

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2125)

15314

B. Tech 7th Semester Examination
Computer Architecture & Organization (NS)
EC-411(d)

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all selecting one question from each of the section A, B, C and D of the question paper and all the sub parts of the questions in Section E.

SECTION - A

1. (a) Discuss the Von Neumann model for computer architecture. (10)
- (b) How range and precision in fixed point can be represented? Explain. (10)
2. (a) Illustrate the concept of error in floating point representation. (10)
- (b) Discuss the procedure for conversion from binary to octal and vice versa. (10)

SECTION - B

3. Describe the following operations:
 - (i) Floating point subtraction.
 - (ii) Two's complement addition and subtraction. (20)
4. (a) Discuss the characteristics of CISC based architecture. (10)

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2

15314

- (b) Discuss the addressing modes in RISC based architectures. (10)

SECTION - C

5. What is the concept of hardwired architecture? How it is different from other control architectures? Explain. (20)
6. Explain the following:
 - (a) Direct mapped cache.
 - (b) Paged memory management. (20)

SECTION - D

7. Differentiate the following:
 - (a) DMA and interrupt driven I/O.
 - (b) SISD and MIMD parallel architectures. (20)
8. Discuss the working mechanism of magnetic tape and optical disks. (20)

SECTION - E

9. (i) Discuss the concept of memory hierarchy.
- (ii) What is range of fixed point numbers?
- (iii) Illustrate the use of 1's complement subtractor.
- (iv) What is meant by Microinstruction?
- (v) Define the term timing.
- (vi) Discuss the concept of read only memory.
- (vii) How universal serial bus is employed?
- (viii) Explain programmed input/output procedure.
- (ix) Write short note on protection.
- (x) Write short note on high performance architecture. (10x2=20)