

BCA DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2017
(2016 Admission - Regular & 2015 Admission - Supplementary / Improvement)
SEMESTER II – CORE COURSE
(CLOUD TECHNOLOGY & INFORMATION SECURITY MANAGEMENT)
CA2C06TB – OPERATING SYSTEMS

Time: Three Hours**Maximum Marks: 80****PART A****I. Answer all the questions. Each question carries 1 mark.**

1. List the different operating system structures.
2. Expand API.
3. What is deadlock?
4. Differentiate process and program?
5. What is a thread?
6. What are the two types of semaphores?

(6x1=6)**PART B****II. Answer any seven questions. Each question carries 2 marks.**

7. Define Operating system?
8. What is a system call? List the different types of system calls.
9. What are file management system calls? Give examples
10. What are virtual machines?
11. What are the benefits of multi-threading?
12. What are the two fundamental models of inter-process communication?
13. What are the optimization criteria?
14. Explain the types of process schedulers.
15. What are cooperating processes?
16. What is race condition?

(7x2=14)**PART C****III. Answer any five questions. Each question carries 6 marks.**

17. Narrate the four basic components of computer system.
18. Differentiate batch processing and multiprocessing operating system.
19. Explain loadable kernel modules and layered operating system structure approach.
20. Draw the virtual machine architecture and explain.
21. Draw the process scheduling queuing model and explain the different queues.
22. Draw the process state diagram and explain the different states.
23. Explain the multithreading models.
24. Narrate the different scenarios where deadlock can occur.

(5x6=30)

PART D

IV. Answer any two questions. Each question carries 15 marks.

25. Explain the services provided by operating systems.
26. What are the different data processing techniques and types of operating systems?
27. Explain any three CPU scheduling algorithms with examples.
28. Explain dining philosopher's problem and producer consumer problem.

(2x15=30)