Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

I SEMESTER M.TECH (SOFTWARE ENGINEERING)

END SEMESTER EXAMINATIONS, FEB 2022

SUBJECT: ADVANCED DATABASE MANAGEMENT SYSTEMS

[ICT 5152] PART B

REVISED CREDIT SYSTEM

(14/02/2022)

Time: 45+3 Minutes MAX. MARKS: 30

Instructions to Candidates

- Answer **ALL** questions.
- Missing data may be suitably assumed.

1A. Consider the following set of data objects (3,7), (4,5), (4,9), (5,8), (7,3), (7,5), (8,4), (8,5),(9,6),(8,7). Use K-medoid algorithm and Manhattan distance measure to discover two clusters by considering (4,5) and (8,5) as cluster medoids. Check whether the replacement of (i) (4,5) by (3,7) (ii) (8,5) by (9,6) on the initial clusters formed is a good replacement or not **5**

1B. Consider a following 2 X 2 contingency table summarizing observed count and the total transactions with respect to type of drinks and snacks students of an Engineering college preferred :

		Drinks		
		Milk	Coffee	∑row
Snacks	Pizza	3000	1500	4500
	Burger	1000	1500	2500
	∑col	4000	3000	7000

Use Chi Square test to check the dependency of Snacks and Drinks for degree of freedom n=1 and significance level 0.001 and Chi Square in the statistical table is 10.828. **3**

1C. Distinguish between the Relational OLAP server and Multi-dimensional OLAP server. **2**

2A. Write and explain the Apriori algorithm for finding frequent itemsets.
Find all frequent itemsets of the following transaction database using Apriori algorithm with respect to minimum support = 20%. [4] **5**

TID	Item Numbers	TID	Item Numbers
1	1,2,5,7	6	2,3,6
2	2,4	7	3,6
3	2,3,6,7	8	2,3,5
4	7	9	2,3

	5 | 3,6 | 10 | 2,6,7	
2B.	Construct pattern count tree for the following database. TId Items Bought TId Items Bought 100 1, 2, 5 105 2,3,6 101 2,4,6 106 1,3,5,6 102 2,3,5 107 1,2,3,5 103 1,2,4,6 108 1,2,3 104 1,3,4,5	3
2C.	Write a note an FLOWER expressions and use the same to find all account numbers with balance greater than 400 where account=(acc_no, balance, branch)	2