D 51618 (Pages : 2)

Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION DECEMBER 2008

AI 04 504/BM 04 504—COMPUTER ORGANIZATION AND ARCHITECTURE

(2004 Admissions)

Time : Three Hours Maximum : 100 Marks

Answer all questions.

Part A

I. (a) Explain the functional units of a computer.

(b) Explain the steps in memory read write operations.

(c) Explain what you mean by DMA, and why it is needed ?

(d) Explain the concept of virtual memory.

(e) Explain the concept of linear pipelining with an example.

(f) Explain what you mean by on-line storage and any two devices used for it.

(g) Explain what you mean by preservation tables with help of an example.

(h) Explain the architecture of an SIMD array processor.

(8 × 5 = 40 marks)

Part B

II. A (i) What do you mean by addressing modes. Discuss any four with examples. (8 marks)

(ii) Explain the operations performed on a stack. What are its applications ? (7 marks)

Or

B (i) Explain the steps in executing a complete instruction. (8 marks)

(ii) Compare and contrast Hardwired and microprogrammed control unit. (7 marks)

III. A (i) Explain the structure of a semiconductor RAM memory. (8 marks)

(ii) Explain how addition and subtration is performed on signed numbers. (7 marks)

Or

B (i) Explain the various methods for accessing I/O devices. (8 marks)

(ii) Explain the various mapping techniques used in cache memory. (7 marks)

IV. A (i) Explain the data depdendency in a picture. (7 marks)

(ii) Explain the principle of operation of any two storage devices. (8 marks)

Or

B Write short notes on :

(i) Flat panel displays.

(ii) Tape systems.

(iii) CD-Rom systems.

(15 marks)

Turn over

V A (i) Explain the classification of pipeline processors. (8 marks)

(ii) Explain how parallelism is achieved in uniprocessor systems. (7 marks)

Or

B Explain the various SIMD interconnection networks. Give suitable figures. (15 marks)

(4 × 15 = 60 marks)