Time:60mts　　　　　(Common to all branches)　　　　　Max marks: 25

I. Choose and write the correct answer, each carry one marks　　　　(1 x 10 = 10)

1) Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?
　　A) 25200　　　B) 52000　　　C) 120　　　D) 24400

2) In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?
　　A) 720　　　B) 520　　　C) 700　　　D) 750

3) A committee of 5 persons is to be formed from 6 men and 4 women. In how many ways can this be done when at least 2 women are included?
　　A) 196　　　B) 186　　　C) 190　　　D) 200

4) How many arrangements can be made out of the letters of the word COMMITTEE, taken all at a time, such that the four vowels do not come together?
　　A) 216　　　B) 45360　　　C) 1260　D) 43200

5) If the cost price of 12 pens is equal to the selling price of 8 pens, the gain percent is ?
　　A) 12% B) 30% C) 50% D) 60%

6) Raman's salary was decreased by 50% and subsequently increased by 50%, how much percent does he lose?
　　A)0%　　　b)20%　　　c)25%　　　d)30%

7) A milkman purchases the milk at Rs. x per litre and sells it at Rs. 2x per litre still he mixes 2 litres water with every 6 litres of pure milk. What is the profit percentage?
　　A) 116%　　　B) 166.66%　　　C) 60%　　　D) 100%

8) Cost of 3 cricket balls = cost of 2 pairs of leg pads. Cost of 3 pairs of leg pads = cost of 2 pairs of gloves. Cost of 3 pairs of gloves = cost of 2 cricket bats. If a cricket bat costs Rs 54, what is the cost of a cricket ball.
　　A) Rs 12　　　B) Rs 16　　　C) Rs 14　　　D) Rs 18

9) A grocer has a sale of Rs 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs, 6500?
　　A) 4991　　　B) 5467　C) 5987　D) 6453

10) Statements - All windows are doors. No door is wall
　　Conclusions: 1. No window is wall.　　2. No Wall is door
　　A) Only 1 follows　　B) Only 2 follows　C) Either 1 or 2 follows　　D) Both 1 and 2 follow

II. Answer the following questions :　　　　　　　(5×3=15 marks)
1) If selling price is doubled, the profit triples. Find the profit percent?
2) By selling 45 lemons for Rs 40, a man loses 20%. How many should he sell for Rs 24 to gain 20% in the transaction?
3) A college has 10 basketball players. A 5-member team and a captain will be selected out of these 10 players. How many different selections can be made?
4) The average of runs of a cricket player of 10 innings was 32. How many runs must he make in his next innings so as to increase his average of runs by 4?
5) A batsman makes a score of 87 runs in the 17th inning and thus increases his average by 3. Find his average after 17th inning?

SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMAKURU

(A Constituent College of Sri Siddhartha Academy of Higher Education)

SIXTH SEMESTER B.E SECOND TEST- JUNE-2023

SK6DP4- SKILL DEVELOPMENT -IV (APTITUDE SKILLS)

Time:60 minutes   Max marks: 25

_____

I. Choose the correct answer, each carry one marks (1 x 10 = 10)

1) The total age of A and B is 12 years more than the total age of B and C. C is how many years younger than A ?

A) 12   B) 13   C) 14   D) 15

2) The sum of the present ages of a father and his son is 60 years. five years ago, father's age was four times the age of the son. so now the son's age will be:

A) 5   B) 10   C) 15   D) 20

3) The compounded ratio of (2 : 3), (6: 11) and (11 :2) is

A) 1:2   B) 2:1   C) 11:24   D) 36:121

4) The salaries of A, B, and C are in the ratio of 1 : 2 : 3. The salary of B and C together is Rs. 6000. By what percent is the salary of C more than that of A?

A) 100 %   B) 200%   C) 300%   D) 600%

5) In a zoo, there are rabbits and pigeons. If heads are counted, there are 340 heads and if legs are counted there are 1060 legs. How many pigeons are there?

