K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Nov–Dec 2024-25
Program: B.Tech **Scheme : II**
Carry On Regular **Examination: TY Semester: V**
Course Code: AIC502 and Course Name: Data Warehousing and Mining
Date of Exam: 25/06/25 **Duration: 2.5 Hours** **Max. Marks: 60**

Instructions:
(1)All questions are compulsory.
(2)Draw neat diagrams wherever applicable.
(3)Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	**Solve any two questions out of three: (05 marks each)**	**10**		
a)	Write short note on -NoSQL		CO1	U
b)	What are the different types of Data Marts? Draw the diagrams and explain.		CO2	U
c)	Write short note on : Mining Multilevel Association Rules		CO6	U
Q 2	**Solve any two questions out of three: (05 marks each)**	**10**		
a)	Justify the need of hierarchy in OLAP? Compare OLTP and OLAP.		CO2	An
b)	Construct a box plot for the following data. 9,3,10,2,6,8,3,11,14,3,4,8,9,12,5 Suppose a teacher recorded the test scores (out of 100 points) for a class of 10 students as follows. Calculate the mean, mode, and median of the test scores. [87, 92, 78, 88, 94, 78, 86, 90, 88, 92]		CO4	Ap
c)	Draw the diagram progression of decision support system. Explain the steps in the evolution of Data mining.		CO3	U
Q.3	**Solve any two questions out of three. (10 marks each)**	**20**		
a)	Implement Apriori Algorithm and write strong association rules using support 50% and confidence 70%.		CO6	Ap

TID	Items
100	1, 3, 4
200	2, 3, 5
300	1, 2, 3, 5
400	2, 5

b)	Compare E-R Modeling Vs Dimensional Modeling		CO1	An
c)	Design data warehouse for sales with fact constellation schema with data table and fire any 2 queries and write expected output.		CO2	Ap
Q.4	**Solve any two questions out of three. (10 marks each)**	**20**		
a)	Compare: Operational Vs Decision Support Systems		CO1	An
b)	Solve the example using k-means clustering algorithms. Form 2 clusters. Solve using Euclidian distance.		CO5	Ap
c)	Identify the root node, draw decision tree with depth 1, and solve using ID3 Algorithm.		CO4	Ap

Sr. No.	1	2	3	4	5	6	7	8	9	10	11	12
Height	185	170	168	179	182	188	180	180	183	180	180	177
Weight	72	56	60	68	72	77	71	70	84	88	67	76

Day	Outlook	Temp	Humidity	Wind	Play Tennis
D1	Sunny	Hot	High	Weak	No
D2	Sunny	Hot	High	Strong	No
D3	Overcast	Hot	High	Weak	Yes
D4	Rain	Mild	High	Weak	Yes
D5	Rain	Cool	Normal	Weak	Yes
D6	Rain	Cool	Normal	Strong	No
D7	Overcast	Cool	Normal	Strong	Yes
D8	Sunny	Mild	High	Weak	No
D9	Sunny	Cool	Normal	Weak	Yes
D10	Rain	Mild	Normal	Weak	Yes
D11	Sunny	Mild	Normal	Strong	Yes
D12	Overcast	Mild	High	Strong	Yes
D13	Overcast	Hot	Normal	Weak	Yes
D14	Rain	Mild	High	Strong	No

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