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DCCA301

Reg. No.

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III Semester B.C.A. Degree Examination, January/February - 2025

COMPUTER SCIENCE

Operating Systems

(NEP Freshers/Repeaters Scheme)

Time : 2½ Hours

Instructions to Candidates:

Answer All questions.



Maximum Marks : 60

PART-A

- I. Answer any **FOUR** questions. Each question carries 2 marks. (4×2=8)
1. Define operating system. List the services provided by O.S.
 2. Explain simple batch system.
 3. What is deadlock?
 4. What are the different operations performed on files?
 5. What is Internal fragmentation?
 6. What is Starvation? How is it avoided?

PART-B

- II. Answer any **FOUR** questions. Each question carries 5 marks. (4×5=20)
7. Explain FCFS scheduling algorithm with example.
 8. What are the various objectives and functions of operating system?
 9. Explain in detail about deadlock detection.
 10. With an illustration write a detailed note on resource allocation graph.

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11. Explain about first fit, best fit, next fit algorithm.
12. Describe Indexed file, Indexed sequential file organization.

PART-C

III. Answer any **FOUR** questions. Each question carries **8** marks. **(4×8=32)**

13. What are the major activities of an operating systems with regard to process management? **(8)**
 14. Explain in detail the concept of Inter-process communication. **(8)**
 15. Explain page replacement algorithm FIFO and LRU. **(8)**
 16. Explain Dining Philosophers problem with an example. **(8)**
 17. Explain disk structure in detail. **(8)**
 18. Explain the following Disk Scheduling Algorithm with an example: **(4+4)**
 - i). SSTF.
 - ii) C-SCAN.
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