



NP – 403

30  
V Semester B.C.A. Examination, February/March 2024  
(NEP Scheme)

(Freshers)  
COMPUTER SCIENCE  
Data Mining (Elective – I)  
OPEN ELECTIVE

Time : 2½ Hours

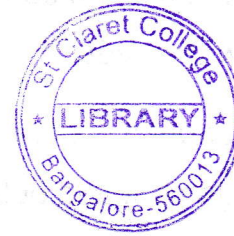
Max. Marks : 60

**Instruction** : Answer **any 4** questions from **each** Sections.

SECTION – A

I. Answer **any 4** questions. **Each** carries **2** marks.

- |                                                                                      |                |
|--------------------------------------------------------------------------------------|----------------|
|                                                                                      | <b>(4×2=8)</b> |
| 1) Define KDD and Data mining.                                                       | 2              |
| 2) What is market basket analysis ?                                                  | 2              |
| 3) What is correlation ?                                                             | 2              |
| 4) Explain similarity measures.                                                      | 2              |
| 5) Differentiate between bottom-up and top-down strategy in hierarchical clustering. | 2              |
| 6) Define support and confidence in Association rule mining.                         | 2              |



SECTION – B

II. Answer **any 4** questions. **Each** carries **5** marks.

**(4×5=20)**

- |                                                                                                                                                   |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 7) With an example, explain where data mining is crucial to the success of a business. What data mining functionalities does this business need ? | 5 |
| 8) Explain Data mining process in detail.                                                                                                         | 5 |
| 9) State Bayes Theorem. Explain Bayesian classification.                                                                                          | 5 |
| 10) Discuss data mining issues in detail.                                                                                                         | 5 |
| 11) Write sampling algorithm.                                                                                                                     | 5 |
| 12) What do you understand by outliers ? Explain with an example.                                                                                 | 5 |

P.T.O.



## SECTION – C

III. Answer **any 4** questions. **Each** question carries **8** marks.

(4×8=32)

13) Discuss the tasks of data mining with an examples. 8

14) Explain KNN classification in detail with an example. 8

15) a) Using the data given below, draw OC curves assuming that the output 2 column is the correct classification and output 1 is what is seen.

Draw 3 curves. 5

b) Construct a confusion matrix assuming output is the correct assignment and output 1 is actually made. 3

Name	Gender	Height	Output 1	Output 2
Kristina	F	1.6m	Short	Medium
Jim	M	2 m	Tall	Medium
Maggie	F	1.9m	Medium	Tall
Martha	F	1.88m	Medium	Tall
Stephanie	F	1.7m	Short	Medium
Bob	M	1.85m	Medium	Medium
Kathy	F	1.6m	Short	Medium
Dave	M	1.7m	Short	Medium
Worth	M	2.2m	Tall	Tall
Steven	M	2.1m	Tall	Tall
Debbie	F	1.8m	Medium	Medium
Todd	M	1.95m	Medium	Medium
Kim	F	1.9m	Medium	Tall
Amy	F	1.8m	Medium	Medium
Wynette	F	1.75m	Medium	Medium

16) Explain Algometric algorithm with an example. 8



- 17) For the following data, construct a decision tree and explain the terms Root node, Decision node, leaf node, sub pruning, parent node and child node.

8

Day	Weather	Temperature	Humidity	Wind	Play
1	Sunny	Hot	High	Weak	No
2	Cloudy	Hot	High	Weak	Yes
3	Sunny	Mild	Normal	Strong	Yes
4	Cloudy	Mild	High	Strong	Yes
5	Rainy	Mild	High	Strong	No
6	Rainy	Cool	Normal	Strong	No
7	Rainy	Mild	High	Weak	Yes
8	Sunny	Hot	High	Strong	No
9	Cloudy	Hot	Normal	Weak	Yes
10	Rainy	Mild	High	Strong	No

- 18) Explain Apriori Algorithm.

8

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