

USN

--	--	--	--	--	--	--	--	--	--



10EC65

Sixth Semester B.E. Degree Examination, Dec.2016/Jan.2017
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. Mention the different classes of operating systems. What is the prime concern addressed in each class? (04 Marks)
b. Explain the functions of multiprogramming supervisor in detail. Also give the architectural support. (10 Marks)
c. Differentiate between Hard Real time Systems vs. Soft Real time Systems. (06 Marks)
- 2 a. List the features operating system fails to handle when installed in a different machine. (02 Marks)
b. Explain (i) System generation (ii) Configuration tools (iii) Dynamic configuration of supervisor. (12 Marks)
c. Explain monolithic structure of O.S. Give its drawbacks. (06 Marks)
- 3 a. Explain four kinds of process interaction. (04 Marks)
b. What are Event Control Blocks (ECBs)? Explain the fields contained in ECBs. Also explain event handling actions of kernel with diagram. (08 Marks)
c. What is a process? Explain with a neat diagram process states and state transitions in Unix. (08 Marks)
- 4 a. Give the difference between static and dynamic memory allocation. (04 Marks)
b. Explain with diagram merging free areas using bounding tags. (08 Marks)
c. Explain slab allocator used in solaris as one of kernel memory allocator. (08 Marks)

PART – B

- 5 a. What is demand paging? With a diagram explain the following with respect to demand paging: (i) Page faults (ii) Page in and page out operations (iii) Page replacement. (12 Marks)
b. Discuss memory mapping of a file by a process with diagram. Give its advantages. (08 Marks)
- 6 a. Discuss the various attributes of a file. (04 Marks)
b. List the various operations carried out on directories. Explain mounting of a file system. (08 Marks)
c. Describe file system actions at open, close and at file operations. (08 Marks)
- 7 a. With a neat schematic diagram, explain the concept of scheduling. (05 Marks)
b. Discuss the following non-preemptive scheduling policies:
(i) FCFS scheduling (ii) Shortest request next (SRN) (iii) Highest Response ratio next (15 Marks)
- 8 a. Explain Interprocess Message Control Block (IMCB). (04 Marks)
b. Write a note on mailboxes. Give the advantages of mailboxes. (07 Marks)
c. Explain the three interprocess communication features supported by unix. (09 Marks)

* * * * *

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.