

Subject Code: G0504/R13

M. Tech – I Semester Regular/Supplementary Examinations, April, 2015

**OPERATING SYSTEMS
(Common to CS and CS&E)**

Time: 3 Hours

Max Marks: 60

**Answer any FIVE questions
All questions carry EQUAL marks**

1. a) What is operating system? What are the goals of operating system? Explain about the services of operating system.
b) Explain about different types of operating systems.
2. a) Differentiate between process and thread? Explain about multiple processor scheduling.
b) Discuss about Round Robin scheduling with an example.
3. a) What is critical section problem? How to provide synchronization using monitors? Explain.
b) Explain about the necessary steps that can be done for deadlock prevention.
4. a) What is demand paging? Discuss.
b) Discuss about FIFO page replacement algorithm with an example.
5. a) Discuss about RAID structure.
b) What are bad blocks and boot blocks? Discuss.
6. a) Discuss about different access methods for accessing information from a file.
b) Explain about the storage structure and logical structures of a directory.
7. a) Discuss about I/O scheduling in kernel I/O subsystem.
b) Explain about the importance of Cryptography.
8. Explain about the following terms
 - a) Polling
 - b) Virtual memory
 - c) Denial Lock service

Subject Code: C3801/R09

M. Tech – I Semester Supply Examinations, April, 2015

DIGITAL SYSTEM DESIGN

(Common to DECS, DSCE, VLSI&ES, ES&VLSI, VLSID&VLSD and VLSI)

Time: 3 Hours

Max Marks: 60

Answer any FIVE questions

All questions carry EQUAL marks

1. a). Describe the rules for state assignment. Give an example?
b). Explain design of parallel multiplier?
2. a). Explain signature analysis with example?
b). Explain the Boolean difference method with an example.
3. a). Explain briefly podem with an example?
b). Give the classification of faults that may occur in digital circuits with examples.
4. a). Explain the procedure involved in D- Algorithm with an example.
b). Find the minimized PLA of the following output Boolean function by a PLA minimizer.
 $f_1 = (2,4,5,6,7,10,14,15); f_2 = (4,5,7,11,15)$
5. a). Clearly, distinguish between Meelay and Moore machines with examples
b). Find the test vectors of all SA0 and SA1 faults of the circuit function.
 $F = x_1x_2 + x_1x_3'x_4' + x_2x_4$ using Kohavi algorithm.
6. Explain the procedure of designing a fault detection experiment with the help of an example.
7. a) Explain bridge fault model.
b) Design a decade counter using T Flip Flop and OR- AND gates
8. Write short notes on the following.
 - a) Capabilities and limitations of FSM
 - b) Transition check approach in sequential circuits.
 - c). Minimum closed covers
