COURSE CODE (CREDITS): 18B11CI613 (3) MAX. MARKS: 35
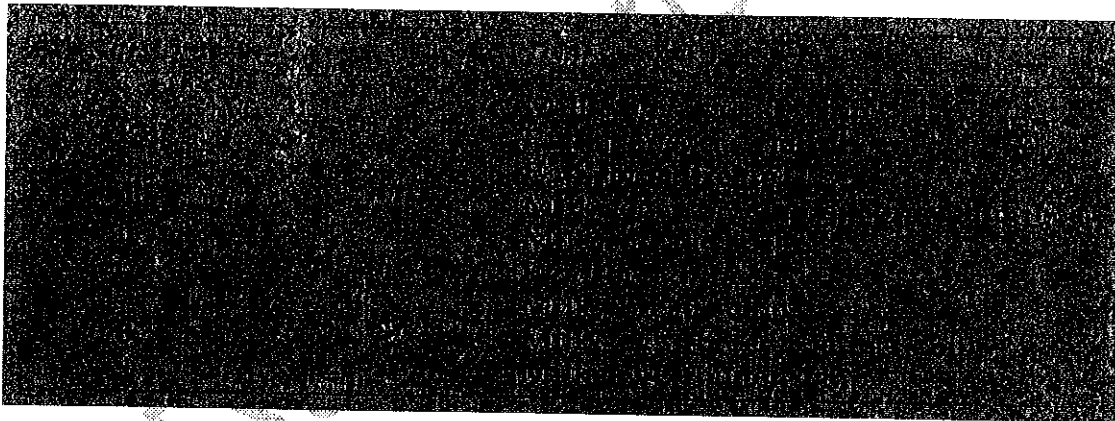COURSE NAME: Data Mining
COURSE INSTRUCTORS: Dr. Pardeep Kumar MAX. TIME: 2 Hours

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. Consider 8 persons showing interest in personal loan from a reputed public sector bank. Let point(x,y,z) represents their age(in years), salary(in Indian rupees) and income from other sources(in Indian rupees). So the data is represented as Ram(20,35K,10K), Sita(30,25K,5K),Laxman(50,20K,12K),Anil(40,20K,2K),Prem(45,50K,15K),Sunil(21,46K,15K) , Sourabh(23,32K,11K) and Meenu(32,27K,13K). The bank manager's task is to check whether the person is rich, medium earning or poor based on the given data. Use k-means clustering algorithm technique based on Euclidean distance to ease manager's task. [10]

Q2. Consider a shopping mall basket as shown below:

Let the minimum support is 30% and minimum confidence is 80%. Generate the information using Apriori algorithm to describe the behavior of customers. How such information is helpful to raise CRM (Customer Relationship Management) of the shopping mall. [10+2]

Q3. Draw the structure of a 2 layer feed forward ANN. Explain back propagation neural network algorithm with proper pseudo code along with complexity.

[2+5]

Q4. Write short notes on the following:

(a) Market basket analysis (b) Artificial neural networks (c) Bayesian classification

[3x2=6]