Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SET-A

SCHOOL OF ENGINEERING

END TERM EXAMINATION –MAY/JUNE 2024

Semester : Semester VI-B.Tech CSE-2021
Course Code : CSE3031
Course Name : Web Intelligence and Analytics

Program : B.Tech. Computer Science and Engineering

Date : JUNE 06-2024
Time : 01:00 PM -04:00 PM
Max Marks :100

Weightage : 50%

Note:
1. **Answer ALL 5 FULL Questions.**
2. **Each Full Question carries 20 Marks**
3. **Scientific and non-programmable calculator are permitted.**
4. **Do not write any information on the question paper other than Roll Number.**

1.a.	What are the five elements of a search engine? **[Knowledge]**	**(CO1)**	**(04 Marks)**
1.b.	Analyze how a search engine functions, accompanied by clear sketches. **[Comprehension]**	**(CO1)**	**(06 Marks)**
1.c.	Explain classification in data mining predictive tasks using your own example. **[Application]**	**(CO1)**	**(10 Marks)**
	or		
2.a.	Compare supervised machine learning with unsupervised machine learning **[Knowledge]**	**(CO1)**	**(04 Marks)**
2.b.	Analyse how supervised machine learning works with one real world example **[Comprehension]**	**(CO1)**	**(06 Marks)**
2.c.	Explain in detail one web intelligence application, including clear sketches. **[Application]**	**(CO1)**	**(10 Marks)**
3.a.	List the any four programming languages used in web intelligence along with the names of their associated tools. **[Knowledge]**	**(CO2)**	**(04 Marks)**
3.b.	Describe one programming language used in artificial intelligence and explain it with examples. **[Comprehension]**	**(CO2)**	**(06 Marks)**

3.c.	Write the HTML tags for the following elements and draw the sample output: **[Application]** 1. A title for the webpage and header (H1) with the text "Welcome to My Webpage". 2. A paragraph introducing yourself, including at least one instance of bold and italic text. 3. An ordered list of your three favourite hobbies. 4. An image of your choice with appropriate alt text and A form with at least two input fields (e.g., name and email) and a submit button. 5. A link to your favourite website and A table with two columns and three rows, containing any information of your choice (e.g., a schedule or contact information)	**(CO2)**	**(10 Marks)**
	or		
4.a.	Explain the concept of sentiment analysis, its significance, and the key techniques used to perform sentiment analysis. **[Knowledge]**	**(CO2)**	**(04 Marks)**
4.b.	Discuss at least three real-world applications of sentiment analysis and the challenges associated with it**. [Comprehension]**	**(CO2)**	**(06 Marks)**
4.c.	Write a JavaScript function that calculates the factorial of a given number and displays the result on the webpage. **[Application]**	**(CO2)**	**(10 Marks)**
5.a.	List out any four classification algorithms **[Knowledge]**	**(CO3)**	**(04 Marks)**
5.b.	Discuss in detail about naive bayes algorithm with neat sketches with example **[Comprehension]**	**(CO3)**	**(06 Marks)**
5.c.	Write down the step by step process of Naïve Bayes algorithm and comparing the performance result with Zero R algorithm with neat sketches**. [Application]**	**(CO3)**	**(10 Marks)**
	or		
6.a.	List out any four clustering issues in Larger dataset? **[Knowledge]**	**(CO3)**	**(04 Marks)**
6.b.	Explain the clustering issues in larger data set with neat sketches. **[Comprehension]**	**(CO3)**	**(06 Marks)**
6.c.	Demonstrate classification rule process on dataset student. arff using j48 algorithm with step by step process **[Application]**	**(CO3)**	**(10 Marks)**
7.a	How does AI works? **[Knowledge]**	**(CO4)**	**(04 Marks)**
7.b.	Describe the single neuron structure with neat sketches **[Comprehension]**	**(CO4)**	**(06 Marks)**

7.c	Discuss in detail about Resource Description Framework (RDF) with neat sketches **[Application]**	**(CO4)**	**(10 Marks)**
	or		
8.a	What is meant by perceptron? **[Knowledge]**	**(CO4)**	**(04 Marks)**
8.b.	Discuss the multilayer perceptron with neat sketches **[Comprehension]**	**(CO4)**	**(06 Marks)**
8.c	What is meant by reasoning? Analyse the various types with examples **[Application]**	**(CO4)**	**(10 Marks)**
9.a	Discuss about WEKA Tool **[Knowledge]**	**(CO5)**	**(04 Marks)**
9.b	Calculate the output of the single neuron with following input data and weight values, along with the bias value. The input data includes X1=0.5, X2=0.3, X3=0.9, X4=0.7, and X5=1.0, while the corresponding weight values are W1=1, W2=2, W3=3, W4=4, and W5=6. The bias value is 3.0. **[Comprehension]**	**(CO5)**	**(06 Marks)**
9.c	Write down the steps to be followed in building and training a multi-layer perceptron. Additionally, provide a sample output diagram illustrating MLP architectures with 4, 6, 8, and 12 hidden layers, along with a step-by-step explanation of the process using WEKA tool. **[Application]**	**(CO5)**	**(10 Marks)**
	or		
10.a	What is the use of knowledge flow interfaces in WEKA tool **[Knowledge]**	**(CO5)**	**(04 Marks)**
10.b	Compare and classify the rule based classification and Naïve bayes classification for automatic categorization of emails and spam filtering. **[Comprehension]**	**(CO5)**	**(06 Marks)**
10.c	Demonstrate the knowledge flow interfaces with the J48(Classification)algorithm by using the iris dataset in the Weka tool. Write down the twenty steps to be followed in the classification with 10.b) sample outputs. **[Application]**	**(CO5)**	**(10 Marks)**