R18

Code No: 154BR

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech II Year II Semester (Special) Examinations, January/February - 2021

OPERATING SYSTEMS

(Common to CSE, IT)

Time: 2 hours **Max. Marks: 75**

Answer any five questions All questions carry equal marks

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1.a) Mention the objectives and functions of Real-Time Embedded systems.
b) Distinguish between client-server and peer-to-peer models of distributed systems. [7+8]

2. What is a System call? Explain the various types of system calls provided by an operatingsystem. [15]

3.a) Describe the differences among long-term scheduling, short-term and medium termscheduling.
b) Describe the actions taken by a thread library to context-switch between user levelthreads. [8+7]

4. Demonstrate Round Robin CPU scheduling algorithms with suitable example. [15]

5. Write about deadlock conditions and bankers algorithm in detail. [15]

6.a) How does the signal() operation associated with monitors differ from the correspondingoperation defined for semaphores.
b) Is it possible to have a deadlock involving only a single process? Explain. [8+7]

7. Consider the reference string: 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1 for amemory with three frames. Trace FIFO, optimal, and LRU page replacement algorithms. [15]

8. Explain File Free Space management approaches. [15]

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech II Year II Semester Examinations, August/September - 2022 OPERATING SYSTEMS
(Common to CSE, IT, CSBS, CSIT, ITE, CSE(SE), CSE(CS), CSE(AIML), CSE(DS), CSE(IOT), CSE(N))

Time: 3 hours Max. Marks: 75

Answer any five questions All questions carry equal marks

1.a) Explain about time-sharing operating systems.
b) Define real time system. Explain about real time operating system. [7+8]

2.a) Briefly explain about system calls.
b) Explain about the system components of OS. [9+6]

3.a) Discuss about Process Control Block with a neat diagram.
b) Explain about shortest Job First Scheduling algorithm with an example. [7+8]

4.a) Describe Round Robin scheduling algorithm with example.
b) Explain about fork and exit system calls with examples. [8+7]

5.a) Discuss about resuming processes within a Monitor.
b) Explain about deadlock detection. [7+8]

6.a) Describe IPC between processes on a single computer system.
b) Discuss about implementation of Semaphores. [7+8]

7.a) Describe basic method of segmentation.
b) Explain about performance of demand paging. [8+7]

8. Explain the following:
a) Virtual file systems
b) Indexed allocation. [8+7]