

Q.P. Code : 15323

**Third Semester B.C.A. Degree Examination,
November/December 2019**

(CBCS – Freshers & Repeaters)

Computer Science

Paper BCA 305 T – OPERATING SYSTEM

Time : 3 Hours]

[Max. Marks : 100

Instructions to Candidates : Answer all Sections.

SECTION – A

I. Answer any **TEN** of the following. Each question carries **2** marks : **(10 × 2 = 20)**

1. What is Operating System? Mention any two functions of Operating Systems.
2. Define a Process.
3. What is pre-emptive scheduling?
4. What is aging?
5. Write a note on binary semaphore.
6. What is thrashing?
7. What is dynamic loading?
8. List various types of files.
9. Define seek time.
10. Define deadlock.
11. What is encryption?
12. Define Logical and Physical address.

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SECTION - B

II. Answer any **FIVE** questions. Each question carries **5** marks : **(5 × 5 = 25)**

13. What are the main objectives of an operating system? Explain.
14. Explain process state with a neat diagram.
15. Explain First Fit, Best Fit and Worst Fit.
16. Explain Internal Fragmentation of memory.
17. What is paging? Explain page fault.
18. What is file protection? Explain.
19. Discuss the types of viruses.
20. Write a note on segmentation.

SECTION - C

III. Answer any **THREE** questions. Each question carries **15** marks : **(3 × 15 = 45)**

21. Explain types of operating systems. Mention its advantages.
22. (a) Calculate the Average turn around time using with time slice of 3 ms FCFS and RR Scheduling.

| Process | Burst time in ms. |
|----------------|-------------------|
| P ₁ | 24 |
| P ₂ | 3 |
| P ₃ | 3 |

- (b) Explain resource allocation graph. **(10 + 5)**
23. Explain deadlock prevention methods.
24. Explain disk Scheduling Algorithms.
25. What is process synchronization? Explain dining philosophers problem.

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SECTION - D

IV. Answer any **ONE** question each carries **10** marks :

(1 × 10 = 10)

26. (a) Explain Process Control Block (PCB).
(b) Explain SJF Scheduling algorithm.
27. (a) What is dispatcher? Explain.
(b) Explain five types of system calls.
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