

## MCA Semester 2 Examination

## Machine Learning

June-2024

Time : 3-00 Hours]

[Max. Marks : 50

**Instructions:**

- Write both the Sections in the separate answer book.
- Both Sections having equal weightage.
- Draw Diagrams wherever necessary.
- Make Assumptions wherever necessary.

**SECTION – I**

- Q-1 Explain the following terms with an appropriate example: (10)
- Explain Non-Linear SVM and how one can solve it. What are the pros and cons of SVM?
  - What is Ensemble Learning? Explain Advanced ensemble learning techniques (Stacking, Bagging, Boosting, Blending).

- Q-2 Attempt the following: [10]
- Explain the concept of linear regression model. Why is it not used for classification problem?
  - Explain the concept of Fuzzy C mean algorithm and write the whole algorithm of Fuzzy C mean.

**OR**

- Q-2 Attempt the following:
- Explain Decision Tree algorithm. What is the attribute selection measures in Decision Tree?
  - Compute the difference between Agglomerative and Divisive Hierarchical Clustering.

- Q-3 Attempt the following: [05]
- The Table below shows six training datapoints with their corresponding labels.

Points	X	Y
1	(1,1)	1
2	(2,2)	1
3	(0,0)	-1
4	(2,0)	1
5	(1,0)	-1
6	(0,1)	-1

- Find weight vector and bias
- Classify unseen point (3, -2)

Attempt the following:

- a. Following table has list of some people and the types of laptops and phones they have. Use Naïve Bayes Theorem

Name	Laptop	Phone
Kate	PC	Android
Tom	PC	Android
Harry	PC	Android
Annika	Mac	iPhone
Naomi	Mac	Android
Joe	Mac	iPhone

- i.) What is the probability that a randomly selected uses an Android?  
 ii.) What is the probability of a person owning a mac given that they own an iPhone?

## SECTION – II

Q-4 Explain the following Terms with an appropriate example. [10]

- a. What is distance measure? Explain the following distance measures with the help of examples:
- 1) Manhattan Distance
  - 2) Edit Distance
  - 3) Cosine Distance
- b. Explain following terms:
- 1) Recall
  - 2) Precision
  - 3) True Positive
  - 4) True Negative
  - 5) Confusion Matrix

Q-5 Attempt the following: [10]

- a. What is Logistic Regression in detail? When do we need to use Logistic Regression?  
 b. Explain the basic concept of nearest neighbor with the help of simple example. How KNN can be used for classification and regression? Explain with example.

OR

Q-5 Attempt the following:

- a. What do you understand by K-fold validation? Explain in detail.  
 b. What is log likelihood? Explain why we need log likelihood in logistic regression. Explain logit function.

Q-6 Attempt the following: [05]

- a. What is Kernel Trick? Explain any five types of kernels with suitable examples.

OR

Q-6 Attempt the following:

- a. Cluster the following eight points (with (x, y) representing locations) into three clusters:  
 A1(2, 10), A2(2, 5), A3(8, 4), A4(5, 8), A5(7, 5), A6(6, 4), A7(1, 2), A8(4, 9)  
 Initial cluster centers are: A1(2, 10), A4(5, 8) and A7(1, 2).

**1506E517 - 3**

Candidate's Seat No : \_\_\_\_\_

**MCA Semester 2 Examination**

**Web Designing**

**June-2024**

**Time : 3-00 Hours]**

**[Max. Marks : 50**

**Instructions:**

- **Write both the Sections in the separate answer book.**
- **Both Sections having equal weightage.**
- **Draw Diagrams wherever necessary.**
- **Make Assumptions wherever necessary.**

**SECTION – I**

**Q-1 Attempt the following (any three)**

**15**

1. Explain the significance of HTML5 in modern web development. Provide examples of new features introduced in HTML5 and discuss their impact on creating dynamic and interactive web pages.
2. Discuss the role of Cascading Style Sheets (CSS) in web design. Illustrate the process of building a basic style sheet and explain how inheritance simplifies style rules.
3. List and explain four main guidelines of WCGA.
4. Explain web development project life cycle in brief.
5. List three ways to control information overload when designing a web site. Explain why you would include both graphic and text-based links on a web page.

**Q-2 Attempt the following (any five)**

**10**

1. What is a deprecated element? Write one example of deprecated element in HTML.
2. Write full form of I. DTD II. MIME
3. What do you mean by breadcrumb path? Write one example of breadcrumb path.
4. Name three ways to create a unified look for your site.
5. What do you mean by I. Freeware II. Shareware
6. What is the use of following in CSS? I. !important II. @import
7. Effective navigation should answer which navigation questions?

(P.T.O)

## SECTION – II

**Q-3 Attempt the following (any three)****15**

1. List and explain various CSS measurement units.
2. Explain the following terms with reference to color and graphics  
I. Aspect ratio II. color gamut III. Interlacing  
IV. lossy compression V. lossless compression
3. What is the normal flow of element in HTML? What do you mean by float property? Explain float with example.
4. What are the elements of CSS box model? Describe Shorthand notation for the margin property.
5. What is CGI? What are the five commonly supported form elements? What attributes let you specify the width and height of the <textarea> element?

**Q-4 Attempt the following (any five)****10**

1. Explain with reference to typography . I .monospace font II. kerning
2. What are the three space areas in the box model?
3. What are the three possible values of the clear property in css?
4. Explain why you would include both graphic and text-based links on a web page
5. What is the difference between removing the border attribute and setting border="0"?
6. What do you mean by I. conditional style II. media queries
7. With reference to responsive web design, what do you mean by I. breakpoint II. viewport

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