



Reg. No. : .....

Name : .....

**Sixth Semester B.Tech. Degree Examination, May 2013  
(2008 Scheme)**

**Branch : Computer Science and Engg.**

**08.605 : HIGH PERFORMANCE MICROPROCESSORS**

Time : 3 Hours

Max. Marks : 100

PART – A



Answer **all** questions. **Each** carries **4** marks.

1. What do you mean by IA-32 processors ? Which was the first IA-32 processor ?
2. Show the computations which tell how much virtual memory an 80286 can address.
3. Enlist four major architectural advancements in 80486 over 80386.
4. What you meant by dual independent bus architecture of Pentium Pro ?
5. Explain the integer and floating point execution of MIPS R 4000.
6. Define Thumb instructions. How are they executed ?
7. Explain the format of CPSR of ARM.
8. List out the unique features of a micro controller.
9. Which are the user flags inside the 8051 micro controller ? Where are they stored ?
10. What is signal conditioning ?



## PART – B

Answer **one** full question from **each** Module.

**Module – I**

11. a) With a neat sketch explain how the physical address is generated in protected virtual mode of 80386. 8  
 b) Briefly explain the architecture of Pentium processor with block diagrams. 12
- OR
12. Explain the Netburst Micro architecture of Pentium 4 with a neat block diagram. Also, explain the functions of each part. 20

**Module – II**

13. a) What do you mean by register windowing ? Explain the circular buffer organization of register windows. 8  
 b) Describe briefly the architecture and instruction pipelining of MIPS R 4000. 12
- OR
14. a) Explain the arithmetic and logic instructions, block transfer instructions and branching instructions of ARM with examples. 10  
 b) Briefly explain the instruction format and instruction set of SPARC. 10

**Module – III**

15. a) Describe the internal memory organization of 8051 microcontroller. 10  
 b) Briefly explain the serial data modes of 8051 microcontroller. 10
- OR
16. a) Describe how stream of characters can be sent to the LCD through the following ways :  
 i) Checking the busy flags.  
 ii) Putting some delay between sending each character without checking the busy flag.
- Explain the advantages and disadvantages of each method. Also explain how we monitor the busy flag. 12
- b) Describe how a micro-controller detect and identify a key pressed on a key board. 8