

School of Computer Science Engineering and Information Systems

Winter Semester 2023-2024

Continuous Assessment Test – I

Programme Name & Branch : B.Tech & IT

Course Name & code: MACHINE LEARNING & BITE410L

Class Number : VL2023240503808

Faculty Name : Dr. USHA DEVI G

Exam Duration: 90 Min.

Maximum Marks: 50

General instruction(s):

Q.No	Question	Max Mark s	C O	B L																					
1.	The type of learning algorithm used in model will also affect the performance. Justify the statement with suitable example.	10	1	2																					
2.	The error values of two hypotheses are given as {0.08, 0.02, 0.04, 0.03,0.09,0.07} and {0.051,0.062,0.032,0.044,0.083,0.073}. The approximation error is 0.05 and the confidence level is 0.2. Verify that the given two hypotheses are probably approximately correct. Justify your answers.	10	1	4																					
3.	Apply unsupervised and reinforcement learning algorithms in a real-time scenario use cases with its merits and demerits.	10	1	2																					
4.	Evaluate the Principal Components (PC) of the following two-dimensional input dataset: <table border="1"><thead><tr><th>Feature</th><th>S1</th><th>S2</th><th>S3</th><th>S4</th><th>S5</th><th>S6</th></tr></thead><tbody><tr><td>a</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>b</td><td>1</td><td>5</td><td>3</td><td>6</td><td>7</td><td>8</td></tr></tbody></table> and draw the coordinate system for the computed PCs.	Feature	S1	S2	S3	S4	S5	S6	a	2	3	4	5	6	7	b	1	5	3	6	7	8	15	2	5
Feature	S1	S2	S3	S4	S5	S6																			
a	2	3	4	5	6	7																			
b	1	5	3	6	7	8																			
5.	How for Feature selection is different from Feature Extraction? Give suitable examples.	5	2	2																					