CBCS SCHEME

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

15EC553

# Fifth Semester B.E. Degree Examination, Jan./Feb. 2021
## 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. Define Operating System. Explain the functions of an Operation System. **(06 Marks)**

b. Explain goals of an Operating System, its operations and resource allocation of OS. **(10 Marks)**

**OR**

2 a. Briefly explain the different classes of Operating System, specifying the primary concern and key concepts used. **(10 Marks)**

b. Define the following:
i) System call
ii) Turn-around time
iii) Response time. **(06 Marks)**

### Module-2

3 a. Define threads. Compare Kernel level threads and user level threads. **(08 Marks)**

b. Define Process Control Block. Explain the general structure of Process Control Block. **(08 Marks)**

**OR**

4 a. What do you mean by non preemptive and preemptive scheduling policies? **(04 Marks)**

b. With one example explain:
i) First Come First Serve scheduling
ii) Round Robin Scheduling. **(12 Marks)**

### Module-3

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

b. Explain segmentation with paging. **(08 Marks)**

**OR**

6 a. List the functions performed by virtual memory handler. **(07 Marks)**

b. With suitable example, explain FIFO and LRU page replacement policies. **(09 Marks)**

### Module-4

7 a. With neat diagram, write the logic organization in file system. Also list the facilities provided by the file system and the IOCS. **(08 Marks)**

b. List and explain two approaches to Non Contiguous disk space allocation. **(08 Marks)**

**OR**

8 a. With example explain sequential and direct access file organization. **(08 Marks)**

b. Explain the different operations performed on files. **(08 Marks)**

## Module-5

9 a. Explain the inter process communication mechanism in unix Operating System. **(08 Marks)**

b. Define Mailbox. With an example explain mail box and mention its advantages. **(08 Marks)**

**OR**

10 a. Define Deadlock. List and explain three events concerning resource allocation to a user process. **(08 Marks)**

b. Write a note on Dead Lock prevention. **(08 Marks)**

* * * * *