

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. (10×5=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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