

[Dec-23]

GITAM (Deemed to be University)
[CSCI1181]

B.Sc Degree Examination

Computer Science with Cognitive Systems
I Semester

OPERATING SYSTEMS

(Effective from the admitted batch 2022–23)

Time: 3 Hours

Max.Marks: 60

Instructions: All parts of the unit must be answered in one place only.

SECTION-A

1. Answer all the questions:

10×2=20M

- a) Define CPU.
- b) What are the characteristics of Computer?
- c) Differentiate between ready queue and job queue.
- d) How will you calculate turn-around time?
- e) What is page fault?
- f) Define Page Table.
- g) List out the various files attributes.
- h) Distinguish files from the directory.
- i) What is a shell?
- j) Give the reason why the Virtual Machine are been used.

SECTION-B

Answer the following:

5x8=40M

UNIT-I

2. What is System Call? Explain types of System Call in brief?

OR

3. What is a memory? What are different types of memory in computer?

UNIT-II

4. Define PCB? Explain the structure of PCB in detail?

OR

5. Consider the following set of processes that arrives at time 0, with length of C.P.U Burst Time given in milliseconds. Plot the Gantt chart & calculate Average Turn Around Time & Average Waiting Time by using First Come First Served, Shortest Job First and Priority Scheduling Algorithm?

Process	Burst Time	Priority
P1	6	3
P2	10	2
P3	8	4
P4	4	1
P5	5	2

UNIT-III

6. Define swapping. Explain the Swapping technique in detail with the help of neat diagram.

OR

7. Consider the following reference string
7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1 with 3 page frames. Calculate number of page faults with Least Recently Used page replacement algorithm.

UNIT-IV

8. Discuss briefly about various layers of file system with its advantages and disadvantages.

OR

9. What are different functions of a file? Explain various data structures for implementing files.

UNIT-V

10. Discuss briefly about the different versions of Windows operating system along with its features.

OR

11. Discuss briefly about the different versions of Linux operating system and its usage.