

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

**CLASS: BCA
BRANCH: BCA**

**SEMESTER : I
SESSION : MO/2025**

SUBJECT: CA25105 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)	Explain the purpose of Modern operating system and also elaborate the functions provided by an operating system.	[5] 1	II
Q.1(b)	Explain only best five services provided by an operating system.	[5] 1	II
Q.2(a)	Define schedulers? Explain the types of schedulers.	[5] 3	2
Q.2(b)	Define Thread. Explain the types of threads.	[5] 3	3
Q.3(a)	What are the Necessary conditions for deadlock? How we can avoid the situation of Deadlock? Explain	[5] 3	2
Q.3(b)	Describe Banker's Algorithm for Deadlock Avoidance with an suitable example.	[5] 3	3
Q.4(a)	Explain Linked Allocation method with diagram.	[5] 2	1
Q.4(b)	Define Memory. How we can avoid the situation of Internal and External Fragmentation? Explain in details.	[5] 5	3
Q.5(a)	Explain the different types of Access Methods.	[5] 5	3
Q.5(b)	Find Total seek time using SSTF and SCAN disk scheduling algorithms for the I/O request string 20, 150, 90, 70, 30, 60, Assume that request queue (0-199).and the disk head is currently located at track 50.	[5] 2	1

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