IT

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Name..

Reg. No..

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2004

IT 2K 505/CS 2K 505. OPERATING SYSTEMS

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

1. (a) Explain how OS uses multiprogramming to implement time sharing.

   (b) Explain the role of device driver in device management organization with the help of a diagram.

   (c) What is a reusable graph model ? How it is different from the consumable graph model ?

   (d) What is a process descriptor ? Describe the fields present in the process descriptor.

   (e) Write the steps performed by the O.S. when a page fault occurs.

   (f) Explain how bound checking is done at run time.

   (g) Explain the different ways of representing directories.

   (h) Explain the operations that can be performed on a byte stream file.

   (8 × 5 = 40 marks)

2. (a) Explain the various ways of optimizing access on rotating devices.

   Or

   (b) With the help of a neat diagram, describe the basic functions of an operating system.

3. (a) Classify scheduling algorithms. Explain any *two* algorithms in each class with examples.

   Or

   (b) Write a program using semaphores to solve the infinite buffer producer consumer problem.

4. (a) State the working set algorithm and explain how it is implemented.

   Or

   (b) Explain the basic strategies used for memory allocation.

5. (a) Explain the different ways of implementing internal authorization.

   Or

   (b) What is a file descriptor ? Describe the contents stored in a file descriptor.

   (4 × 15 = 60 marks)