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Roll No

CS-5002-CBGS

B.E. V Semester

Examination, December 2020

Choice Based Grading System (CBGS)

Operating System

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Define an operating system. What are the goals of an operating system? Explain.
b) Explain the concept of buffering and spooling.
2. a) Differentiate between :
i) Multitasking vs multiprogramming OS
ii) Time sharing vs real time OS
b) Explain various file access methods.
3. a) What are various File allocation methods? Explain briefly sequential and indexed file allocation methods.
b) Explain in detail about various ways of free space management.
4. a) Discuss various file allocation and access methods. Compare their advantages and disadvantages.
b) What is Thread? What resources are used when a thread is created?

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5. a) Explain the following:
 - i) Resource Allocation graph
 - ii) Recovery Form Deadlock
- b) Explain FIFO and LRU page replacement algorithm in detail.
6. a) Explain virtual memory in operating system. Discuss the advantages and disadvantages of non contiguous storage allocation.
- b) Suppose that a disk drive has 200 cylinders, numbered 0 to 199. The work queue is :23, 89, 132, 42, 187.
Determine the total distance for the following disk scheduling algorithms:
 - i) Scan
 - ii) Look
7. a) What is Segmentation? Explain virtual to physical address mapping in a segmented system with the help of a diagram.
- b) What is Virtual memory? Explain the concept of demand paging.
8. a) Write a program to implement Remote Procedure Call (RPC).
- b) What do you mean by the term Concurrent Programming Security and Threat Protection?
