NP – 403

V Semester B.C.A. Examination, February/March 2024
(NEP Scheme)
(Freshers)
COMPUTER SCIENCE
Data Mining (Elective – I)

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. **(4×2=8)**

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
