

III B. Tech I Semester Supplementary Examinations, May – 2019
OPERATING SYSTEMS

(Common to Computer Science and Engineering, Information Technology)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answering the question in **Part-A** is compulsory
 3. Answer any **THREE** Questions from **Part-B**
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PART –A

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| 1 | a) | Relate boot blocks and booting in OS SYS generation. | [2M] |
| | b) | Explain various models of multithreading. | [3M] |
| | c) | Illustrate the Belady's Anomaly for the reference string: 5 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 5 0 1 2. | [2M] |
| | d) | Discuss Resource-Request Algorithm with respect to deadlock. | [3M] |
| | e) | Write short notes on File operations and types. | [2M] |
| | f) | List out the various interrupts in LINUX. | [2M] |

PART -B

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|---|----|--|------|
| 2 | a) | Explain what is meant by interleaving and overlapping with respect to multiprogramming and multi-processing. Assume system have two user processes. | [7M] |
| | b) | Draw and explain OS layered and modular architecture and its services. | [7M] |
| 3 | a) | Write and explain various scheduling criteria's with respect CPU scheduling. And show the calculations for at least 5 processes arriving at consecutive intervals. | [7M] |
| | b) | Explain typical elements of inter process communication models. | [7M] |
| 4 | a) | What is paging? Explain the hardware support given for paging. | [7M] |
| | b) | Consider the following page reference string 2,3,4,5,3,2,6,7,3,2,3,4,1,7,1,4,3,2,3,4,7. Calculate the number of page faults with LRU, FIFO and optimal page replacement algorithms with frame size of 3. | [7M] |
| 5 | a) | What is critical section problem? Write and explain Peterson's solution for it. | [7M] |
| | b) | How to prevent necessary and sufficient conditions of deadlock? Explain. | [7M] |
| 6 | a) | What are the advantages and disadvantages of recording the name of the creating program with the file's attributes? Explain in detail. | [7M] |
| | b) | In detail explain the structure of disk with a neat diagram. How to attach to the existing memory resource? | [7M] |
| 7 | a) | Explain the architecture of android with a neat diagram. | [7M] |
| | b) | Explain how the exceptions are handled in LINUX? | [7M] |
