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

Examination	**: Block Exam**	**Seat No.**	**:**
Date	**: 17/10/2013**	**Day**	**: Thursday**
Time	**: 11:00 TO 12.15**	**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.**
5. **Calculator is not allowed.**

Q.1 Answer the following.

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

(b) First 1 Kbytes memory in 8086 system must be non-volatile memory in 8086. State true/false and justify. **02**

(c) If DS=10000, SS=20000, BP=0001 and SI=FFFF, IF MOV AX,[BP+SI] is executed, from which physical memory locations, content will be transferred to AX register ? **02**

(d) 'C' uses processor registers to pass parameters to the function. **02**

(e) What is the difference between superscalar and superpipelining? **02**

(f) When task switching is done through FAR JMP instruction, 386 will set NT flag bit in Protected mode of 80386. **02**

Q.2 Answer any *Two*.

(a) The 8086 system requires following memory map : **06**
EPROM - FC000H TO FDFFFH
EPROM device available is of size 4 Kbytes. Use 3625 bipolar PROM as decoder to map above devices using absolute decoding. Write down the truth table and draw the complete circuit diagram. State your assumptions, if any, very clearly.

(b) Write a program to move a string 'DDIT' which is defined in a logical segment named DATA1 to another logical segment named DATA2 using MOVS instruction. Draw neat flow chart and state your assumptions, if any, very clearly. **06**

Q.3 (a) In the examination paper there are 5 questions and each will take on average 5 minutes to correct. 2000 candidates write examination. 4 teachers are employed to correct the papers using pipeline mode. Every question is not answered by all candidates. 20% of candidates do not answer question 1, 5% question 2, 15% question 3, 10% question 4, 12% question 5. **06**

1. How much time is taken to complete grading?
2. What is the efficiency of pipeline processing?
3. If data parallel method is used how much time will be taken to complete grading?

(b) Describe the following descriptor in detail. If this descriptor is accessed by the program during execution, what kind of action will be performed by 80386 in PM? **06**

FFFFh		6
E009h	FFh	4
000Ch		2
FFFFh		0

Which are all the checks 80386 will do and will there be any exception(s) due to these checks ?