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School of Engineering
Second Theory Sessional Examination
Odd Semester (AS: 2024-25)

B. Tech: CSE(CCML/IOT) [Year :II] [Semester: III]

Course Title: Operating Systems | **Max Marks: 30**
Course Code: ~~NCS~~4302 NCCML | **Time: 1hrs**

Instructions if any: Read the question Carefully.

SECTION 'A' **Q.N.1. Attempt all parts of the following:**		**Course Objective**	**Marks**
a)	Define the critical section problem.	**CO2**	**1**
b)	What is the main purpose of process synchronization?	**CO2**	**1**
c)	What is a semaphore in process synchronization?	**CO2**	**1**
d)	What is virtual memory?	**CO3**	**1**
e)	Define paging in memory management.	**CO3**	**1**
SECTION 'B' **Q.N.2. Attempt any two parts of the following:**		**Course Objective**	**Marks**
a)	Discuss Peterson's solution for process synchronization.	**CO2**	**7.5**
b)	Explain the working of demand paging in virtual memory.	**CO3**	**7.5**
c)	Discuss the advantages and disadvantages of virtual memory.	**CO3**	**7.5**
SECTION 'C' **Q.N.3. Attempt any one part of the following:**		**Course Objective**	**Marks**
a)	Discuss the Banker's algorithm and its role in deadlock avoidance.	**CO2**	**10**
b)	Describe the process of memory allocation in multiprogramming with fixed partitions.	**CO3**	**10**
c)	Describe the difference between fixed and variable partitioning schemes.	**CO3**	**10**

Table 1: Mapping between COs and questions

(Number of COs may vary from course to course)

COs	Questions Numbers	Total Marks
CO3	1.a, 1.b, 1.c,3a	3
CO4	1.d, 1.e, 2.a, 2.b, 2c, 3b,3c	27

05.12.2024