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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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