(Pages : 2)

EIGHTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, APRIL 2016

CS/PTCS 09 803 L10—ADVANCED TOPICS IN OPERATING SYSTEMS

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

1. List and explain different design approaches in operating system.

2. Define fault tolerance.

3. Differentiate between a thread and process.

4. Explain cache coherence problem.

5. Define Thomas Write Rule.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. Write short notes on concurrent process.

7. Discuss about deadlock handling strategies in distributed system.

8. Explain the issues involved in the design of distributed operating system and explain them.

9. Explain in detail about fault detection and fault recovery in multiprocessor OS.

10. Explain in detail about concurrency control.

11. Write short notes on cache coherence protocol.

(4 × 5 = 20 marks)

Part C

Answer all questions.

12. (a) Enumerate the functions of operating system in detail.

Or

(b) Explain the following with neat example.

(i) The Dining Philosophers problem.

(ii) The Readers-Writers problem.

Turn over

13. (a) Explain the mechanism for building distributed file system and explain its design issues

Or

(b) Explain the following :

(i) Token based algorithm.

(ii) Non-token based algorithm.

14. (a) Explain scheduling in multiprocessor OS.

Or

(b) Discuss in detail about multiprocessor system architecture.

15. (a) (i) Distinguish between database operating system and real time operating system.

(ii) Discuss about the requirements of database operating system.

Or

(b) Explain in detail about timestamp based algorithms.

(4 × 10 = 40 marks)