Roll No: | | | | | | | | | | | |

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY

Presidency University Act, 2013 of the Karnataka Act No. 41 of 2013 | Established under Section 2(f) of UGC Act, 1956
Approved by AICTE, New Delhi | Approved By BCI
Bengaluru

Mid Term Examinations - October 2026

Date: 05/10/2026 **Time:** 02:00 PM - 03:30 PM

Course Code: CSE2269 **Course Name:** Operating Systems

Semester: Fourth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2	CO3
Marks	44	16	30

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	**Differentiate between kernel mode and user mode**	2	CO1	BT2
2	**Define system calls. Name any two types of system calls**	2	CO1	BT1
3	**How is the process differed from the program?**	2	CO2	BT1
4	**What is Inter process communication (IPC)**	2	CO2	BT1
5	**Define Thread. Give its types**	2	CO2	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Sketch different Operating system structures explain the Advantages and disadvantages	10	CO1	BT2
7	Describe the role of system programs in an Operating Systema and explain the functions of a linker and loader in program execution with a neat diagram	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Illustrate the objective and characteristics of Operating System	10	CO1	BT2
9	Elucidate the concept of system calls. And explain types of system calls with suitable examples	10	CO1	BT2

PART D: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
10	Explain the concept of Process and explain process state transition with diagram and also Explain Process Control Block with diagram	10	CO2	BT2

<table>
<tr>
<td>11</td>
<td>Consider the following set of processes with arriving time. CPU burst time given in milliseconds. What are the Average waiting time, Average turnaround time with FICS Scheduling algorithm?
<table>
<tr><td>Process</td><td>Arrival Time</td><td>CPU Burst Time</td></tr>
<tr><td>A</td><td>0</td><td>9</td></tr>
<tr><td>B</td><td>1</td><td>3</td></tr>
<tr><td>C</td><td>1</td><td>2</td></tr>
<tr><td>D</td><td>1</td><td>4</td></tr>
<tr><td>E</td><td>2</td><td>3</td></tr>
<tr><td>F</td><td>3</td><td>2</td></tr>
</table>
</td>
<td>10</td>
<td>CO3</td>
<td>BT3</td>
</tr>
</table>

<table>
<tr><th colspan="5">PART E: Answer Any 1 Following Questions. 10 M</th></tr>
<tr><th>Q.N.</th><th>Questions</th><th>M</th><th>CO</th><th>BT</th></tr>
<tr>
<td>12</td>
<td>Consider the following set of processes with arriving time. CPU burst time given in milliseconds. Calculate the Average waiting time, Average turnaround time with the SJF Non-pre-emptive Scheduling algorithm?
<table>
<tr><td>Process</td><td>Arrival Time</td><td>CPU Burst Time</td></tr>
<tr><td>P1</td><td>3</td><td>1</td></tr>
<tr><td>P2</td><td>1</td><td>4</td></tr>
<tr><td>P3</td><td>4</td><td>2</td></tr>
<tr><td>P4</td><td>0</td><td>6</td></tr>
<tr><td>P5</td><td>2</td><td>3</td></tr>
</table>
</td>
<td>10</td>
<td>CO3</td>
<td>BT3</td>
</tr>
<tr>
<td>13</td>
<td>Consider the following set of processes with arriving time 0 with CPU burst time given in milliseconds. Calculate the Average waiting time, Average turnaround time with the Round Robin Scheduling algorithm? (Quantum =5)
<table>
<tr><td>Process</td><td>CPU Burst Time</td></tr>
<tr><td>P1</td><td>21</td></tr>
<tr><td>P2</td><td>3</td></tr>
<tr><td>P3</td><td>6</td></tr>
<tr><td>P4</td><td>2</td></tr>
</table>
</td>
<td>10</td>
<td>CO3</td>
<td>BT3</td>
</tr>
</table>