



III Semester B.C.A. Degree Examination, Nov./Dec. 2018  
(CBCS) (F + R) (2015-16 and Onwards)  
**COMPUTER SCIENCE**  
**BCA 305 : Operating System**

Time : 3 Hours

Max. Marks : 100

**Instruction :** Answer all the Sections.

SECTION – A

I. Answer any ten questions : (10×2=20)

1. Mention the different operating system components.
2. What is concurrent execution ?
3. What is the difference between multi-tasking and multi-user system ?
4. What is semaphore ?
5. Explain contiguous memory management techniques.
6. What is fragmentation ?
7. Differentiate between logical and physical address space.
8. What is the difference between absolute path and relative path name ?
9. Explain overlays.
10. What are the two necessary condition for a deadlock ?
11. Mention any four attributes of file.
12. What is an access matrix ?

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24. Consider the following set of processes with the length of the CPU burst time given in millisecond.

Process	Burst Time	Priority
P1	5	2
P2	1	4
P3	2	3
P4	6	1
P5	8	3

The processes are assumed to have arrived in the order P1, P2, P3, P4 and P5 all at time 0.

- i) Draw four gantt chart illustrating the execution of these processes using FCFS, SJF a non preemptive priority and RR scheduling (time slice = 3ms).
- ii) What is the turn around time and waiting time of each process in the entire scheduling algorithm mentioned above ?

- 25. a) Explain user differentiation in detail. 7
- b) Write a note on fragmentation. 8

SECTION – D

IV. Answer **any one** question : (1×10=10)

26. Explain the layered structure of WINDOWS operating system.

27. Write a short note on :

- i) PCB 5
- ii) Dining – philosophers problem. 5

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