SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMKUR-3
Department of Computer Science and Engineering

TUTORIAL – 3: Review of C Concepts

Faculty: Kallinatha H D **Class:** III sem ' '
Subject: Data Structures **Subject Code:3** CCI32

Answer the following Questions:

1. Point out the errors, if any, in the following programs:

a)
```
main( )
{
   void printit(float, char);
   float a = 15.5 ;
   char ch = 'C' ;
   printit ( a, ch ) ;
}
void printit ( a, ch )
{
   printf ( "\n%f %c", a, ch ) ;
}
```

b)
```
main( )
{
 int p=23,f=24;
    void compute(int*,int*);
    compute(&p,&f);
    printf("\n%d %d",p,f);
 }
compute(int q,int g)
 {     q = q + q;
  g = g + g;
 }
```

c)
```
main( )
{
    int i = 3, j = 4, k, l ;
    k = addmult ( i, j ) ;
    l = addmult ( i, j ) ;
    printf ( "\n%d %d", k, l ) ;
}
 addmult ( int ii, int jj )
{      int kk, ll ;
      kk = ii + jj;
      ll = ii * jj ;
      return ( kk, ll ) ;
 }
```

d)
```
main( )
 {
  int * function(int*);
  int i=35,*z;
  z = function(&i);
printf("\n%d",z);
 }
int * function(int *m)
{
    return(m+2);
}
```

2. What will be the output of the following programs?

a)
```
main( )
{
    char s[ ]="HAI!";
    int i;
    for(i=0;s[i];i++)
        printf("\n%c %c",s[i],*(s+i));
}
```

b)
```
main( )
 {
 char s[ ]="STRINGS";
  printf("%d",*(s + strlen(s)));
}
```

c)
```
main( )
{
   int a,b,c;
   int *p,*q,*r;
   a=8, b=4, p=&b;
   q=p, r=&c;
    p=&a,*q=10;
   *r=*p;
   *r=a + *q + *&c;
    printf("%d %d %d\n",a,b,c);
   printf("%d %d %d",*p,*q,*r);
```

d)
```
main( )
 {
   int x,y,z,*p,*q;
   x=10;
    y=15;
    z=20;
    p=&x;
    q=&z
    *q=*p + y -3;
 y=y - (*p);
*p=*q – z;
```

```
}
```

e) main( )
```
{
        char str[ ]=”World of Data Structures”;
        printf(“\n%c”,*(&str[3]));
        printf(“\n%s”,str+9);
        printf(“\n%s”,str);
        printf(“\n%c”,*(str+17));
        printf(“\n%u”,str);
   }
      +));
```

h) main( )
```
{
      int i= -5,j= -2;
      display(int*,int*,int*,int*,int*);
      void product(int, int*);
      {27,28,29,30,31,32,33,34};
      product(i,&j);
      printf(“i=%d\n,i);
      +ptr);
      printf(“j=%d”,j);
   }
      *c,int *d,int *e)
  void product(int i, int *j)
{
      %d”,*a,*b,*c,*d,*e);
      i=i * i;
      *j=*j * *j;
}
```

j) main( )
```
   {
         char *a = “data structures”;
         char *b = “data structures”;
         a[0] = ‘D’;
         a[5] = ‘S’;
         printf(“%s\n”,a);
         printf(“%s”,b);
   }
```

l) main( )
```
   {
        char str[ ] = “TEST”;
        char *s;
        int i;
        s = str;
        for(i=0;i<3;i++)
             *s++;
        printf(“%s”,s);
    }
```

```
              printf(“%d %d %d”,x,y,z);
        }
```

f) main( )
```
    {       char *p = “EYE”;
      printf(“%c”, ++ * (p++));
}
```

g) main( )
```
{
      char *p = “alqc”;
            printf(“%c. . .”,++ * (p+

          printf(“%c”,*++p);
      }
```

i) main( )
```
      {
        void

       int arr[ ] =

        int *ptr = arr+1;
      display(++ptr,ptr--,ptr,ptr++,+

   }
        void display(int *a,int *b,int

  {
             printf(“\n%d %d %d %d

     }
```

k) main( )
```
{
     char str[ ] = “ART”;
     char *s = str;
     int i;
     for(i=0;i<2;i++)
          ++*s;
     printf(“%s”,s);
}
```

m) main( )
```
   {
     char s[ ] =”GoodDay”;
     char *ptr1 = s,*ptr2 = s+sizeof(s) - 1;
     int i;
     for(i=0;ptr1!=ptr2;i++)
     {    ++ptr1;
          - -ptr;
      }
     printf(“%d “,i);
}
```