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GS-387

IV Semester B.A./B.Sc. Examination, May/June 2019

COMPUTER SCIENCE - IV

Operating System and Unix

(F+R) (CBCS) (2015-16 & Onwards)

Time : 3 Hours Max. Marks : 70

Instructions to Candidates : *Answer* ***all*** *the* ***Sections.***

SECTION - A

I. Answer **any ten** questions. Each question carries **two** marks. **10x2=20**

1. What is an O.S. ? List any 2 functions of O.S.
2. Differentiate between program and process.
3. What is Dispatcher ?
4. What is mutual exclusion ?
5. What is starvation ?
6. Define logical and physical address space.
7. What is Compaction ?
8. Mention the features of unix O.S.
9. Explain cmp command.
10. Explain different types of users in unix.
11. What is Daemon Processer ?
12. What is a filter ? Name any two filters.

P.T.O.

SECTION - B

II. Answer **any five** questions. Each question carries **ten** marks. **5x10=50**

13. (a) Explain : **5**

(i) Multi programmed systems

(ii) Time - sharing systems

(b) Explain the components of operating system. **5**

14. (a) What is CPU scheduling ? Explain different scheduling criterias. **4**

(b) Consider the following set of processer : **6**

processer	Arrival time	CPU-burst time
P1	0	10
P2	1	1
P3	2	2
P4	3	10
P5	4	5

Draw a Gantt chart and calculate Turn-around time and Average waiting time using

(i) FCFS and (ii) SJF.

15. (a) What is deadlock ? Explain the characteristics of a deadlock situation. **5**

(b) Explain any two methods of breaking and recovery from deadlock. **5**

16. (a) What is Fragmentation ? Explain Internal and External fragmentation. **5**

(b) Explain any two file accessing methods. **5**

17. (a) Explain Unix System Architecture. **5**

(b) Explain Super block and Inoder table of unix file system. **5**

18. (a) Explain different status of a process in unix. **5**

(b) What are the different modes of setting file permissions ? Explain with an example. **5**

19. (a) What are positional parameters ? Explain with an example. **4**

(b) Explain different branching control structure in shell programming. **6**

20. (a) Write a shell program to find the given number is prime or not. **5**

(b) Write a shell script to print a string in reverse order. **5**

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