

Code No: R22A6602

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Regular Examinations, November 2024**Machine Learning**

(CSE-AIML & B.Tech-AIML)

Roll No									

Time: 3 hours**Max. Marks: 60****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 10 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

<u>PART-A (10 Marks)</u>			BCLL	CO(s)	Marks
<u>(Write all answers of this part at one place)</u>					
1	A	What are different types of machine learning systems.	L1	CO-I	[1M]
	B	Differentiate supervised learning and unsupervised learning.	L4	CO-I	[1M]
	C	Compare classification with regression with an example.	L2	CO-II	[1M]
	D	What is entropy?	L1	CO-II	[1M]
	E	What is activation function?	L1	CO-III	[1M]
	F	Write the formulae of F- score.	L1	CO-III	[1M]
	G	What is bias?	L1	CO-IV	[1M]
	H	Why do we need ensemble models?	L1	CO-IV	[1M]
	I	What is k in k-means clustering?	L1	CO-V	[1M]
	J	What is a reward in reinforcement learning?	L1	CO-V	[1M]
<u>PART-B (50 Marks)</u>					
<u>SECTION-I</u>					
2	A	Distinguish between supervised learning and Reinforcement learning. Illustrate with an example.	L4	CO-I	[5M]
	B	Explain the procedure for the computation of the principal components of the data.	L2	CO-I	[5M]
OR					
3	A	Explain feature selection methods.	L2	CO-I	[5M]
	B	Discuss linear discriminant analysis.	L6	CO-I	[5M]
<u>SECTION-II</u>					
4	A	Elucidate linear regression and multiple linear regression.	L6	CO-II	[5M]
	B	What is decision tree? Explain the procedure to construct decision tree.	L1	CO-II	[5M]
OR					
5	A	Write about Naive Bayes classifiers Vs SVM in Text classification.	L1	CO-II	[5M]
	B	Write a shot note of various distance-based methods of	L1	CO-II	[5M]

classification / regression

SECTION-III

- 6 A Write a short note on multi-layer networks and back propagation. L1 CO-III [5M]
B Illustrate with an example to elucidate confusion matrix. L2 CO-III [5M]
OR
7 A Differentiate precision and recall. L4 CO-III [5M]
B Describe the characteristics of back propagation algorithm. L6 CO-III [5M]

SECTION-IV

- 8 A Explain the various methods to perform cross validation. L2 CO-IV [5M]
B Discuss with an example the need for regularization. L6 CO-IV [5M]
OR
9 A Explain leave-one-out cross validation L2 CO-IV [5M]
B Discuss ensemble methods and differentiate them. L6 CO-IV [5M]

SECTION-V

- 10 A What is Q function? Write an algorithm for learning Q. L1 CO-V [5M]
B Write down the major differences between K-means clustering and K-modes clustering. L2 CO-V [5M]
OR
11 A Discuss non-associative learning. L6 CO-V [5M]
B Differentiate between bagging, boosting and voting. L4 CO-V [5M]
