CBCS SCHEME

USN | | | | | | | | | | |

17EC553

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021

Operating System

Time: 3 hrs. Max. Marks: 100

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

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.

Module-1

1 a. Define Operating System. Discuss various resource allocation techniques. **(10 Marks)**

b. Explain different computational structures of Operating System with examples. **(10 Marks)**

OR

2 a. Explain different classes of Operating Systems. **(10 Marks)**

b. Discuss using timing chart :
i) When CPU bound program has higher priority.
ii) When I/O bound program has higher priority. **(10 Marks)**

Module-2

3 a. Define a Process and discuss OS view of a process. **(08 Marks)**

b. Discuss various states transition for a process. **(06 Marks)**

c. Explain the various field of a PCB. **(06 Marks)**

OR

4 a. Explain Long term. Medium and Short term scheduling. **(10 Marks)**

b. Discuss two representative approaches to implementation of threads. **(10 Marks)**

Module-3

5 a. Compare and contrast Contiguous and non Contiguous memory allocation techniques. **(08 Marks)**

b. Write short notes on : i) Paging ii) Segmentation. **(12 Marks)**

OR

6 a. Explain Demand paging preliminaries. **(10 Marks)**

b. With an example, discuss FIFO , LRU page replacement policy. **(10 Marks)**

Module-4

7 a. Explain the interface between File system and IOCS. **(10 Marks)**

b. Compare and contrast Sequential file organization and Direct file organization. **(10 Marks)**

OR

8 a. Explain Directory structures. **(10 Marks)**

b. Discuss briefly File system actions at OPEN and CLOSE. **(10 Marks)**

Module-5

9 a. Define Message passing and Explain how it could be implemented. **(10 Marks)**

b. Discuss the following with respect to main box : i) Features ii) Advantages
iii) Air line reservations Server using 3 mail boxes. **(10 Marks)**

OR

10 a. Define Deadlock. Discuss Resource request and allocation graph and Wait – for – graph for a system containing resource class and processes. **(10 Marks)**

b. Explain Deadlock Detection Algorithm. **(10 Marks)**

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