Code No: 871AD

R20

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA I Semester Examinations, May - 2022
OPERATING SYSTEMS

Time: 3 Hours   Max.Marks:75

Answer any five questions
All questions carry equal marks
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1.a) Write in detail on   parallel and distributed operating systems.
  b) Explain objectives and functions of OS.   [8+7]

2.a) Explain about Multiprogrammed and Time-shared operating system.
  b) Explain about various system components.   [8+7]

3.a) What is CPU scheduling? Compare pre-emptive and non-preemptive scheduling methods.
  b) Explain two pre-emptive scheduling algorithms with suitable examples each.   [8+7]

4. Explain about fork, exit, wait, waitpid and exec system calls.   [15]

5. What do you mean by Monitors? How it is used solve the Dining-Philosophers Solution Using Monitors?   [15]

6.a) What is dead lock? Explain about the dead lock detection.
  b) Explain the procedure for recovering from the deadlock.   [8+7]

7. Consider the following page 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 faults would occur for the following replacement algorithm assuming three, and four frames ?
    a) FIFO replacement   b) Optimal replacement.   [8+7]

8.a) Explain various approaches for free space management.
  b) Write briefly on open, create, read, and write, close file operations system calls.   [5+10]

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