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Name.....

Reg. No.....

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

CS/IT 04 503—OPERATING SYSTEMS

(2004 admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

I. (a) What is a buffer ? Explain its uses in computer system.

(b) With a help of flow chart, explain how the I/O request is processed.

(c) Draw the process state transition diagram and explain.

(d) Explain how deadlocks can be prevented.

(e) Explain the various allocation policies used in dynamic storage.

(f) What is a working set model ? Explain its usage in memory management.

(g) Explain the role of cryptography in file protection.

(h) What is a file descriptor ? What are its uses ? Explain.

(8 × 5 = 40 marks)

II. (a) (i) Describe the relationship between resource, process and thread. (10 marks)

(ii) Explain the role of device drivers in computer systems. (5 marks)

Or

(b) With the help of a diagram, describe the organization of operating system. (15 marks)

III. (a) What is a semaphore ! How it is implemented ? Write a program to solve reader-writer problem using semaphores. (15 marks)

Or

(b) Write the Banker's algorithm, explain how it is used to avoid deadlocks. (15 marks)

IV. (a) Discuss the design issues of demand paging. (15 marks)

Or

(b) (i) Explain the multiple partition allocation memory management scheme. (8 marks)

(ii) Write notes on : Relocation and address binding. (7 marks)

V. (a) Discuss the various issues related to file system design. (15 marks)

Or

(b) Describe the characteristics of various types of files. (15 marks)

[4 × 15 = 60 marks]