

C 21118

(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017

(CUCBCSS—UG)

Computer Science

BCS 6B 13—FUNDAMENTALS OF OPERATING SYSTEM

Time : Three Hours

Maximum : 80 Marks

Part A

Answer all questions.

Each question carries 1 mark.

1. What is degree of multiprogramming ?
2. What do you mean by a process ?
3. What is PCB ?
4. What is hit ratio ?
5. In _____ memory management technique, the logical address space is viewed as a collection of logically related entities such as library routines, data structures, symbol tables, main programs etc.
6. What is mutual exclusion ?
7. Name the two primitive operations used to access and manipulate a semaphore variable.
8. _____ is a technique of temporarily moving inactive programs from memory of a computer system.
9. Name any two popular android operating systems.
10. _____ is an approach to restricting system access to authorized users.

(10 × 1 = 10 marks)

Part B

Answer all questions.

Each question carries 2 marks.

11. Explain about real time operating systems.
12. Define a deadlock.
13. What is race condition ?
14. Distinguish between logical and physical address.
15. What do you mean by authorization ?

(5 × 2 = 10 marks)

Turn over

Part C

Answer any five questions.

Each question carries 4 marks.

16. What are the advantages of multiprocessor operating systems ?
17. Explain about the features of distributed systems.
18. What are the contents of a PCB ?
19. Explain about nonpreemptive process scheduling policies.
20. What is a deadlock ? What are the necessary conditions for the occurrence of a deadlock ? Explain.
21. What are requirements to be satisfied by a critical section problem ? Explain.
22. How memory protection and allocation are implemented in contiguous memory allocation.
23. Explain salient features of mobile operating systems.

(5 × 4 = 20 marks)

Part D

Answer any five questions.

Each question carries 8 marks.

24. Explain about various types of operating systems. Briefly mention the features of these operating systems.
25. Discuss any four CPU scheduling algorithms.
26. Explain about various deadlock handling techniques.
27. Explain the resource-allocation graph algorithm for deadlock detection with relevant diagram.
28. By illustrating the structure of process, say P1, explain the Petersons solution to critical section problem.
29. Explain about various page replacement algorithms.
30. Explain sequential and indexed file access methods.
31. Write short notes on :
 - (a) Architecture of a mobile operating system.
 - (b) Goals of system protection.

(5 × 8 = 40 marks)