Name: **Enrolment No:**	

UPES

End Semester Examination, May 2024

Course: Artificial Intelligence and Machine Learning in Health Care

Semester: II

Program: M.Sc. (Micro+ N&D) **Duration: 3 Hours**

Course Code: CSAI7009 **Max. Marks: 100**

Instructions: Read Questions Carefully

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q1	How do you execute a Python script from the command line? A) python filename.py B) execute python C) run script D) python run	**1.5**	**CO3**
Q2	Which function is used to take input from the user in Python? A) input() B) scanf() C) cin>> D) read()	**1.5**	**CO1**
Q3	Which of the following is not a core data type in Python? A) Lists B) Arrays C) Dictionaries D) Tuples	**1.5**	**CO2**
Q4	Which of these is an immutable type? A) List B) Dictionary C) Set D) Tuple	**1.5**	**CO2**

Q5	Which function converts a string to an integer? A) int() B) strToInt() C) convertToInt() D) toInteger()	**1.5**	**CO2**
Q6	How would you convert an input string to a float in Python? A) float(input()) B) toFloat(input()) C) input().toFloat() D) convert(input(), 'float')	**1.5**	**CO1**
Q7	Which operator is used for floor division in Python? A) / B) // C) % D) **	**1.5**	**CO5**
Q8	What does the following statement do? x = 5 A) Compares x to 5 B) Assigns the value 5 to x C) Multiplies x by 5 D) Divides x by 5	**1.5**	**CO2**
Q9	How can you simultaneously assign 3 to a and 4 to b in Python? A) a, b = 3, 4 B) a = 3; b = 4 C) a == 3 && b == 4 D) set(a=3, b=4)	**1.5**	**CO1**
Q10	Which statement is used to execute a block of code only if a specified condition is true? A) for B) while C) if D) switch	**1.5**	**CO3**
Q11	Which loop is used to iterate over a sequence (like a list, tuple, dictionary, set, or string)? A) for B) while C) repeat until D) loop	**1.5**	**CO3**
Q12	What type of function argument is preceded by an asterisk (*) in Python? A) Keyword argument	**1.5**	**CO2**

	B) Required argument C) Arbitrary positional argument D) Default argument		
Q13	How do you concatenate two strings in Python? A) With the + operator B) With the & operator C) With the .concat() method D) With the append() method	**1.5**	**CO2**
Q14	What will s[1] return if s = 'Python'? A) 'P' B) 'y' C) 't' D) 'h'	**1.5**	**CO3**
Q15	What does s[1:4] return if s = 'Python'? A) 'yth' B) 'yto' C) 'ytho' D) 'pyt'	**1.5**	**CO3**
Q16	Which of the following is correct syntax to create a tuple in Python? A) tuple = 1, 2, 3 B) tuple = [1, 2, 3] C) tuple = (1, 2, 3) D) tuple = {1, 2, 3}	**1.5**	**CO4**
Q17	How do you add an item to the end of a list named myList? A) myList.append(item) B) myList.add(item) C) myList.insert(item) D) myList.put(item)	**1.5**	**CO5**
Q18	What is a unique characteristic of a set in Python? A) Ordered B) Mutable C) Allows duplicate elements D) Unordered and no duplicate elements	**1.5**	**CO5**

Q19	How do you access the value associated with the key 'name' in a dictionary named myDict? A) myDict['name'] B) myDict.get('name') C) myDict(name) D) myDict->name	**1.5**	**CO5**
Q20	*Which mode opens a file for reading in Python?* *A) 'r'* *B) 'w'* *C) 'a'* *D) 'x'*	**1.5**	**CO4**
	Section B **(4Qx5M=20 Marks)**		
Q 1	What are the different modes of AI, and how do they differ in terms of capabilities and applications?	**5** (2+3)	**CO4**
Q2	List and explain at least five areas where Artificial Intelligence is currently applied, providing examples of how AI is utilized in each area.	**5**	**CO2**
Q3	Why is data considered crucial in the development and functioning of AI systems? Discuss the relationship between data quality and AI effectiveness	**5** (2+3)	**CO1**
Q4	Write a Python program that asks the user to enter their name and prints a greeting message including their name.	**5** (3+2)	**CO2**
	Section C **(2Qx15M=30 Marks)**		
Q1	(a) Develop a Python script that asks the user for a number and checks whether the number is even or odd, printing an appropriate message. (b) Describe a Python Program ,Ask the user to enter a temperature in Celsius and convert it to Fahrenheit. Print the result. (Formula: **`(Celsius * 9/5) + 32 = Fahrenheit`**). (c) Write a Python script that prints all numbers from 1 to 10 using a **`for`** loop.	**15** **(5+5+5)**	**CO5**

Q2	Define machine learning and explain how it differs from traditional programming. What are the basic principles that guide machine learning algorithms to learn from data?	**15**	**CO4**
Section D **(2Qx10M=20 Marks)**			
Q1	Discuss the Difference between Supervised Learning and Unsupervised Learning with an appropriate Example.	**10**	**CO1**
Q 2	Describe at least three real-world applications of machine learning. How do these applications impact everyday life or business operations? Provide examples of how machine learning is integrated into systems that people interact with daily	**10**	**CO3**