UNIT–II

<table>
<tr><th>S.No</th><th colspan="2">Questions</th><th>BT</th><th>CO</th></tr>
<tr><td colspan="5">Part– A(Short Answer Questions)</td></tr>
<tr><td>1</td><td colspan="2">Define Time Slice?</td><td>L1</td><td>CO2</td></tr>
<tr><td>2</td><td colspan="2">Define Scheduling Queue?</td><td>L1</td><td>CO2</td></tr>
<tr><td>3</td><td colspan="2">Define preemptive scheduling?</td><td>L1</td><td>CO2</td></tr>
<tr><td>4</td><td colspan="2">Define Deadlock and system models.</td><td>L1</td><td>CO2</td></tr>
<tr><td>5</td><td colspan="2">Define CPU scheduler</td><td>L1</td><td>CO2</td></tr>
<tr><td>6</td><td colspan="2">What is process scheduling?</td><td>L1</td><td>CO2</td></tr>
<tr><td>7</td><td colspan="2">Define scheduling?</td><td>L1</td><td>CO2</td></tr>
<tr><td>8</td><td colspan="2">What is multiprocessor scheduling?</td><td>L1</td><td>CO2</td></tr>
<tr><td>9</td><td colspan="2">Define real time scheduling system?</td><td>L1</td><td>CO2</td></tr>
<tr><td>10</td><td colspan="2">Explain the following term related to IPC: a)Race condition b)critical region
<table><tr><th>Process</th><th>BurstTime</th></tr><tr><td>P1</td><td>5</td></tr><tr><td>P2</td><td>10</td></tr><tr><td>P3</td><td>2</td></tr><tr><td>P4</td><td>1</td></tr></table></td><td>L2</td><td>CO2</td></tr>
<tr><td colspan="5">Part–B(Long Answer Questions)</td></tr>
<tr><td>11</td><td>a)</td><td>Explain deadlock avoidance with suitable example using banker’s algorithm</td><td>L1</td><td>CO2</td></tr>
<tr><td></td><td>b)</td><td>What are the conditions for deadlock?Explain deadlock detection and recovery in detail.</td><td>L2</td><td>CO2</td></tr>
<tr><td>12</td><td>a)</td><td>Explain Deadlock Prevention and deadlock avoidance.</td><td>L2</td><td>CO2</td></tr>
<tr><td></td><td>b</td><td>Explain bankers algorithm for multiple resources to avoid deadlock</td><td>L2</td><td>CO2</td></tr>
<tr><td>13</td><td>a)</td><td>Explain deadlock avoidance with suitable example using banker’s algorithm</td><td>L1</td><td>CO2</td></tr>
<tr><td></td><td>b)</td><td>Explain FCFS, SJF, Priority and RR algorithms with examples</td><td>L2</td><td>CO2</td></tr>
<tr><td>14</td><td></td><td>Write a short note on-Fork, Exit, Wait, Wait pid, Exec of System call interface for process management system.</td><td></td><td></td></tr>
<tr><td>15</td><td>a)</td><td>Explain the following process scheduling algorithm
• Priority scheduling
• Shortest job first scheduling</td><td>L2</td><td>CO2</td></tr>
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<tr><td></td><td>b)</td><td>Explain the effect of increasing the time quantum to an arbitrary large Number and decreasing the time quantum to an arbitrary small number for round robin Scheduling algorithm with suitable example?</td><td>L1</td><td>CO2</td></tr>
<tr><td>16</td><td>a)</td><td>Consider following processes with length of CPU burst time in milli seconds
<table><tr><th>Process</th><th>BurstTime</th></tr><tr><td>P1</td><td>5</td></tr><tr><td>P2</td><td>10</td></tr><tr><td>P3</td><td>2</td></tr><tr><td>P4</td><td>1</td></tr></table>
All process arrived in order p1,p2,p3,p4 all time zero

Draw Gantt charts illustrating execution of these processes for SJF and round robin(quantum=1).

Calculate waiting time for each process for each scheduling algorithm

Calculate average waiting time for each scheduling algorithm</td><td>L5</td><td>CO2</td></tr>
<tr><td></td><td>b)</td><td>Consider following processes with length of CPU burst time in millisecond
<table><tr><th>Process</th><th>BurstTime</th><th>Priority</th></tr><tr><td>P1</td><td>10</td><td>3</td></tr><tr><td>P2</td><td>1</td><td>1</td></tr><tr><td>P3</td><td>2</td><td>3</td></tr><tr><td>P4</td><td>1</td><td>4</td></tr><tr><td>P5</td><td>5</td><td>2</td></tr></table>
All processes arrived in order p1, p2,p3,p4, p5 all at time zero</td><td>L5</td><td>CO2</td></tr>
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