9 9 9 9

4) void main()
{
static int i=5;
if(--i)
{
main();
printf("%d ",i);
}
}
a)5 4 3 2 b)4 3 2 1 c)0 0 0 0 d)compilation error

5)Write an API to print binary representation of an decimal number.

6)Write an API to swap two consecutive bits in an integer and print the integer after swap.

7) Which of the following are true about static member function?

1. They can access non-static data members.
2. They can call only other static member functions.
3. They can access global functions and data.
4. They can have this pointer.
5. They cannot be declared as const or volatile.

A) Oly 2
B) Only 2,5
C)Only 2,3,4,5
D) Only 2 , 3 , 5
E)All of these

8) Which of the following statements are true about Catch handler?

1. It must be placed immediately after try block T.
2. It can have multiple parameters.
3. There must be only one catch handler for every try block.
4. There can be multiple catch handler for a try block T.

5. Generic catch handler can be placed anywhere after try block.

A) Only 1, 4, 5
B) Only 1, 2, 3
C)Only 1, 4
D)Only 1, 2

9)What is abstract class? Can we create object for abstract class.? Justify answer with an example.

10)Differentiate early and late binding with an example.

11)Write a cpp program to find sum of array elements using templates.

12)When a Named Pipe is created, the system does the following

a)A signal gets delivered to the creating process

b)specifice file gets created in the file system

c)The kernel executes a trap

d)The two communicating processes will enter a sleep state

13) fork() system call will create a new child with

a)A duplicate copy of all the memory segment from the parent

b)A duplicate copy of all but the stack segment from the parent

c)A fresh copy of the memory segments stuffed with zeroes

d)None of the above

14) Two processes, P1 and P2, need to access a critical section of code. Consider the following synchronization construct used by the process

```
Process P1 :
while(true)
{
w1 = true;
while(w2 == true);
Critical section
w1 = false;
}
Remainder Section

Process P2 :
while(true)
{
w2 = true;
while(w1 == true);
Critical section
w2 = false;
}
Remainder Section
```

Here, w1 and w2 have shared variables, which are initialized to false. Which one of the following statements is TRUE about the above construct?
a) It does not ensure mutual exclusion
b) It does not ensure bounded waiting
c) It requires that processes enter the critical section in strict alternation
d) It does not prevent deadlocks but ensures mutual exclusion

15) Implement “ls  -l” command using c.