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CBSE NET JAN 2017 PAPER III

OPERATING SYSTEM QUESTIONS

A memory management system has 64 pages with 512 bytes page size. Physical memory consists of 32 page frames. Number of bits required in logical and physical address are respectively :
(1) 14 and 15
(2) 14 and 29
(3) 15 and 14
(4) 16 and 32

Ans:- 3

Explanation:

Page size = frame size for minimizing the internal fragmentation.

LOGICAL ADDRESS CALCULATION:
Number of bits for logical address = Number of bits to represent pages + Number of bits to represent bytes per page size.

Here, number of pages = 64, and 512 bytes page size.

64 = 26 . So, number of bits to represent pages = 6.

512=29. So, number of bits to represent bytes per page size = 9.

So, the number of bits for logical address = 6 + 9 = 15

PHYSICAL ADDRESS CALCULATION:
Number of bits for physical address = Number of bits to represent frames+Number of bits to represent bytes per frame size.

Here, number of page frames = 32, and frame size is the same as page size which is 512 bytes.

32 = 25. So, number of bits to represent frames = 5.

512=29. So, number of bits to represent bytes per frame size = 9.

So, the number of bits for physical address = 5 + 9 = 14.

Therefore, the number of bits required in logical and physical address are 15 and 14 respectively.

So, the correct answer is 3.

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93. Multiple Processor Scheduling
94. What do you mean by Virtual Memory? Write down its advantages?
95. Compare Paging and Segmentation?

96. What is Process Scheduling, CPU Scheduling, Disk Scheduling? Explain Short, Medium and Long term Scheduler?
97. Explain concept of a process with its components ?
98. Explain the following in brief Contiguous and Linked list allocation for implementing file system?
99. Explain various Disk scheduling algorithms with Illustrations ?
100. Define process and thread. What is PCB ? Explain its various entries with their usefulness ?
101. Discuss advantages and disadvantages of the Buffer cache ?
102. Explain different types of OS with examples of each ?
103. What is an Operating System? Write down its desirable characteristics ?
104. Define a deadlock ? Write down the conditions responsible for deadlock? How can we recover from deadlock ?
105. What are the various services provided by Operating system ?
106. What do you mean by PCB? Where is it used? What are its contents? Explain.
107. What is Binary and Counting semaphores ?
108. What is File? What are the different File attribute and operations?
109. What are System call? Explain briefly about various types of system call provided by an Operating System?
110. Describe necessary conditions for deadlocks situation to arise.
111. What are points to be consider in file system design? Explain linked list allocation in detail?
112. Write a Semaphore solution for dining Philosopher’s problem?
113. Consider the following page reference string:1,2,3,4,5,3,4,1,2,7,8,7,8,9,7,8,9,5,4,5. How many page faults would occur for the following replacement algorithm, assuming four frames:a) FIFOb) LRU
114. Explain CPU schedulers in operating system?

115. Write the different state of a process with the help of Process state deagram?
116. What is Mutex in operating system?
117. Explain Network operating system?
118. What do you mean by paging in operating system ?