Student Name: **University Roll No.:**	**Printed Pages: 1-1**
School of Engineering **First Theory Sessional Examination** **Even Semester (AS: 2024-25)** **B. Tech: CSE(AI)** **[Year: IInd] [Semester: IV]**	
Course Title: Concepts of Machine Learning with Python **Course Code: NAI4401**	**Max Marks: 30** **Time: 1*hrs***

Instructions: 1-Mention any assumptions made.
2-Notations have usual meaning.

SECTION 'A' **Q.N.1. Attempt all parts of the following:**		**Course Objective**	**Marks**
a)	Which type of learning requires labeled data for training?	**CO1**	**1**
b)	What is the main purpose of reinforcement learning?	**CO1**	**1**
c)	Explain the evaluation metrics of classification task for evaluating the performance of machine learning Experiments.	**CO1**	**1**
d)	What is finite and infinite hypothesis?	**CO1**	**1**
e)	What is machine learning?	**CO2**	**1**
SECTION 'B' **Q.N.2. Attempt any two parts of the following:**		**Course Objective**	**Marks**
a)	What is the difference between supervised, unsupervised, and reinforcement learning?	**CO1**	**7.5**
b)	List the perspectives and issues in machine learning. Explain in detail.	**CO1**	**7.5**
c)	What are the essential Python libraries used for machine learning? Explain their key functions with examples.	**CO2**	**7.5**

SECTION 'C' Q.N.3. Attempt any one parts of the following:		Course Objective	Marks
a)	Explain PAC learning with mathematical and graphical expression.	CO2	10
b)	Explain the concept of VC dimension in details.	CO1	10
c)	Explain the state-of-art applications of machine learning.	CO1	10

12.03.2

Table 1: Mapping between COs and questions

COs	Questions Numbers	Total Marks
CO1	1(a), 1(b), 1(c), 1(d), 2(a), 2(b), 3(c).	39
CO2	1(e), 3(a), 3(b)	18.5