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Roll No.

18D2

B. Tech. EXAMINATION, 2022

(Fourth Semester)

(C Scheme) (Main & Re-appear)

CSE

CSE204C

Operating Systems

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all. All questions carry equal marks.

Unit I

1. With the help of neat diagram explain the Windows NT architecture. **15**
2. List the different categories of the operating systems. Also write the characteristic features of each category. **15**

Unit II

3. What advantages do threads have over multiple processes ? What major disadvantages do they have ? Suggest one application that would benefit from the use of threads as compared to multiple processes. **15**
4. (a) Explain multilevel feedback queue scheduling with suitable example. **8**
(b) Briefly explain the different possible states of a process. **6**

Unit III

5. (a) What is Paged Segmentation ? List its advantages. **9**

- (b) Compare and contrast the contiguous and non-contiguous memory allocation schemes. **6**

6. Define the term Fragmentation. Compare and contrast internal and external fragmentation. Explain with the help of example, how external fragmentation can be solved with paging. **15**

Unit IV

7. (a) List the different types of files supported by the operating systems. Also write their purpose. **10**
(b) List the advantages and disadvantages of sequential file access method. **5**
8. Define a Deadlock ? List the necessary and sufficient conditions for a deadlock ? Write an algorithm to detect deadlock when there are multiple instances of resources. **15**