Daffodil International University

Department of Computer Science and Engineering

Faculty of Science and Information Technology

Final Examination FALL 2019

Course Code: CSE450 Course Title: Data Mining

Level : 4 Term: 1 Section: ALL

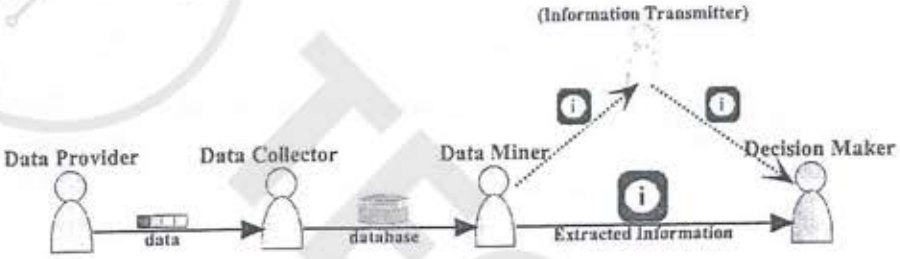
Instructor: ALL

Time: 2 hrs **Full Marks: 40**

Question 1: 03 + 07

(a) How is clustering different from classification. Give example.

(b) Consider the following scenario:

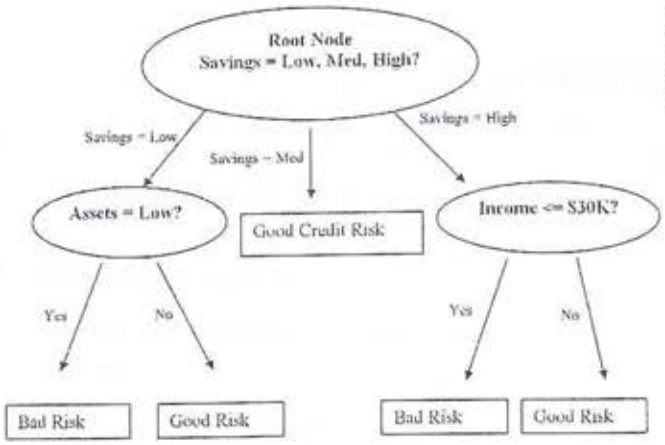


(i) Explin the scenario from data mining point of view. (05)

(j) Write briefly about why there are two paths from Data Miner to Decision Maker as shown above. (02)

Question 2: 03 + 07

Consider the following scenario:



a. Explain the scenario shown in the diagram on the left. (03)

b. Write all rules which can be inferred from the diagram shown on the left. (07)

Question 3: 05 + 05

Consider the following scenario:

A	B	Class Label
0	1	c1
0	0	c2
1	1	c1
0	1	c1
1	0	c1
0	0	c2
1	1	c1
0	0	c2
1	0	c1
1	0	c2

a) Calculate entropy and information gain for both A and B attribute. Show your calculation detail. According to the gain, which attribute will you choose as the first attribute to split in the Decision Tree induction.
b) Propose a decision tree based on your answer of (a)

Question 4: 03 + 07

Consider the following business scenario:

ABC Corporation deals with product marketing specially sells house hold electronics to customers. It has a online portal at www.abccorporation.com where customer can search and place order for one or more product. Once a customer buy the product, he or she can visit the portal and enter rank of satisfaction of using the product based on valid customer ID and pin provided by ABC Corporation during the sale of the product. During the product ranking by the customer, customer is further recommended for other products to buy like other customers preferred to buy. ABC Corporation want to build a string consumer network to grow the sales and make more profit.

Answer the following questions:

(a) What data mining plan could you think to help ABC Corporation. (3)
(b) Propose data mining algorithm and the way to implement for the recommendation of products in the online portal of the ABC Corporation.

---------- Good Luck ----------