



US – 413

IV Semester B.A./B.Sc. Examination, May 2017  
(F+R) (CBCS) (2015 – 16 & 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. (2×10=20)

- 1) List any two components of operating system.
- 2) Define the following :
  - a) Turn-around time
  - b) Throughput.
- 3) What is a semaphore ?
- 4) What are the necessary conditions for deadlock ?
- 5) State any two functions of memory management.
- 6) What are the various file access methods ?
- 7) What is the function of bc command ?
- 8) What is meant by input/output redirection ?
- 9) What is the function of du and df command ?
- 10) What is filter command ? List any two filter commands.
- 11) Differentiate between while and until loop.
- 12) Define wall command.

P.T.O.



## SECTION – B

- II. Answer **any five** questions. **Each** question carries **ten** marks. **(10x5=50)**
- 13) a) Explain operating system services. 5  
b) Explain Multiprogramming operating systems with its advantages and disadvantages. 5
- 14) a) What is process ? Explain process state transition with a diagram. 5  
b) Explain Round-Robin scheduling with an example. 5
- 15) a) Define critical section problem. Explain the requirements of critical section problem. 5  
b) Explain Banker's algorithm. 5
- 16) a) Differentiate between paging and segmentation. 5  
b) What is optimal page replacement algorithm ? Illustrate with the following example (Take four page frames)  
7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2 5
- 17) a) Explain the features of unix operating system. 5  
b) What are the different modes of setting file permissions ? Explain with examples. 5
- 18) a) Explain the different components of unix file system. 5  
b) What are the functions of following commands ? 5  
1) PS  
2) nice  
3) nohup  
4) who  
5) tail
- 19) a) Write a note on grep and sed commands. 4  
b) Write a shell script to reverse a number. 6
- 20) a) Explain string testing using test command. 5  
b) With syntax and example explain case-esac statements. 5
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