

NAME: \_\_\_\_\_

ROLL NUMBER: \_\_\_\_\_

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**Note:** Negative mark of -1 applies for each incorrect or incomplete response.

**Question 1.** I was writing a program to to play the 21 matchstick game. But, a mischievous friend of mine deleted one line. Can you fill in the blanks to complete this code and make it work? [1 Mark]

```
int main()
{
    int stickCount=21, x, y;

    while (stickCount>=1)
    {
        printf("\nNumber of sticks left = %d. Your turn now.
                Pick up 1-4 matchsticks: ", stickCount);
        scanf ("%d", &x);

        if (x>4)
        {
            printf("Sorry. Select between 1 and 4.\n");
            break;
        }

        y = 5-x;

        if (y > stickCount) {
            _____ ; //Write your answer here.
        }

        printf("System chooses: %d", y);

        stickCount=stickCount-(x+y);

        if(stickCount==1) break;
    }

    printf("\nOnly one stick remains. You must select it. So, system Wins.");
}
}
```

See next page for question 2.

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Question 2. What is the output? [1 Mark]

```
int fun(int n, int *y)
{
    int t, f;
    if(n <= 1)
    {
        *y = 1;
        return 1;
    }
    t = fun(n-1, y);
    f = t + *y;
    *y = t;
    return f;
}
int main( )
{
    int x = 15;
    printf ( "%d\n", fun (6, &x));
    getchar();
    return 0;
}
```

Answer = -----