

CBCS SCHEME

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16/17MCA24

Second Semester MCA Degree Examination, Dec.2018/Jan.2019 Operating Systems

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the different services provided by operating system. (08 Marks)
b. Define system call. List and explain different types of system calls. (08 Marks)

OR

- 2 a. Define system program. Mention the categories of system program. (08 Marks)
b. Explain multiprocessor system briefly. (08 Marks)

Module-2

- 3 a. Explain PCB with a neat diagram. (06 Marks)
b. Explain different CPU scheduling criteria. (04 Marks)
c. Explain different threading issues. (06 Marks)

OR

- 4 a. Explain different process state with a diagram. (04 Marks)
b. Define critical section. Explain the necessary condition to satisfy critical section. (06 Marks)
Consider the following set of process with CPU burst time (in ms)

Process	Burst time
P ₁	12
P ₂	30
P ₃	4
P ₄	8
P ₅	13

Using Gantt-Chart compute waiting time for each process and average waiting time using first –come-first serve and shortest – job – first. (06 Marks)

Module-3

- 5 a. Define deadlock. Explain the necessary conditions for a deadlock. (08 Marks)
b. What is memory allocation? Explain the strategies most commonly used to select a free hole from the set of available holes. (08 Marks)

OR

- 6 a. What is paging? (04 Marks)
b. Explain the concept of swapping. (04 Marks)
c. Explain paging H/W with TLB. (08 Marks)

Module-4

- 7 a. List and explain different file operation and file attributes. (08 Marks)
b. Explain different disk space allocation methods. (08 Marks)

OR

- 8 a. Explain different directory structure. (08 Marks)
b. Explain disk-scheduling mention the different types of disk-scheduling. (08 Marks)

Module-5

- 9 a. Explain the different features of LINUX. (08 Marks)
b. Explain the different techniques for threat monitoring. (08 Marks)

OR

- 10 a. Write a note on inter-process communication. (04 Marks)
b. Explain the components of Linux kernel module. (06 Marks)
c. List the functions of LINUX kernel. (06 Marks)

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