

IV B.Tech II Semester Regular/Supplementary Examinations, July - 2021

OPERATING SYSTEMS

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any FOUR questions from Part-B*

PART-A(14 Marks)

1. a) What is boot block? How it helps Operating System to start the system? [3]
- b) Specify various scenarios that leads to process creation. [3]
- c) What is virtual memory? Write its functions. [2]
- d) Write about the operating system support for concurrency control. [2]
- e) What is disk scheduling? [2]
- f) What kind of support given by LINUX towards the security of the system. [2]

PART-B(4x14 = 56 Marks)

2. a) Explain the following functions of operating systems.
 - i) Process Management
 - ii) Memory Management
 - iii) I/O Management [7]
- b) What is system call? How it is handled by System Call Interface? Explain with an example. [7]
3. a) Differentiate the long term, medium term and short term schedulers and relate them with various states of the process. [7]
- b) Explain the inter-process communication with producer- consumer with bounded buffer shared memory. [7]
4. a) Write about the following with respect to contiguous memory allocation.
 - i) Memory Mapping and protection
 - ii) Memory Allocation
 - iii) Fragmentation [7]
- b) With suitable reference string explain various implementation types of LRU page replacement algorithms. [7]
5. a) Write and explain the solution for Reader-Writer classical synchronization problem using monitors. [7]
- b) How do you characterize the structure of deadlock? Explain the two solutions of recovery from deadlock. [7]

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Set No. 1

6. a) What are the most common schemes used for defining the logical structure of a directory. [7]
b) In detail explain the structure of disk with a neat diagram. [7]

7. a) Explain in detail about the process synchronization support implemented in LINUX. [7]
b) Write a short note on Application Structure and its management in Android operating systems. [7]