Dept. of Computer Science and Engineering (CSE)

Class Test # 2 Year: **2023** Semester: **Spring**
Course: **CSE 1111** Title: **Structured Programming Language (Sec – A/V)**
Marks: **20** Time: **30 minutes**

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Name:…….. **ID:** ……

Q.1 **(a)** *Re-write* the code segment using *"Switch case"* without changing the logical meaning : **[3]**

```
int num;
scanf("%d",&num);
if(num%2==0) {
      if(num==0){
            printf("Even and equal
            to zero\n");
      }
      else{
            printf("Even but not
            equal to zero\n");
      }
}
else{
      printf("ODD\n");
}
```

Output Q1 (a)

```
int num;
  scanf("%d",&num);
  switch(num%2==0) {
    case 1:
            switch(num==0){
              case 1:
                    printf("Even and equal to zero\n");
                    break;
                  case 0:
                    printf("Even but not equal to zero\n");
                    break;
      }
       break;
    case 0:
      printf("ODD\n");
      break;
  }
```

(***b***) Find the ***output*** of the following code segment: **[3]**

```
int count = 1;
while (count <= 5) {
      puts((count % 2) ? "*****" : "++");
      ++count;
   }
```

Output Q1 (b)

```
*****
++
*****
++
*****
```

Q.2 *Re-write* the following code using "**do-while loop**" : **[3]**

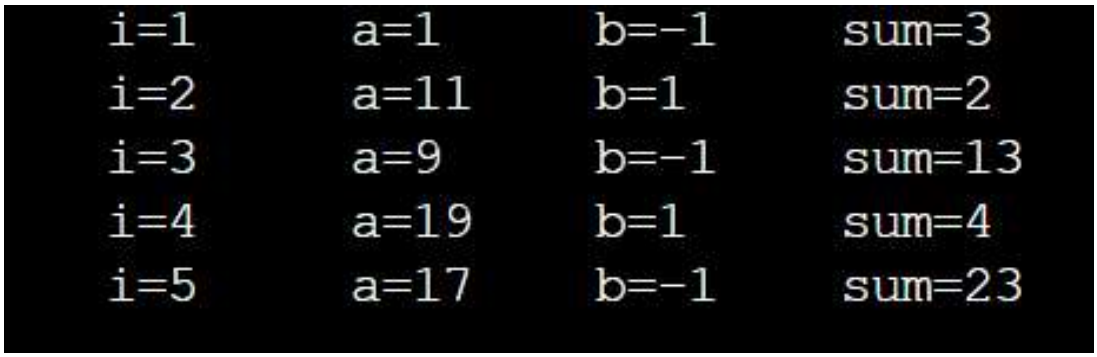
```
#include<stdio.h>
int main(){
   for(int i=3; i>=1; i--){
          for (int j=1; j<=i; j++){
                printf("%d", 2*j+1);
          }
          printf("\n");
    }
}
```

Output Q2

```
#include<stdio.h>
int main(){
  int i=3;
  do{
    int j=1;
    do{
      printf("%d", 2*j+1);
      j++;
    }while(j<=i);
    printf("\n");
    i--;
  }while(i>=1);
}
```

Q.3 ***Manually trace*** (show the values of all the variables in each step) the following code segment. **[5]**

```
int n = 5, sum = 0, i, a = 3, b = 1;
for(i = 1; i<=n; i++) {
        sum = sum + a * b;
        if(i%2!=1) {
            a + = 10;
        }
        else {
            a - = 2;
        }
        b = - b;
}
printf("\n%d", sum);
```



Q. 4 Draw a ***Flow chart*** to find the **sum** of the following series up to n terms, where n is an input integer taken from keyboard. **[6]**

1 + 3 + 5 + 7 + 9 + ... + n

(Similar Example :)