SIXTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MARCH 2020

(CUCBCSS—UG)

BCA

BCA 6B 12—OPERATING SYSTEMS

(2017 Admissions)

Time : Three Hours   Maximum : 80 Marks

Part A

Answer all questions.
Each question carries 1 mark.

1. Where does the swap space reside ?

2. Permanent blocking of a set of process is known as :

3. Command to list all files and directories in home directory.

4. What is the purpose of *rm -rf* command.

5. A module that gives control of the CPU to a Process is called.

6. A process that cannot affect or be affected by the other processes are.

7. A condition by which excessive paging operations are taking place is known as

8. ————— approach allocate the first free partition or hole large enough which can accommodate the process.

9. In android anatomy where the layout files are stored.

10. Identify a responsible party behind an operation is called.

(10 × 1 = 10 marks)

Part B

Answer all questions
Each question carries 2 marks.

11. What is the reusable resource ? Give one example.

12. Define time slicing.

13. Differentiate *mv* and *cp* command with reference to inode.

14. What is piping ?

15. When does a page fault occur ?

16. What is compaction ?

17. Give one example for program threat.

18. Define Role based access control method.

(8 × 2 = 16 marks)

Part C

Answer any **six** *questions.*
Each question carries 4 marks.

19. What are conditions required for deadlock to be possible ? Briefly explain each.

20. Write a short note on Semaphores.

21. Assuming that file permission set for file 1.doc is *r w – r – x r* ... Specify the chmod expression required to change them to :

    (a) *rwxrwxrwx.*

    (ii) *r--r--------*using relative and absolute methods.

22. List and briefly explain the characteristics of a good process scheduler.

23. Explain Dining Philosophers problem.

24. Differentiate Paging and Segmentation.

25. What is the purpose of overlays ? Explain with suitable example.

26. What is an asset ? Give examples.

27. Compare mobile OS with general purpose OS.

(6 × 4 = 24 marks)

Part D

Answer any **three** *questions*
Each question carries 10 marks.

28. Explain different types of Operating Systems.

29. Write a shell script to perform the following :

    Accept two filenames from command line.

    Display an *error* message in case of insufficient arguments.

    If both the files exist then append the content of first file to second file.

    If one file exists append it with "Shell Scripting".

    In case both the files do not exist then display a message "Files does not exist".

30. Consider the following set of processes with the arrival times and the CPU burst times given in milliseconds What is the average turnaround time with Round Robin Scheduling algorithm if time quantum is 3 milli seconds. Also draw the chart of scheduling.

Process		Arrival Time	Execution Time
P0	...	0	5
P1	...	1	3
P2	...	2	8
P3	...	3	6

31. What are three different aspects of protection mechanisms? Explain each.

32. Explain different page replacement algorithms.

(3 × 10 = 30 marks)