— Sem -IV

ice based.

December - 2019

(3 Hours)   [Total Marks :80]

N.B   (1)   Question **No.1** is **compulsory**.
      (2)   Answer any **three** questions from Question Nos. **2 to 6.**

1.   Attempt any **Four:-**   20
       (a) Explain types of assembly with structure.
       (b) Write a note on LINQ.
       (c) Explain in detail Cross page posting in ASP.Net.
       (d) Explain various types of Constructors in C# with suitable example.
       (e) Explain difference between JQuery and JavaScript in ASP.Net.

2.   (a)   What is Web Service? Explain UDDI, SOAP, and WSDL with respect to   10
            web services.
     (b)   What is ADO.NET? Explain various steps involved to connect a database   10
            using C# with an example.

3.   (a)   What is AJAX? Explain UpdateProgress control and Timer control with   10
            suitable example.
     (b)   Explain (1) Sealed Classes (2) abstract classes in C# with example.   10

4.   (a)   List the different classes which are used in C-Sharp for file handling?   10
            Explain any two classes with the help of example.
     (b)   Create ASP.NET application to demonstrate various validation controls   10

5.   (a)   Explain architecture of WCF with different types of contract?   10
     (b)   What is Exception Handling? Explain various Exception Handling   10
            Keywords in C#.

6.   (a)   Explain the architecture of DOT NET framework with diagram?   10
     (b)   What is Generics? Explain Generic classes, functions and constraints on   10
            generics.

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[Time: 3 Hours]   [Marks:80]

Please check whether you have got the right question paper.

N.B: (1) Question No. 1 is **Compulsory.**
        (2) Attempt any **three** from **2 to 6** from remaining **five** Questions.

1. Attempt **Any Four**   20
    (a) Explain DDA line drawing algorithm in detail with an example.
    (b) Give a 3 * 3 homogeneous Co-ordinate transformations matrix for each of the following
        translations:
        A. Shift the image to the right 3-units.
        B. Shift the image up 2 units.
        C. Move the image down 14 unit and right 1 unit.
        D. Move the image down 2/3 unit and left 4 units.

2. (a) Explain boundary fill algorithm to fill closed regions, list it's advantages and   10
        disadvantages.
    (b) Discuss the types of projection in computer graphics.   10

3. (a) What are the Fractals? How to determine the fractals dimensions and write the fractal   10
        generation procedure for Koch curve.
    (b) Derive bresenham's line drawing algorithm to rasterize a line A=(5,5) to B=(9,14).   10

4. (a) Consider the clipping window and the lines shown in following figure. Find the region   10
        codes for each end point and identify whether the line is completely visible, partially
        visible or completely invisible.   10
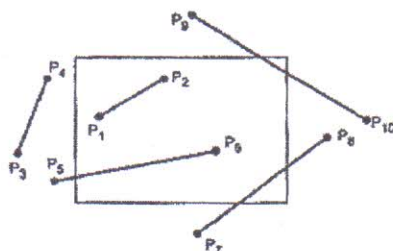
    (b) Explain Weiler-Atherton Algorithm.

5. (a) Find the normalization transformation window to viewpoint, with window, lower left   10
        corner at 10 (1,1) upper right corner at (3,5) onto a viewpoint with lower left corner at
        (0,0) and upper right corner at (1/2,1/2).
    (b) What is computer Graphics? Explain Elements of computer graphics.   10

6. Write a short note on **(ANY FOUR)**   20
    (i) Inside-outside tests   (ii) Shearing transformation
    (iii) B-Rep   (iv) CSG
    (v) Sirpenski Triangle

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(3 Hours) [Total Marks: - 80]

N.B. (1) Question No. **1** is **compulsory**.
(2) Attempt any **three** from the remaining questions.
(3) Illustrate answers with neat sketches wherever required.

