

Q.P. Code - 31453

Fourth Semester B.A. Degree Examination, September 2020

(CBCS Scheme)

Computer Science

UNIX OPERATING SYSTEM

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates : Answer all Sections.

SECTION - A

- I. Answer any **TEN** questions : (10 × 1 = 10)
1. Define Operating System.
  2. Name any two components of operating system.
  3. Mention any two types of operating system.
  4. **What is Process?**
  5. Mention different types of scheduling queues.
  6. What are the two types of pathnames used in UNIX file system?
  7. What is the purpose of ls command?
  8. **Define Process.**
  9. What is the purpose of finger command?
  10. Mention two loops in shell programming.
  11. What is a shell?
  12. Mention two relational operators used in shell programming.

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**SECTION - B**

II. Answer any **FIVE** questions :

**(5 × 3 = 15)**

13. Explain single user operating system.
14. Explain PCB with a diagram.
15. Explain any three features of a Kernel.
16. What are the different types of file users in UNIX?
17. Explain any three UNIX commands.
18. Differentiate between while and until loop.
19. Write a shell program to check whether a given year is leap or not.

**SECTION - C**

III. Answer any **SIX** questions :

**(6 × 5 = 30)**

20. Explain the different services provided by an operating system.
21. Explain the different scheduling criteria.
22. Explain UNIX directory structure.
23. With a neat diagram explain the four different blocks of UNIX file system.
24. Explain the communication commands of UNIX.
25. Explain the following commands giving their purpose, syntax and example : read, wc.
26. Explain in brief the different types of shell.
27. Write a shell program to find the count of vowels in a given string.

SECTION - D

IV. Answer any **FIVE** questions : (5 × 7 = 35)

28. Write short notes on :

(a) Multi user operating system

(b) Real time system

(4 + 3)

29. With a neat diagram explain process state diagram.

30. Explain FCFS and priority scheduling with an example.

31. With a neat diagram explain UNIX architecture.

32. Write short notes on :

(a) Foreground and Background processes

(b) grep command

(4 + 3)

33. Explain the following conditional statements with their purpose, syntax and examples :

(a) if - then - fi

(b) if - then - use - fi

(c) if - then - elif - else - fi

(2 + 2 + 3)

34. Write a shell script to compute gcd and lcm of  $n$  numbers.