

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Software Engineering) (Sem.-4)

OPERATING SYSTEMS

Subject Code : SE403-19

M.Code : 80027

Date of Examination : 05-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) What is race condition?
- b) Define deadlock.
- c) Differentiate between internal and external fragmentation.
- d) Define page fault.
- e) Describe the concept of context switching.
- f) What is the benefit of virtual machine?
- g) Differentiate between multitasking and multiprocessing operating system.
- h) What do you mean by disk formatting?
- i) How an operating system maintains various queues in regard to process scheduling?
- j) What is the responsibility of I/O Traffic Controller?

SECTION-B

2. Discuss producer / consumer problem for Inter-Process Communication.
3. Describe Resource allocation graph is deadlock detection. How can RAG be used to prevent deadlock?
4. Discuss various types of operating systems in the order of their evolution.
5. Explain various file allocation methods.
6. Explain various CPU scheduling criteria. Take one example and compute the value for each criterion.

SECTION-C

7. What is paging? What is use of TLB in paging? Discuss in detail the computation of effective address time using TLB.
8. Discuss various CPU scheduling algorithms with the help of an example each. Use unique value for arrival time and burst time for each process.
9. Write the bankers algorithm. Give an example as to how system can enter from safe state to unsafe state using bankers algorithm.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.