

AU-199

B.C.A. Part-II (Semester-III) Examination

ADVANCED OPERATING SYSTEM

Paper—3ST4

Time : Three Hours]

[Maximum Marks : 60

Note :—(1) All questions are compulsory.

(2) All questions carry equal marks.

1. (a) What is operating system ? Explain the function of an operating system. 6
- (b) Explain process control block in detail. 6

OR

2. (a) Draw the process state transition diagram and explain every state in brief. 6
- (b) Explain services of operating system. 6
3. (a) Explain Dekker's algorithm with suitable example. 6
- (b) Explain in detail control structure for indicating parallelism parbegin/parend. 6

OR

4. (a) How is N-processor synchsonization useful for semaphore implementation ? 6
- (b) Explain with suitable example critical section/region in detail. 6
5. (a) What is deadlock ? Explain four major conditions for deadlock. 6
- (b) Explain deadlock prevention with suitable example in detail. 6

OR

6. (a) State and explain Banker's Algorithm. 6
- (b) Explain deadlock detection with suitable diagrams and examples. 6
7. (a) State and explain different techniques of memory allocation. 6
- (b) Explain virtual memory with its function and why it is necessary. 6

OR

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| 8. | (a) | What is page replacement ? Explain with suitable diagram in detail. | 6 |
| | (b) | Explain Demand paging in detail. | 6 |
| 9. | (a) | Explain processor scheduling with its types in detail. | 6 |
| | (b) | Explain any two scheduling algorithms in detail. | 6 |

OR

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| 10. | (a) | Explain any six features of Unix Operating System. | 6 |
| | (b) | Explain multilevel feedback queue with suitable diagram in detail. | 6 |