C 58193 (Pages 2) Name.....

Reg. No.....

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2009

CS/IT 04 403—SYSTEMS PROGRAMMING

(2004 Admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

I. 1 Explain the data formats of ULTRA SPARC.

2 Explain program relocation with an example.

3 Discuss how an object program is processed using a linking loader.

4 List the advantages and disadvantages of combining macroprocessing within language translators.

5 Explain privileged mode of CPU operation.

6 Explain the storage hierarchy.

7 Write notes on interrupts and exceptions for a UNIX systems.

8 Draw the block diagram of the system Kernel.

(8 × 5 = 40 marks)

II. (a) Explain all the addressing modes supported by SIC/XE. Write an assembly program for SIC/XE to set array elements to O_1, if the value of the array element is less than 16 or else set to 1 ; assuming an array of 100 words.

Or

(b) Explain the various data structures used by a simple assembler.

III. (a) Describe the significant features of the Microsoft MS-DOS linker for Pentium and other X86 systems.

Or

(b) Describe the features of machine independent Macro processor.

IV. (a) Write notes on parallel and distributed systems.

Or

(b) List down the services of an operating system and explain them briefly.

Turn over

V. (a) **Explain the architecture of a UNIX system.**

Or

(b) Give an overview of the file subsystem in UNIX.

(4 × 15 = 60 marks)