[7M]

Code No: **R20A6701** 

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## MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

## III B.Tech I Semester Supplementary Examinations, June/July 2024 Introduction to Data Science

(B.Tech-AIML)											
Roll No											

Time: 3 hours

Max. Marks: 70

**Note:** This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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What is data science? Explain the Data Science Ecosystem Installation.

## **SECTION-I**

-	В	Analyza the Junyster Notehook Environment in Data Science	[/1 <b>/1</b> ]
	В	Analyze the Jupyter Notebook Environment in Data Science.  OR	[7M]
2	A	Why Sorting is important in Data Science? Explain.	[7M]
4	B	Explain plot function in plotting of data frame.	[7M]
	Ь	SECTION-II	[/1/1]
3	A	Why Data Preparation is important. Explain the common steps by choosing	[7M]
3	A	the Adult example.	[/1/1]
	В	Explain Quantiles and Percentiles with neat graphs.	[7M]
	Ь	OR	[/1/1]
4	A	Demonstrate Testing Hypotheses Using p-Values.	[ <b>7M</b> ]
7			
	В	Test the following hypothesis:	[ <b>7M</b> ]
		Given a population with a finite mean $\mu$ and a finite non-zero variance $\sigma$ 2,	
		the sampling distribution of the mean approaches a normal distribution with	
		a mean of $\mu$ and a variance of $\sigma$ 2 /n as n, the sample size, increases.	
5	A	SECTION-III  Derive the confusion matrix.	[7M]
3	B	Define Learning? Interpret the learning curves with neat diagram.	[7M]
	В	OR	[/1/1]
6	A	Summarise the Generalities Concerning Learning Models.	[7M]
U	B	Define histograms and explain the Scattar plots	[7M]
	Ъ	SECTION-IV	[/141]
7	A	Compare Multiple Linear Regression and Polynomial Regression.	[ <b>7M</b> ]
,	B	Analyze the Prediction of the Price of a New Housing Market.	[7M]
	D	OR	[/1/1]
8	A	Derive the expression for the Logistic Regression.	[ <b>7M</b> ]
O	В	Define Good Clustering? List the Metrics to Measure Clustering Quality.	[7M]
		SECTION-V	[/1/1]
9	A	What is a graph? List the different types of graphs.	[ <b>7M</b> ]
	В	Identify the basics in a Network. Explain.	[7M]
	_	OR	LJ
10	A	Define Centrality. Analyze the Star graph for face book data set.	[ <b>7M</b> ]
•	В	Implement the Louvain method for community detection with Facebook	[7M]
		Network.	- 1