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Reg. No. : .....

Name : .....

Eighth Semester B.Tech. Degree Examination, November 2015
(2008 Scheme)
08.805A : ADVANCED MICROPROCESSORS (F)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions.

1. What is an addressing mode ? Give examples.
2. Write an 8085 ALP to find the average of n 16-bit numbers stored in memory. n is stored in register E.
3. Write an 8086 assembly language program to determine if a 16-bit number stored in memory is a prime number or not.
4. What are control hazards ? How are they overcome ?
5. What is speculative execution ? How is it achieved ?
6. Explain the MMX instruction.
7. How is 64-bit computing different from 32-bit computing ?
8. Discuss about vector computing on Power PC 970.
9. List the modes of operation of X 86-64.
10. Write briefly about the SS3 instruction set of Core Duo. **(10×4=40 Marks)**

PART – B

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

Module – I

11. a) Describe the interrupt structure of 8086. **12**

    b) Explain the programming model for an 8-register machine. **8**

P.T.O.

12. a) Draw a block diagram and explain the architecture of 8086. **10**

    b) Write an 8086 assembly language program to generate n perfect squares starting from 1. n is stored in memory. **10**

Module – II

13. a) Explain the architecture of Pentium Pro. **10**

    b) How does pentium pro do dynamic scheduling ? **10**

14. a) Explain the microarchitecture of Power PC 750. **10**

    b) Describe the G4e's vector unit. **10**

Module – III

15. a) How does the IBM Power PC 970 dispatch and issue instructions ? **12**

    b) Discuss the effect of block size on cache performance. **8**

16. a) What is micro-ops fusion ? Explain with a diagram. **10**

    b) Explain branch prediction in Pentium M. **10**