D 30995 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION OCTOBER 2012

IT/CS 09 504—OPERATING SYSTEMS

(2009 Scheme)

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *the questions.*

1. What is Kernel ?
2. What are batch systems ?
3. Define CPU scheduling.
4. Define secondary memory.
5. List any *four* types of file.

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*

6. Explain OS functions and implementation.
7. Explain device management in OS ?
8. Explain the various classic problem of synchronization.
9. Write about any *two* CPU scheduling algorithms.
10. What is demand paging and pure demand paging ?
11. Explain various layers of a file system.

(4 × 5 = 20 marks)

Part C

Answer **all** *the questions.*

12. (a) Explain how protection is provided for the hardware resources by the operating system.

Or

(b) What are the various process scheduling algorithm ?

13. (a) Explain what semaphores are, their usage, implementation given to avoid busy waiting and binary semaphores.

Or

(b) Give a detailed description about deadlocks and its characterization. Explain about the methods used to prevent deadlocks.

Turn over

14. (a) Explain about contiguous memory allocation.

Or

(b) Explain various page replacement strategies.

15. (a) Explain file system implementation.

Or

(b) Explain the various directory structures.

(4 × 10 = 40 marks)