SECTIONAL GROUP: **DISCUSSION GROUP:**

MATRICULATION NO:

(Write your matriculation number legibly using a **PEN**.)

TOTAL MARKS

1. A **2.** D **3.** C **4.** E

5. [4 marks]

```
0 0.50
1 0.00
```

6. [2 marks]

```
251
```

7. [3 marks]

```
-20 30 160
```

8. [3 marks]

M1: `arr[i] > 0`

M2: `arr[i] > 0`

M3: `0`

9. [4 marks]

```
void printSquare(int k){
    int i,j;

    for (i=0; i<k; i++){
        if (i==0 || i==k-1){
            for (j=0; j<k; j++)
                printf("*");
        } else {
            printf("*");
            for (j=1; j<k-1; j++)
                printf(" ");
            printf("*");
        }
        printf("\n");
    }
}
```

10. a) Write your algorithm in the box below [5 marks]

```
which_day(types, days):
  collected ← {0, 0, 0, 0, 0}
  remaining ← 5

  for i from 1 to days
      if i is odd and collected[types[i]] is not 0
          collected[types[i]] ← 1
          remaining ← remaining – 1

      if remaining is 0
         return i

  return -1
```

10. b) Write your code in the box below [5 marks]

```
int which_day(int types[], int days){
  int collected[TOY_TYPE] = {0};
  int remaining = TOY_TYPE;
  int i;

  for (i = 0; i < days; i++){
    if ( (i+1) % 2 == 1 && collected[types[i]-1] == 0){
      collected[types[i]-1] = 1;
      remaining--;
    }

    if (remaining == 0)
      return i + 1;
  }

  return -1;









}
```