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Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020 Operating System

Max. Marks: 80

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

Module-1

- a. Define operating system. Explain goals and operation of an operating system. (10 Marks)
- b. Explain different computational structures in an operating system. (06 Marks)

OR

- a. Briefly explain the different classes of operating system, specifying the primary concern and key concepts used. (10 Marks)
- b. In MPOS I/O bound programs should given higher priority than CPU bound programs justify with timing diagram. (06 Marks)

Module-2

- a. Define process control block, explain its content. (08 Marks)
- b. What is a thread? Compare kernel and user level thread. (08 Marks)

OR

- a. Compare non preemptive and preemptive scheduling. (08 Marks)
- b. With neat block diagram explain scheduling in a time sharing system. (08 Marks)

Module-3

- a. Describe fixed and variable partitioned contiguous memory allocation schemes along with their merits and demerits. (08 Marks)
- b. Explain the non contiguous allocation method. (08 Marks)

OR

- a. Explain the data structure in Virtual Memory (VM) handler. (08 Marks)
- b. For the following page reference string calculate the number of page faults with FIFO when
 - Number of page frames are three
 - Number of page frames are fourPage reference string : 5 4 3 2 1 4 3 5 4 3 2 1 5. (08 Marks)

Module-4

- a. With a neat diagram, explain the facilities provided by file system and IOCS layers. (08 Marks)
- b. Explain the different operations performed on files. (08 Marks)

OR

- a. Discuss methods of allocation of disk space with block representation. (08 Marks)
- b. Explain implementation of file access to open a file. (08 Marks)

Module-5

- a. Explain implementation of message passing in detail. (08 Marks)
- b. Explain the interprocess communication in UNIX by pipe, message queue and socket technique. (08 Marks)

OR

- a. What is dead lock? Explain dead locks in resource allocation. (08 Marks)
- b. Explain dead lock detection algorithm. (08 Marks)

17 JAN 2020

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.

