DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER V [I.T.]
SUBJECT: (IT506) ADVANCED MICROPROCESSOR ARCHITECTURE

Examination	**: Block Exam- Regular**	**Seat No.**	**:**
Date	**: 16/10/2014**	**Day**	**: Thursday**
Time	**:**	**Max. Marks**	**: 36**

INSTRUCTIONS:
1. ***Figures to the right indicate maximum marks for that question.***
2. ***The symbols used carry their usual meanings.***
3. ***Assume suitable data, if required & mention them clearly.***
4. ***Draw neat sketches wherever necessary.***

Q.1 Answer the following.

(a) Bubbles will not affect the temporal parallel processing. State true/false and justify. **02**

(b) Determine the addressing modes for following 8086 instructions. **02**
1. ADD BX, 59H[DI]
2. XCHG CH, ES:[BX]

(c) The size of IVT and IDT tables are same. State T/F and justify (show your calculation also) **02**

(d) 'C' uses processor registers to pass parameters to the function. State true/false and justify **02**

(e) List the Protected mode registers and their function that are not the part of the real mode. **02**

(f) Calculate the displacement for jump. **02**

```
        MOV CX,5
NEXT:   ADD AX,BX
        NOP
        NOP
        JMP NEXT
```

Q.2 Answer the following.

(a) The 8086 system requires following memory map : **06**

RAM - 00000 TO 03FFFH
EPROM - FC000H TO FFFFFH

RAM & EPROM devices available are of size 8 Kbytes.
Use only ONE 3625 bipolar PROM to decode and map above devices. Write down the truth table and draw the complete circuit diagram. State your assumptions, if any, very clearly.

(b) Write a program for TASM to add four 16-bit unsigned numbers which are stored in logical segment named NUMBER. Store the result in another logical segment named RESULT. Draw neat flow chart and state any assumptions if any clearly. **06**

Q.3 (a) In the examination paper there are 5 questions and each will take on average 10 minutes to correct. 2000 candidates write examination. 5 teachers are employed to correct paper using pipeline mode. Every question is not answered by all candidates. 10% of candidates do not answer question 1, 15% question 2, 5% question 3, 5% question 4 , 25% question 5. **06**
i) How much time is taken to complete grading?
ii) What is the efficiency of pipeline processing?
iii) If data parallel method is used how much time will be taken to complete the grading?

(b) Describe the following descriptor in detail. Selector of this descriptor must be loaded into which register of 80386 in PM? Which are all the checks 80386 will do and will there be exception(s) due to this checks ? **06**

0040h		6
9Bh	80h	4
0000h		2
0020h		0