

Total Marks: 80

Time: 3 hours

N.B: 1) Question No.1 is compulsory.

2) Attempt any three from the remaining five questions.

1. (a) What is state management? Explain different ways to handle at client (10)
and Server side in ASP.NET?
- (b) What is AJAX? Explain Timer Control and UpdatePanel control with (10)
suitable example.
2. (a) Explain Life Cycle of ASP.NET web page with an event? (10)
- (b) What is Generics? Explain Generic classes, functions and constraints (10)
on generics.
3. (a) What is LINQ? Explain how to map your data model to an object (10)
model?
- (b) Explain architecture of WCF with different types of contract? (10)
4. (a) Explain how to create and consume XML web services with web (10)
service architecture?
- (b) i) Explain types of assembly with structure. (10)
ii) Explain the working of CLR with features.
5. (a) Explain the architecture of DOT NET framework with diagram? (10)
- (b) Explain various data bound controls using any one data source control! (10)
with an example?
6. (a) What is ADO.NET? Explain connected and disconnected architecture (10)
with an example.
- (b) Explain in details Postback and Crosspage posting in Asp.Net. (10)

[Total Marks : 80]

(3 Hours)

- N.B. :**
- 1) Question No.1 is **compulsory**.
 - 2) Attempt any **three** from the remaining **five** questions.

1. (a) What is E-Business? Explain Categories of E-Business. (10)
(b) Explain E – Business strategy. How does E – Business strategy differ from traditional business strategy? (10)
 2. (a) Describe Business Model and also give classification of Business Models. (10)
(b) What is Electronic Commerce? Describe how it has changed consumer retailing and business-to-business transactions. (10)
 3. (a) What are the management challenges and opportunities while running a digital firm? (10)
(b) Define Electronic Market. How Electronic Market differ from Traditional Market? Explain. (10)
 4. (a) What are the major features of a business that are important for understanding the role of Information System? (10)
(b) What are the barriers affecting the growth of E – Business in Electronic Market? (10)
 5. (a) Explain the basic technological infrastructure of E – Business. (10)
(b) Explain Ethical and Social issues in digital firm. (10)
 6. Write short notes on : (20)
 - a) Supply Chain Management
 - b) Functional application of Intranet
 - c) Web Content Management
 - d) Managing the IT Infrastructure and solutions
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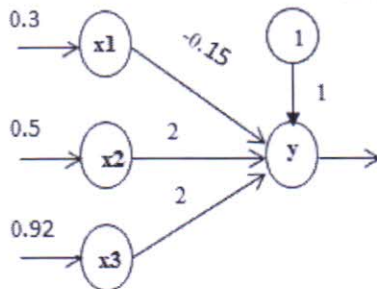
Time: 3 hrs.

Marks:80

NOTE:

- I. Question No. 1 is Compulsory
- II. Attempt any **THREE** questions from 2 to 6
- III. **Group Question** must be **answered together**
- IV. Assume any **additional** information but **justify the same**
- V. Use of calculator is allowed.

- 1 A a. Describe Agent and its properties with suitable diagram. 05
- b. Differentiate between Hard Computing and Soft Computing. 05
- B a. Compare Mamdani and Takagi-Sugeno Fuzzy Inference System. 05
- b. For the given network calculate net input to the output neuron: 05



- 2 A For the following fuzzy sets 10

$$P = \left\{ \frac{0.1}{2} + \frac{0.3}{4} + \frac{0.7}{6} + \frac{0.4}{8} + \frac{0.2}{10} \right\}$$

$$Q = \left\{ \frac{0.1}{0.1} + \frac{0.3}{0.2} + \frac{0.3}{0.3} + \frac{0.4}{0.4} + \frac{0.5}{0.5} + \frac{0.2}{0.6} \right\}$$

$$T = \left\{ \frac{0.1}{0} + \frac{0.7}{0.5} + \frac{0.3}{1} \right\}$$

The following operations performed over the fuzzy sets

$$R = P \times Q$$

$$S = Q \times T$$

$$M = R \circ S$$

$$M = R \bullet S$$

- B Define state space search for the following problem – 10
- “We are given two water jugs having no measuring marks on these. The capacity of jugs is 3 liters and 5 liters. It is required to fill the bigger jug with exactly 4 liters of water. The water can be filled in a jug from a tap”.

- 3 A a. Explain Relational Knowledge Representation Scheme with suitable example. 05
b. Explain any three Cross Over techniques used in Genetic Algorithm. 05

- B What is a AND-OR graph? Find the optimal solution for matrix multiplication of three matrices, size given as: 10

$$A1 = 3 \times 4, \quad A2 = 4 \times 6, \quad A3 = 6 \times 4$$

- 4 A a. Consider the two fuzzy sets 05

$$A = \left\{ \frac{0.2}{x_1} + \frac{0.3}{x_2} + \frac{0.4}{x_3} + \frac{0.7}{x_4} + \frac{0.1}{x_5} \right\}, \quad B = \left\{ \frac{0.4}{x_1} + \frac{0.5}{x_2} + \frac{0.6}{x_3} + \frac{0.8}{x_4} + \frac{0.9}{x_5} \right\}$$

Using Zadeh's notation, express the fuzzy sets as λ - cut set for $\lambda=0.6$ for the following operations: $\underline{A \cup B}, \underline{A \cap B}$

- b. Write a short note on Applications of AI 05

- B Describe and define: 10

- a. Tower of Hanoi problem
b. Breadth-First Search Technique

- 5 A a. Implement the Perceptron rule training using bipolar function, learning rate $\alpha = 1$, initial weights $w_1 = 0, w_2 = 1, w_3 = 0$ and following data specifying the inputs and targets- 05

x1	x2	x3	t
2	1	-1	-1
0	1	-1	1

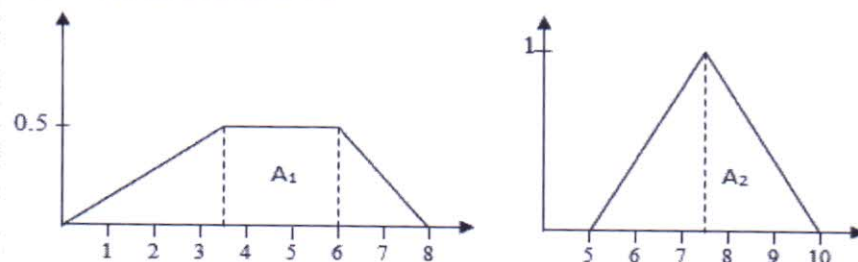
Repeat the training sequence until two correct responses in a row are achieved.

- b. Define neural net architecture and gives its classification. 05

- B Explain any three Selection methods in Genetic Algorithm. 10

- 6 A a. What are the issues in knowledge representation? 05
b. Discuss and draw the architecture of Max Net. 05

- B a. For given A_1, A_2 illustrate centroid defuzzification method: 05



- b. What is membership function? Explain Angular Fuzzy Set method of membership value assignment in brief. 05

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