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10EC65

Sixth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Operating Systems

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. What is distributed systems? Discuss the key concepts techniques and benefits of distributed operating systems. (10 Marks)
b. Explain the goals of an operating system and its operation. (06 Marks)
c. Discuss the common tasks performed by an operating systems (04 Marks)
- 2 a. Explain virtual machine operating system. What are the advantages of using virtual machine? (10 Marks)
b. Define the following with respect to an operating systems.
i) Policies and mechanisms
ii) Portability and extensibility. (06 Marks)
c. Explain the functions of an operating systems. (04 Marks)
- 3 a. Explain event handling pertaining to a process. (08 Marks)
b. Explain with neat diagram
i) User level thread
ii) Kernel level thread. (08 Marks)
c. Define a process. List the different fields of process control block. (04 Marks)
- 4 a. What is memory fragmentation? What are the different forms of memory fragmentation? Discuss the method of memory compaction. (10 Marks)
b. Compare static and dynamic memory allocation. (04 Marks)
c. Compare contiguous and non-contiguous memory allocation methods. (06 Marks)

PART – B

- 5 a. Explain the important concept in the operation of demand paging. (08 Marks)
b. Define virtual memory. Compare paging and segmentation with various issues. (08 Marks)
c. Explain FIFO page replacement policy. (04 Marks)
- 6 a. Explain sequential and direct file organization. (08 Marks)
b. Name the two different classes of files. Explain the various operations performed on files. (08 Marks)
c. What are the various fields in the file control block? (04 Marks)
- 7 a. With a neat block diagram, explain about the event handling and scheduling. (08 Marks)
b. Define real time scheduling. List the various approaches to real time scheduling. (04 Marks)
c. Explain with neat diagram,
i) Priority based scheduling
ii) Round Robin scheduling with time slicing. (08 Marks)
- 8 a. Describe the buffering and delivery of inter process messages with neat diagram. (10 Marks)
b. Explain :
i) Direct and indirect naming
ii) Blocking and non – blocking sends. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.