



SM – 429

IV Semester B.A./B.Sc. Examination, May/June 2018  
(CBCS) (Semester Scheme) (F + R) (2015-16 and Onwards)  
**COMPUTER SCIENCE – IV**  
**Operating System and Unix**

Time : 3 Hours

Max. Marks : 70

**Instruction** : Answer *all* the Sections.

SECTION – A

I. Answer **any ten** questions. **Each** question carries **two** marks. (10×2=20)

- 1) What is spooling ?
- 2) What is semaphore ?
- 3) What are the necessary conditions for deadlock ?
- 4) What is dynamic linking ?
- 5) What is bit-vector ?
- 6) What is paging ?
- 7) What is a shell ? Name the types of shell.
- 8) What are read-only variables ? Give example.
- 9) What is the use of expr command ? Give example.
- 10) What is the use of fork () function in unix ?
- 11) Explain nohup command.
- 12) Write the syntax of if-else-if with an example.

SECTION – B

II. Answer **any five** questions. **Each** question carries **ten** marks. (5×10=50)

- 13) a) What are the functions of operating system ? Explain. 5
- b) What is a scheduler ? Explain the different types of schedulers. 5
- 14) a) Explain Shortest-Job-First-Scheduling (SJF) algorithm with example. 5
- b) Write a short note on swapping. 5
- 15) a) Explain deadlock avoidance with an example. 5
- b) Briefly explain segmentation. 5

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- 16) a) Briefly explain file protection. 5  
b) Consider the track request in disk queue [98, 183, 37, 122, 14, 124, 65, 67], head starts at position 53. Explain and compute the total head movement using SSTF. 5
- 17) a) Explain salient features of unix. 5  
b) Explain filter commands. 5
- 18) a) Explain the types of process used in unix with examples.  
b) Explain different file related commands in unix with syntax and example. (4+6)
- 19) a) Explain different variable types in unix.  
b) Write a shell script to reverse a given number and check whether it is palindrome or not. (4+6)
- 20) a) Explain the different looping statements in unix.  
b) Write a shell script to count the number of vowels in a given string. (5+5)