CBCS SCHEME

USN | | | | | | | | | | | 15EC553

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

Operating System

Time: 3 hrs. Max. Marks: 80

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

Module-1

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

2 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

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

OR

4 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

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

OR

6 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
i) Number of page frames are three
ii) Number of page frames are four
Page reference string : 5 4 3 2 1 4 3 5 4 3 2 1 5. **(08 Marks)**

Module-4

7 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

8 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

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

OR

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

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