

Total No. of Questions – [6]

Total No. of Printed Pages: 1]

G.R. No.

DECEMBER 2021 - ENDSEM EXAM
T. Y. B. TECH. (INFORMATION TECHNOLOGY)
(SEMESTER - I)
COURSE NAME: OPERATING SYSTEM
COURSE CODE: ITUA31182
(PATTERN 2018)

Time: [1 Hour]

[Max. Marks: 30]

Instructions to candidates:

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

- Q.1 a Differentiate between paging & segmentation? [4]
- Q.1 b Given the memory partitions of size 100k, 500k, 200k, 300k, 600k in order. How would each of the first fit, best fit worst fit algorithms place the process of 300k, 530k, 190k, and 425k? Which algorithm will make most efficient use of memory? Comment on allocation policy. [6]
- OR
- Q2 a Summarize Internal fragmentation, External fragmentation [4]
- Q2 b Consider given page sequence 2,3,2,1,5,2,4,5,3,2,5,2 and the size of the frame is 3. Show the output of LRU and Optimal also count page faults for each algorithm. [6]
- Q.3 a Compare significance various of disc scheduling algorithms. [4]
- Q.3 b Consider the following disc request sequence for a disc with 100 tracks. 45, 21, 67, 90, 4, 50, 89, 52, 61, 87, 25. Head pointer is at 50. Calculate avg. seek length with FCFS & SSTF algorithm. Comment on it. [6]
- OR
- Q.4 a Compare i) Interrupt driven I/O ii) I/O using DMA [4]
- Q.4 b Consider the following disc request sequence for a disc with 100 tracks. 45, 21, 67, 90, 4, 50, 89, 52, 61, 87, 25. Head pointer is at 50. Calculate avg. seek length with SCAN and C-SCAN algorithm Comment on it. [6]
- Q.5 a Elaborate Linux file system. [4]
- Q.5 b Write note on Linux process management [6]
- OR
- Q.6 a Elaborate different directory structures and directory operations. [4]
- Q.6 b Comment on Linux memory management [6]