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.

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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