A) 120   B) 150   C) 170   D) 180

6) In a certain code, MONKEY is written as XDJMNL. How is TIGER written in that code ?

A) SHFDQ   B) HFDSQ   C) RSAFD   D) QDFHS

7) If FRIEND is coded as HUMJTK, how is CANDLE written in that code ?

A) EDRIRL   B) DCQHQK   C) ESJFME   D) DEQJQM

8) If Z= 2197 and R= 729. How would J be written in that code?

A) 216   B) 124   C) 512   D) 125

9) If each side of a square is increased by 25%, find the percentage change in its area?

A) 65.25   B) 56.25   C) 65   D) 56

10) If the diagonal of a rectangle is 17cm long and its perimeter is 46 cm. Find the area of the rectangle.

A) 110   B) 120   C) 130   D) 140

SRI SIDDHARTH INSTITUTE OF TECHNOLOGY, TUMKUR

(A constituent college of Sri Siddhartha Academy of Higher Education, Tumakuru)

IS6TH1: Web Technologies

Date:08/06/2023   **TEST-1**   Time:1.00Hr

Max Marks: 30

Answer all the questions

		M	C	B
1.	What is HTML? Explain the structure of HTML document with an example.	6	1	2
2.	Write the syntax of the following HTML tags with examples: <p>, <pre> and <code>	6	1	2
3.	Discuss the syntactic differences between HTML and XHTML.	6	1	2
4.	Write a java script code that displays text "Dept of ISE" with increasing font size in the interval of 50 ms in blue color, when the font size reaches 50 pt in red color and should stop.	6	4	3
5.	Explain how primitive data types, numbers and strings are used in JavaScript.	6	2	2

NOTE: M is marks, C is CO and B is Blooms level

SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMAKURU

(A constituent college of Sri Siddhartha Academy of Higher Education, Tumakuru)

IS6TH2: SOFTWARE ENGINEERING AND SOFTWARE TESTING

Date:08/06/2023   **TEST 1**

Time:1.00Hr

Max Marks: 30

Answer all the questions

		M	C	B
1.	Explain the umbrella activities of software engineering process.	6	1	2
2.	Define process flow. Illustrate the types of process flow with suitable diagram.	6	1	2
3.	Illustrate two types of evolutionary process model.	6	2	2
4.	Outline the working of Scrum agile model.	6	2	2
5.	Explain any 6 distinct tasks of Requirements engineering.	6	1	2

NOTE: M is marks, C is CO and B is Blooms level

SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMKURU

(A constituent college of Sri Siddhartha Academy of Higher Education, Tumakuru)

IS6TH3: Machine Learning Techniques

Date:09/06/2023   **TEST 1**   Time:1.00Hr

Note: Answer all the questions.   Max.Marks:30

		M	C	B
1	Define Machine Learning? Explain the different types of Machine Learning techniques with examples.	6	1	2
2	List out the difficulties addressed with available sources of data set, Explain in detail with examples.	6	1	2
3	Consider the Car Theft Data Set. Make use of Naïve-Bayes classifier to determine a Red Domestic SUV Car whether it is stolen or not.	6	3	3

Example No.	Color	Type	Origin	Stolen?
1	Red	Sports	Domestic	Yes
2	Red	Sports	Domestic	No
3	Red	Sports	Domestic	Yes
4	Yellow	Sports	Domestic	No
5	Yellow	Sports	Imported	Yes
6	Yellow	SUV	Imported	No
7	Yellow	SUV	Imported	Yes
8	Yellow	SUV	Domestic	No
9	Red	SUV	Imported	No
10	Red	Sports	Imported	Yes

		M	C	B
4	Write an algorithm for classification with the Naïve-Bayes principle.	6	1	2
5	Express the Gaussian Bell Function mathematically and explain the significance of each parameter in the formula.	6	1	2

NOTE: M is marks, C is Course Outcomes and B is Blooms level.

