

Birla Institute of Technology & Science, Pilani- KK Birla Goa Campus
I Semester 2015-2016
EEE/CS/INSTR F241- MICROPROCESSOR PROGRAMMING AND INTERFACING
Quiz 2 (Open Book)

Date: 13-02-2015

Max Marks: 10

Duration: 30 Mins

ID No.

Name:

Instructions: Answer the questions in the space provide

Q1. Given below is an 80x86 assembly program segment **[8]**

```
.Model Tiny
.486
. DATA
D1 DD 23H, 24H
D2 DB "ACDEF"
ALIGN 2
CNT1 EQU 45H
D3 DW -1,-2,-3,-4
D4 DB 3 DUP('1')
ALIGN 2
D5 DW 10 DUP(0ABFEH)
```

Write the contents of memory in data segment that result from data declarations in the program given in the tabular format given below. **(i.e., for 40 locations in data segment assume starting from offset 0150_H to 016F_H)** (You may use 'A' to represent ASCII byte for the character A. If the contents cannot be determined put an 'X' in the box. **All values except for ASCII values must be in hexadecimal**) .Memory address in table is in increasing order.

DS:0150 _H	23	00	00	00	24	00	00	00
DS:0158 _H	'A'	'C'	'D'	'E'	'F'	X	FF	FF
DS:0160 _H	FE	FF	FD	FF	FC	FF	'1'	'1'
DS:0168 _H	'1'	X	FE	AB	FE	AB	FE	AB

Q2. Consider the code snippet below. Under what conditions will the branch to x1 be taken. **[2]**

```
pushfd
pop     eax
and     eax,00000011h
jz     x1
```

Ans: Branch will be taken if both Carry and Auxiliary Carry are not set (CF = 0 and ACF =0)