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) 5
7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2

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