CBSE NET January 2017 PAPER II

OPERATING SYSTEM

Q. There are three processes P1, P2 and P3 sharing a semaphore for synchronising a variable. Initial value of semaphore is one. Assume that negative value of semaphore tells us how many processes are waiting in queue. Processes access the semaphore in following order:
(a) P2 needs to access
(b) P1 needs to access
(c) P3 needs to access
(d) P2 exits critical section
(e) Pi exits critical section
The final value of semaphore will be:

(A) 0
(B) 1
(C) -1
(D) -2

Ans :- (A)

Explanation:-

Given,Initial value of semaphore S = 1.
(a) When P2 needs to access, S=0
(b) Now P1 needs to access, S=-1, which says 1 process P1 on wait, because P2 in section.
(c) Now P3 needs to access, S= -2, which says 2 processes P1 and P2 on wait, because in P2 in section.
(d) Now P2 exits critical section, so P1 enter,S= -1, because only P2 on wait.
(e) Now P1 exits critical section, so P2 enter,S= 0, because no process on wait.
So, correct answer is A.

Related posts:

1. CBSE NET 2004 38
2. Cbse net 2004 37

3. Cbse net 2004
4. CBSE Net 2017
5. Ugc net 2017 solved
6. NET 4
7. NET 1
8. Net 26
9. Net 50
10. Net 49
11. Net 48
12. Net 46
13. Net 44
14. Net 40
15. Net 39
16. Operating System: A List of Video Lectures RGPV Notes
17. GATE, Context switch calculation in SRTF algorithm | Prof. Jayesh Umre
18. Net 42
19. Introduction to Operating Systems
20. Different Types of OS
21. Characteristics and features of an OS
22. Operating sytems services
23. System Calls in OS
24. File Systems
25. How many page faults
26. Process State Diagram
27. Operating System Scheduler
28. FIFO page replacement algorithm
29. LRU page replacement algorithms

30. Optimal page replacement algorithm
31. SRTF shortest remaining time first
32. OS 4
33. OS 3
34. Os 2
35. Os 1
36. Net 14
37. Net 13
38. Net 12
39. Net 11
40. Net 10
41. Net 9
42. Net 9
43. Net 8
44. Net 7
45. Net 6
46. Net 5
47. NET 3
48. NET 2
49. Net 35
50. Net 34
51. Net 33
52. Net 32
53. Net 31
54. Net 29
55. Net 30
56. Net 27

57. Net 52
58. Net 51
59. Net 47
60. Net 45
61. Net 43
62. Net 41
63. Net 38
64. Net 37
65. Net 36
66. UGC NET November 2017 Paper II
67. GATE, Longest Remaining Time First Algorithm | Prof. Jayesh Umre
68. GATE SRTF | What is the total waiting time for process P2?
69. GATE Calculate Total Waiting Time SRTF algorithm | Prof. Jayesh Umre
70. Memory management
71. Concept of Threads
72. Process concept
73. Directory Structure OS
74. Contiguous disk space allocation method
75. File systems
76. Types of os
77. Evolution of os
78. Functions of os
79. Why is operating system a mandatory software?
80. UGC NET CS Paper 2 June 2012
81. Readers Writes Problem | UGC NET Dec 2018
82. Suppose a system has 12 instances | UGC NET Dec 2018
83. Data warehouse | UGC NET Dec 2018

84. Bankers algorithm problems
85. Diploma Linux Unit 3
86. RGPV Diploma Linnux Unit 2
87. Program to print string in reverse order
88. Program to implement while loop in Linux
89. Program to implement for loop using sequence keyword in Liux
90. Program to implement different types of increment in Linux
91. For loop without in keyword in Linux
92. Program to implement for loop using in keyword in Linux
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 ?