Q. no 6

```
#include <stdio.h>
#include <math.h>
#define pi 3.14
int main()
{
    int shape, radius, height, num, i;
    float area, vol;
    printf("How many shapes you want to acess: ");
    scanf("%d", &num);
    for (i=1; i<=num; i++)
    {
    printf("Chose the shape - ");
    printf("\n1-cylinder \n2cone \n3 sphere \n");
    scanf("%d", &shape);
    {
        switch (shape)
        {
            case 1:
                printf("Enter radius and height of cylinder:");
                scanf("%d %d", &radius, &height);
                area=( 2*pi *radius *height)
                    + ( 2*pi *radius *height);
```

```
            vol = pi * radius * radius * height;
            break;
        case 2:
            printf("Enter radius and height of cone: ");
            scanf("%d %d", &radius, &height);
            area = (2 * pi * radius * height) + (2 * pi * radius *
                                                    radius);
            vol = (pi * radius * radius * height)/3;
        break;
    case 3:
            printf("Enter radius of the sphere: ");
            scanf("%d", &radius);
            area = 4 * pi * radius * radius;
            vol = (4/3) * pi * radius * radius;
            break;
        }
        printf("The area is: %f \n", area);
        printf("The volume is: %f \n", vol);
    }
}
    return 0;
}
```

Ques 7:

```
#Include <stdio.h>
#Pndude <stuing.h>
struct getname
{
    char name[10];
};
Int main ()
 {
   Struct getname arr[100];
   Int n;
   Int: cnt1 =0, cnt2=0, cnt3=0;
   Int a[100];
   printf("Students are requised to fill in their details
          and choice of electives |n");
   printf("Choice of electives: |n");
   printf(1. Internet of Things |n 2. Advanced Java |n 3.
                Advanced Data Struct. |n");
   int num;
   printf("Enter the total number of students: ");
   scanf("%d", &num);
   for(Int i =0; i<num; i++)
    {
```

```
printf("Enter the name of students : \n");
scanf("%s",&stu[i].name);
printf("Enter your choice : \n");
scanf("%d",&n)
a[i] = n;
if(a[i]=1)
{
   cnt1++;
}
else if(a[i]==2)
{
   cnt2++;
}
else if(a[i]==3)
{
   cnt3++;
}
}
printf("operation 1 \n");
int n;
printf("Enter the choice of elective you want to get
        the list for: \n");
scanf("%d",&n);
```

```
for (int i=0; i<num; i++)
{
    if(a[i] == n)
    {
        printf(">%s \n", au[i].name);
    }
}
printf("operation 2 \n");
if (cnt1 < 3)
{
    cnt1 = 0;
    printf("All elective one students are required
            to choose different elective. \n");
    for(int i=0; i<num; i++)
    {
        if (a[i] == 1)
        {
            printf("%s Select from elective 2 or 3: \n",
                                    au[i].name);
            scanf("%d", &n);
            a[i] = n;
            if(n == 3)
                cnt3++;
            else if (n == 2)
                cnt2++;
        }
```

```
        }
    }
}
if(cnt2<3)
{
  cnt2=0;
  printf("All elective two students are required to
          chose different elective.\n");
  for(int i=0;i<num;i++)
  {
    if(a[i]==2)
    {
      printf("%s select from elective 1or3:\n"
             ,ass[i].name);
      scanf("%d",&n);
      a[i]=n;
      if(n==1)
        cnt1++;
      else if (n==3)
        cnt3++;
    }
  }
}
```

```
if(cnt3<3)
{
    cnt3=0;
    printf("All elective three students are required
            to choose a different elective.\n");
    for(int i=0;i<num;i++)
    {
        if(a[i]==3)
        {
            printf("%s Select from elective 2 or 1: \n"
                    ,arr[i].name);
            scanf("%d",&n);
            a[i] = n;
            if(n==1)
                cnt1++;
            else if(n==2)
                cnt2++;
        }.
    }.
}.
printf("operation 3\n");
printf("Number of students in elective one: %d\n",cnt1);
```

```
printf("Number of students in elective two : %d \n" cnt2);
printf("Number of students in elective three : %d \n" cnt3);
printf("operation 4 \n");
printf("List of students elective 1: \n");
for (int i=0; i<num; i++)
{
    if (a[i] == 1)
    {
        printf("%s \n", arr[i].name);
    }
}
printf("List of students for elective 2: \n");
for (int i=0; i<num; i++)
{
    if (a[i] == 2).
    {
        printf("%s \n", arr[i].name);
    }
}
```

```
printf("List of students in elective 3: \n");
for (int i=0; i<num; i++)
{
    if (a[i]==3)
    {
        printf("> %s\n", au[i].name);
    }
}
return 0;
}
```