Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B.C.A. (Second Semester - Regular) Examinations, May – 2026

BCA252002 – Operating Systems

Time: 2 hrs | Maximum: 60 Marks

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. Define process.	CO1	K2
b. What is Dispatcher?	CO2	K3
c. Define IPC.	CO3	K2
d. Define page fault and page hit.	CO4	K2
e. What are the attributes of file?	CO5	K1

PART – B **(10 x5=50 Marks)**

Answer ***ALL*** questions	Marks	CO #	Blooms Level
2. a. Difference between multiprogramming and time sharing operating system.	5	CO1	K3
b. Explain PCB with neat diagram.	5	CO1	K3
(OR)			
c. Difference between process and program.	5	CO1	K3
d. Explain Threads in detail.	5	CO1	K2
3.a. Explain what are the various criteria for CPU scheduling?	5	CO2	K3
b. Explain how we can prevent the deadlock in details?	5	CO2	K3
(OR)			
c. Explain how we can avoid the deadlock with an example?	5	CO2	K2
d. Differentiate all the schedulers.		CO2	K3
4.a. Explain Peterson solution with example.	5	CO3	K3
b. Explain inter-process Synchronization.	5	CO3	K3
(OR)			
c. Explain about the read-write problem.	5	CO3	K2
d. Explain about race condition.	5	CO3	K3
5.a. Calculate the page fault rate for Optimal page replacement algorithm. Consider the following reference string- 1,2,3,4,5,3,4,1,6,7,8,7,8,9,7,8,9,5,4,5,4,2 Assume that the memory size is 4 frame.	5	CO4	K3
b. Explain Swapping with diagram.	5	CO4	K3
(OR)			
c. Explain about disk structure.	5	CO5	K3
d. Explain about file management system.	5	CO5	K2
6.a. Explain about Thrashing.	5	CO4	K2
b. Difference between segmentation and paging.	5	CO4	K3
(OR)			
c. Explain all the file directories with neat diagram?	5	CO5	K2
d. Explain disk scheduling.	5	CO5	K3

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