Q.1 (a) What is Internet-based E-Business? Explain in details 10

(b) Discuss the characteristics of and Challenges in E_Busines . 10

Q.2 (a) Explain the basic technological infrastructure of E – Business. 10

(b) What is Intellectual Property? Explain various ways by which the Intellectual Property is being protected. 10

Q. 3 (a) Define an Electronic Market? Explain its functions and effects 10

(b) Discuss accountability, liability and control in a digital firm. 10

Q. 4 (a) What is E-Business Strategy? Explain various levels of E-Business Strategies. 10

(b) Explain how Internet supports Collaborative Commerce in detail? 10

Q. 5 (a) Write a note on classification of Business models 10

(b) Explain Management Challenges in establishing a Digital Firm. 10

Q. 6 (a) Explain various website performance monitoring tools used. 10

(b) Discuss SWAT analysis 10

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[Total Marks: 80]

(3 Hours)

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

Q1 a) What is Ethical Dilemma. Give examples
Q1b) Explain role played by various institutions in CSR.

Q2a) List and Explain various Ethical Principles.
Q2b) Explain in detail any one moral development Theory.

Q3a) List and explain ethical issues in Media
Q3b) What are the challenges of Environmental Ethics

Q4a) Explain the Professional Obligation for Engineers according to National Society for Professional Engineers.
Q4b) What are the four broad aspects of Corporate Social Responsibility.

Q5a) Explain the structure of BITC's CR Index
Q5b) Explain the term Accountability and Transparency with respect to Ethical Audit. Explain various steps in ethics auditing process

Q6a) Why is it necessary to understand the global perspective of CSR?
Q6b) Discuss the many aspects of harmony in life. How do you achieve this in life?

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(3 Hours) [Total Marks: 80]

N.B.: 1) **Question No. 1 is compulsory.**
2) Attempt **any three** from the remaining questions.
3) Draw neat and clean diagram wherever required.
4) Figure to the right indicate full marks
5) Use of calculator is allowed

Q.1 a) Differentiate between Hard Computing and Soft Computing. [5]
b) Describe Agent and its properties with suitable diagram. [5]
c) Using Zadeh's notation, determine the following for the given fuzzy sets: [5]

$$A = \left\{ \frac{1}{1.0} + \frac{0.75}{1.5} + \frac{0.3}{2.0} + \frac{0.15}{2.5} + \frac{0}{3.0} \right\} \quad B = \left\{ \frac{1}{1.0} + \frac{0.6}{1.5} + \frac{0.2}{2.0} + \frac{0.1}{2.5} + \frac{0}{3.0} \right\}$$

Express the following for $\lambda = 0.55$
1) $A \cup B$ 2) $A \cap B$ 3) $A \cup \bar{A}$ 4) $\bar{A} \cap \bar{B}$ 5) $\overline{A \cap B}$

d) Differentiate between Supervised Learning and Unsupervised Learning. [5]

Q.2 a) Explain the different types of knowledge representations schemes with the help of suitable example. [10]
b) With the help of the neat diagram, explain Adaptive Linear Neuron (Adaline) network model. Explain in brief Adaline training algorithm. [10]

Q.3 a) Define state space search for the following problem: [10]
We are given two jugs, a 4-gallon one and a 3-gallon one, a pump which has unlimited water which we can use to fill the jug, and the ground on which water may be poured. Neither jug has any measuring markings on it. How can we get exactly 2 gallons of water in the 4-gallon jug?
b) What is defuzzification? Explain in brief any two methods of defuzzification along with suitable example. [10]

Q.4 a) What is Fuzzy Interface System (FIS)? Explain it along with its type. [10]
b) Consider two fuzzy sets R and S [10]

	Y1	Y2
R = X1	0.6	0.3
X2	0.2	0.9

	Z1	Z2	Z3
S= Y1	1	0.5	0.3
Y2	0.8	0.4	0.7

Find i) Max Min composition (R o S)
ii) Max Product Composition (R • S)

Q.5 a) Discuss architecture of perceptron with training algorithm for single output   [1
classes.

b) Explain in brief any two methods of membership value assignments.   [1

Q.6 a) What is Genetic Algorithm? Explain crossover and mutation operator in GA.   [1

b) Short Note on **any two**   [1
   i) AND-OR Graph
   ii) Breadth First Search
   iii) Operation performed on Crisp Set

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