Task 4

6 × 2 = 10 *marks*

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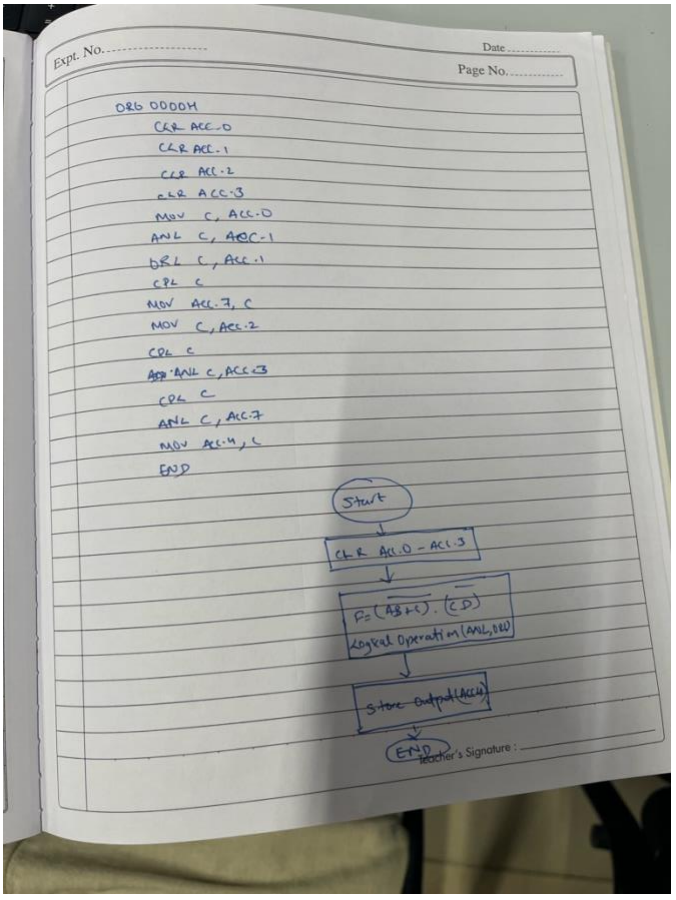
Each question carries six marks.

The task files should have handwritten flow chart/Algorithm, and written Program, Snapshot of typed program and Snapshot of output.

Implement the logic circuits using 8051 assembly code in KEIL and simulate the following equations

1. F=(AB+C)'(C'D)'

Written code and flowchart:



Code and Output:

```
1  ORG 0000H
2
3      CLR ACC.0
4      CLR ACC.1
5      CLR ACC.2
6      CLR ACC.3
7      MOV C, ACC.0
8      ANL C,ACC.1
9      ORL C,ACC.2
10     CPL C
11     MOV ACC.7,C
12     MOV C,ACC.2
13     CPL C
14     ANL C,ACC.3
15     CPL C
16     ANL C,ACC.7 ;OUTPUT
17     MOV ACC.4,C ;OUTPUT
18     END
19
20
```

Name	Value	Type
ACC.4	0x01	uchar
ACC.4	0x01	uchar
<Enter expression>		

ORG 0000H

CLR ACC.0

CLR ACC.1

CLR ACC.2

CLR ACC.3

MOV C, ACC.0

ANL C,ACC.1

ORL C,ACC.2

CPL C

MOV ACC.7,C

MOV C,ACC.2

CPL C

ANL C,ACC.3

CPL C

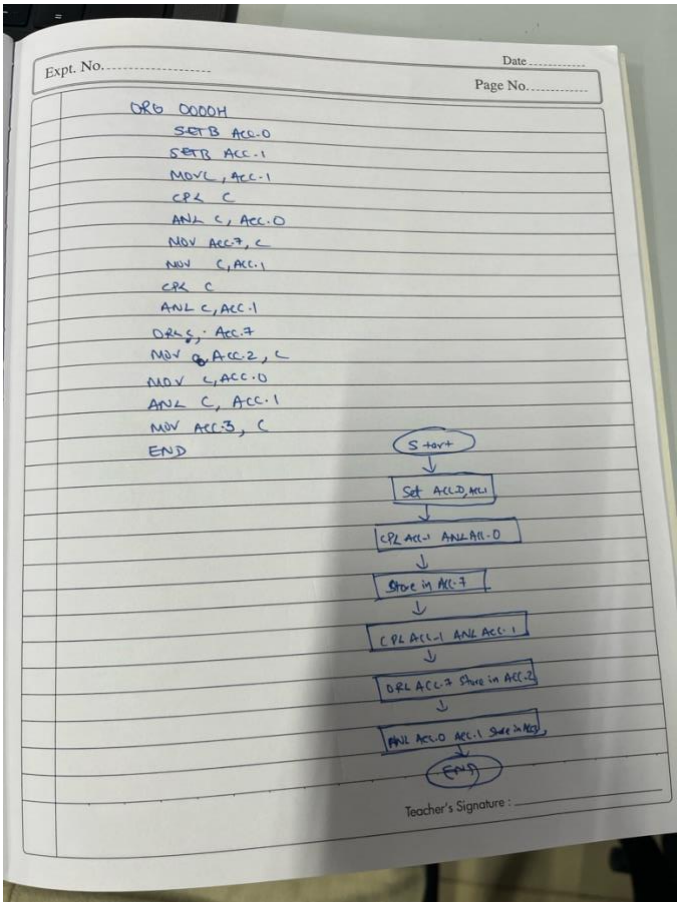
ANL C,ACC.7 ;OUTPUT

MOV ACC.4,C ;OUTPUT

END

2. C=AB'+BB'; D=AB

Written code and flowchart



Code and Output:

ORG 0000H

SETB ACC.0

SETB ACC.1

MOV C, ACC.1

CPL C

ANL C, ACC.0

```
MOV ACC.7, C

MOV C, ACC.1
CPL C
ANL C, ACC.1

ORL C, ACC.7
MOV ACC.2, C

MOV C, ACC.0
ANL C, ACC.1
MOV ACC.3, C

END
```

```
ORG 0000H

    SETB ACC.0
    SETB ACC.1
    MOV C, ACC.1
    CPL C
    ANL C, ACC.0

    MOV ACC.7, C

    MOV C, ACC.1
    CPL C
    ANL C, ACC.1

    ORL C, ACC.7
    MOV ACC.2, C

    MOV C, ACC.0
    ANL C, ACC.1
    MOV ACC.3, C

    END
```