C 37068 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
JUNE 2004

CS./ IT. 2K. 402—SYSTEMS PROGRAMMING

(New Scheme)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

Assume suitable data that are not given.

1. (a) What is the purpose of control section ? Explain the need for program linking.

(b) Write notes on MASM assembler.

(c) What is a Bootstrap loader ? Explain briefly the working of bootstrap loader.

(d) What is dynamic linking ? How it is used in loading and calling a subroutine ?

(e) What is multiprogramming ? What are its advantages and disadvantages ?

(f) What is storage hierarchy ? Why is it important in swapping techniques ?

(g) What are the services provided by the kernel ?

(h) What are the characteristic features of UNIX file system ?

(8 × 5 = 40 marks)

UNIT I

2. (a) Elaborate the structure and design of one pass assembler.

Or

(b) Describe in detail the architectural features of VAX machine.

UNIT II

3. (a) Write the algorithm for the pass I of a linking loader and explain its working.

Or

(b) Write an algorithm for a one-pass microprocessor and explain the data structures used by the microprocessor.

UNIT III

4. (a) What are the system calls ? What are the various system calls provided to the user by the OS ? Explain them in detail.

Or

(b) Discuss in detail the Demand-Paged memory management listing the hardware support required and its advantages and disadvantages.

Turn over

UNIT IV

5. (a) Explain in detail about the processing environment of UNIX system.

Or

(b) Explain how process themselves make decision based on system events while executing in kernel mode.

(4 × 15 = 60 marks)