Date: 9-6-2023 **TEST 1** Max. Marks - 30

Time: 1.00 Hr

Answer all the questions.

		M	C	B
1	Define Big Data. Explain the Evolution of Big Data and their characteristics.	6	1	2
2	Differentiate between Population variance v/s Sample variance.	6	2	2
3	Discuss the importance of big data analytics.	6	1	2
4	Explain correlation and describe the impact of outlier on correlation.	6	2	2
5	List and explain the various challenges faced in big data in detail.	6	1	2

NOTE: M is marks, C is CO and B is Blooms level

SRI SIDDHARTH INSTITUTE OF TECHNOLOGY, TUMKUR

(A constituent college of Sri Siddhartha Academy of Higher Education, Tumakuru)

IS6TH1: Web Technologies

Date:19/06/2023   **TEST-2**   Time:1.00Hr

Max Marks: 30

Answer all the questions

		M	C	B
1.	Explain the use of alter, prompt and confirm methods in JavaScript.	6	2	2
2.	Write a JavaScript code to illustrate the use of date object by displaying the parts of a current date using two date objects to time a calculation.	6	4	3
3.	Write an HTML document to provide a form that collects phone number. The phone number must be in the form **ddd-ddd-dddd.** Write a JavaScript that checks the submitted Telephone number to be sure that it conforms to the required formats and then return a response indicating whether the number was correct.	6	3	3
4.	Explain Document Object Model? Demonstrate Document Object Model structure with an example.	6	3	2
5.	Discuss the advantage of JSON over XML with an example.	6	3	2

NOTE: M is marks, C is CO and B is Blooms level

Sri Siddhartha Institute of Technology, Tumakuru.
(A constituent college of Sri Siddhartha Academy of Higher Education, Tumkur)

IS6TH2: SOFTWARE ENGINERRING AND SOFTWARE TESTING

Date: 19/06/2023   **TEST 2**   Time: 01.00 Hr.

Answer all the questions: **Max Marks: 30**

		M	C	B
1	List requirement modeling approaches. Explain Scenario based modeling.	6	2	2
2	Design a Swim-lane diagram for access camera surveillance via the internet- display camera view function.	6	2	6
3	Analyze the process of translating a requirement model into a design model, incorporating a diagram to illustrate the key steps and components involved.	6	2	4
4	Design a diagram illustrating the process of data-centered architecture and explain its key components and processes.	6	3	3
5	Design an activity diagram for ATM functionality.	6	3	3

NOTE: M is marks, C is CO and B is Blooms level

IS6TH3: Machine Learning Techniques

Date:20/06/2023   **TEST 2**   Time:1.00Hr

Note: Answer all the questions.

Max.Marks:30

	M	C	B

1   Write down the distance formula for domains where examples are described by a mixture of continuous and discrete attributes. Using the following training set determine the class of object x=[2,4,2]   **6 3 3**

      Ex1 {[1, 3, 1], POS}
      Ex1 {[3, 5, 2], POS}
      Ex1 {[3, 2, 2], NEG}
      Ex1 {[5, 2, 3], NEG}.

2   What are Tomek Links? With an algorithm explain the identification and removal of Tomek Links.   **6 1 2**

3   With equations, explain the logical functions of linear classifier.   **6 3 2**

4   Write the pseudo code for the perceptron learning algorithm in linear classifier.   **6 1 2**

5   Consider the below table. Apply the master classifier to label the given example:X=(x1,x2,x3,x4)=(1,1,1,0).   **6 3 3**

Class	Classifier				
	w_0	w_1	w_2	w_3	w_4
C_1	−1.5	1	0.5	−1	−5
C_2	0.5	1.5	−1	3	1
C_3	1	−2	4	−1	0.5
C_4	−2	1	1	−3	−1

NOTE: M is marks, C is Course Outcomes and B is Blooms level.

