ME/CMPN - II (15)
DMABI
27/5/2014

QP Code : BB-11926

(3 Hours) [Total Marks : 80

Note:
1) Q:1 is compulsory.
2) Attempt any three questions from remaining five questions.
3) Figures on the right, indicate full marks.
4) Assume suitable data whenever required.

Q:1
a) Explain how an Adaptive Business Intelligence system achieves adaptability. [05]
b) Explain stochastic hill climbing algorithm and its flow chart. [05]
c) Explain the importance of Neural Network in design of a typical expert system [05]
d) Explain the steps of SAW method with suitable example. [05]

Q:2
a) Explain the roles of different components of a typical ABI system. [10]
b) What is multiple regression? Consider the following data set.

Car_ID	age (in years)	miles (in thousands)	resale price (in lakhs)
1	5	57	8.5
2	4	40	10.3
3	6	77	7
4	5	60	8.2
5	5	49	8.9
6	5	47	9.8
7	6	57	6.6
8	6	39	9.5
9	2	8	16.9
10	7	69	7
11	7	89	4.8

Estimate the resale price of a car with (age=3 & miles=30) [10]

Q:3
a) Explain PSO algorithm and its flow chart with suitable example. [10]
b) "The decision making becomes difficult for a complex business problem when number of possible solutions is very large". Justify this statement with suitable example. [10]

Q:4
a) Consider smart phone selection problem. The criteria to be considered are cost, camera, internal memory, battery life and style. The following table gives measurements of above mentioned criteria for 4 smart phones. Generate the ranking of the alternatives using AHP method. [15]

phone	camera (mega pixels)	internal memory (GB)	battery life (hours)	style	cost (in thousand Rs)
ph1	8	4	8	good	17.8
ph2	12	8	8.5	very good	35.5
ph3	4	4	9	average	12
ph4	40	16	7.5	best	45.4

b) Explain difficulties in integrating multiple business intelligence systems. [05]

Q:5

a) What is Bayes model? Consider the following dataset.

Car_ID	make	miles	color	damage	resale price
1	ford	low	silver	yes	low
2	ford	high	red	no	low
3	Nissan	high	gray	yes	average
4	ford	average	gray	yes	average
5	Suzuki	low	white	no	low
6	BMW	high	black	no	high
7	ford	average	white	yes	average
8	Nissan	average	black	yes	high
9	BMW	average	red	no	high
10	Suzuki	low	silver	yes	average

Estimate the resale price of a car with (make="Nissan", miles="low", color="black", damage="yes") using Bayes model. [10]

b) Explain in detail about evolutionary algorithms for optimization. [10]

Q:6 Attempt any two [20]

a) Adaptive business intelligence system for investment strategy.

b) Explain any one distance based method for prediction.

c) Write a detailed note on genetic algorithm.