United Institute of Technology, Prayagraj

Subject- Operating System

Unit-4

Questions asked in AKTU semester exam

Question1: On a system using paging and segmentation, the virtual address space consists of up to 16 segments where each segment can be up to 2^{16} bytes long. the hardware page each segment into 512 bytes pages how many bits in virtual address specify the following? [2014-15] [10 Marks]

(a)Segment Number
(b)Page Number
(c)Offset within page
(d)Entire virtual address

Question2: Explain segmentation with diagram. [2014-15] [10 Marks]

Question3: How many page fault would occur for the following reference string for four page frames using LRU and FIFO algorithms. 1,2,3,4,5,5,3,4,1,6,7,8,7,8,9,7,8,9,5, 4,5,4,2. [2014-15] [10 Marks]

Question4: What are the different techniques to remove the fragmentation in case of multiprogramming with fixed partition and variable partitions. [2015-16] [10 Marks]

Question5: What is Demand paging? [2016-17] [2 Marks]

Question6: Explain Concept of Virtual Memory. [2016-17] [2 Marks]

Question7: Difference between External and Internal Fragmentation. [2016-17] [2017-18] [2018-19] [7 Marks] [2 Marks]

Question8: What is the cause of Thrashing? What steps are taken by the system to eliminate this problem? [2017-18] [7 Marks] [2016-17] [10 Marks]

Question9: What are the disadvantage of single contiguous memory allocation. [2017-18] [2 Marks]

Question10: Consider the following reference string 1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6 How many page fault occur for the FIFO, LRU and Optimal page replacement algorithms, assuming Three and four page in each case and frames are initially empty. [2015-16] [10 Marks] [2017-18] [7 Marks]

Question11: What do you mean by Belady's anomaly? Which algorithm suffer from Belady's anomaly and how can it rectified? [2017-18] [7 Marks]

Question12: what is the main function of memory management unit? [2018-19] [2 Marks]

Question13: Explain the logical address space and physical address space diagrammatically. [2018-19] [2 Marks]

Question14: Illustrate the page replacement algorithms [2018-19] [7 Marks]

(i) FIFO

(ii) Optimal page replacement

Using the reference string 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1. For a memory with Three frames.

Question15: explain the paging with example. differentiate Paging and Segmentation. [2018-19] [7 Marks]