

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BCA
BRANCH: BCA**

**SEMESTER: I
SESSION: MO/2023**

SUBJECT: CN105 BASICS OF OPERATING SYSTEMS

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL												
Q.1(a)	What is an Operating System? List out the various operating system components.	[5]	1 2												
Q.1(b)	Summarize about the functions of Operating Systems in detail.	[5]	1 2												
Q.2(a)	Explain process life cycle with neat diagram.	[5]	2 1												
Q.2(b)	What is the average turnaround time for the following processes using FCFS and SJF.	[5]	2 4												
<table><tr><th>Process</th><th>Arrival Time</th><th>Burst Time</th></tr><tr><td>P1</td><td>0.0</td><td>8</td></tr><tr><td>P2</td><td>0.4</td><td>4</td></tr><tr><td>P3</td><td>1.0</td><td>1</td></tr></table>				Process	Arrival Time	Burst Time	P1	0.0	8	P2	0.4	4	P3	1.0	1
Process	Arrival Time	Burst Time													
P1	0.0	8													
P2	0.4	4													
P3	1.0	1													
Q.3(a)	What is a deadlock? What are the necessary conditions for a deadlock to occur?	[5]	3 3												
Q.3(b)	Outline the Deadlock detection with suitable example.	[5]	3 3												
Q.4(a)	Differentiate between Contiguous and Non-contiguous Memory Allocation.	[5]	4 3												
Q.4(b)	Explain the difference between internal fragmentation and external fragmentation.	[5]	4 3												
Q.5(a)	Discuss about various File access methods.	[5]	5 2												
Q.5(b)	With neat sketch explain the Directory Structure.	[5]	5 3												

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