



National Institute of Technology Goa

Programme Name: **B.Tech**

Mid Semester Examinations, June-2021

Course Name: Computer Programming and Problem Solving

Date: 15/6/2021

Duration: 1.5 Hours

Course Code: CS100

Time: 10AM-11.30AM

Max. Marks: 50

ANSWER ALL QUESTIONS

In a simple encryption method, digits in a numbers written in decimal system are replaced by capital letters of English alphabet, with the following rule $0 \rightarrow A$, $1 \rightarrow B$, $3 \rightarrow C$, $4 \rightarrow D$ and so on. Write a program with minimum number of statements to accomplish the given requirement. Draw the flow chart for the procedure followed. (15)

- 1) Write a program to implement simple calculator using if-else ladder. The program should give chance to the user to perform multiple calculations. (10)
- 2) Write a flowchart and C program for generating the following pattern using while loop. (10)

```

1
1 2
1 3
1 4
1 2 3 4 5
  
```

- 3) Write a C program to find the student grades, according to marks, using a switch statement. Draw the flow chart for the procedure followed. (15)

```

if marks < 50 then Grade is F
if marks >= 50 < 60 then Grade is D
if marks >= 60 < 70 then Grade is C
if marks >= 70 < 80 then Grade is B
if marks >= 80 < 90 then Grade is A
if marks >= 90 then Grade is A+
  
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