Date: 20/6/2023　　　　　　　　TEST 2　　　　　　　Time: 1.00 Hr

Max. Marks : 30

Answer all the questions.

#	Question	M	C	B
1	How are bias / variance trade offs related to under fit and over fitting?	6	1	2
2	Explain reinforcement with a suitable example.	6	2	2
3	With a neat diagram describe hive integration and work flow steps.	6	1	2
4	Explain with a neat diagram Hadoop main components and ecosystem components.	6	2	2
5	List and explain the pros and cons of distribution using sharding.	6	1	2

NOTE: M is marks, C is CO and B is Blooms level

SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMKUR

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IS6TH1:Web Technologies

Date:06/07/2023 TEST3 Time:1.00Hr

Max. Marks: 20

Answer all the questions

	M	C	B
1. Describe any five key principles of good Ajax applications.	5	2	2
2. How to keep yourself up to date about the recent developments and resources of Bootstrap.	5	2	1
3. Write an index.html page that works for bootstrap and Popper.	5	4	3
4. Explain the following break point with code snippets. a) min-width. b) Single breakpoint.	5	2	2

NOTE: M is marks, C is CO and B is Blooms level

Sri Siddhartha Institute of Technology, Tumakuru.

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IS6TH2: SOFTWARE ENGINEERING AND SOFTWARE TESTING

Date:06/07/2023   **TEST 3**

Time:1.00Hr

Answer all the questions   Max Marks: 20

		M	C	B
1.	Define the following	5	3	2
	i. Error ii. Fault iii. Failure iv. Incident v. Test case.			
2.	Explain, how different approaches can be employed to identify test cases effectively.	5	4	2
3.	Discuss Fault Taxonomies with suitable examples.	5	3	2
4.	Write a flowchart for traditional triangle program implementation.	5	4	2

NOTE: M is marks, C is CO and B is Blooms level

SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMKURU

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IS6TH3: Machine Learning Techniques
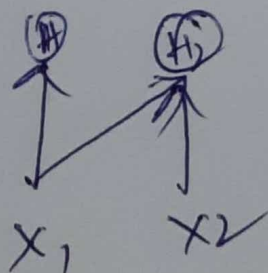
Date:07/07/2023   **TEST 3**   Time:1.00Hr

Note: Answer all the questions.   **Max.Marks:20**

		M	C	B
1	Illustrate the main drawback of the gradient descent approach when adopted by multilayer perceptron training. Discuss the techniques to overcome the same.	5	2	2
2	Write a pseudocode for Backpropagation of error in neural network with one hidden layer.	5	1	2
3	For the following confusion matrix find out Precision, Recall and Accuracy.	5	3	3

	Labels returned by the classifier	
	pos	neg
True labels: pos	20	50
neg	30	900

4   Apply the forward propagation for the multilayer   5   3   3
perceptron by considering the following parameters to
calculate the network outputs y1 and y2.
$X = (x1, x2) = (0.3, 0.6)$
w1=-1.0 (x1->h1), w2=0.5 (x1->h2), w3=0.3(x2->h1),
w4=0.4(x2->h2)
w5=-0.6 (h1->y1), w6=-0.5 (h1->y2), w7=0.9(h2->y1),
w8=-0.3(h2->y2).

X_1 X_2

NOTE: M is marks, C is Course Outcomes and B is Blooms level.

IS6PE43: Data Science and Analytics

Date: 07/07/2023   **TEST 3**   Time: 1.00 Hr

Max.Marks :20

Answer all the questions.

		M	C	B
1	Explain the concept of Matplotlib with an example.	5	4	2
2	Explain pandas with its capabilities.	5	4	2
3	Differentiate between univariate, bivariate and multivariate analysis.	5	3	2
4	Explain the following i. Scipy ii. Jupyter.	5	2	2

NOTE: M is marks, C is CO and B is Blooms level