Mahavir Education Trust's

SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE

Chembur, Mumbai - 400 088

UG Program in Artificial Intelligence and Data Science

Course Code	CSC601	**Course Name**	Data Analytics and Visualization
Academic Year	2022-23	**Semester**	VI
Class	TE	**Course Incharge**	Tina Maru

Course Outcomes (CO)

CO No.	**CO Statement** (At the end of the course, students will be able to …)	**BL**
1	Comprehend basics of data analytics and visualization.	2
2	Apply various regression models on given data set and perform prediction.	4
3	Demonstrate advance understanding of Time series concepts and analysis of data using various time series models.	4
4	Analyze Text data and gain insights.	4
5	Experiment with different analytics techniques and visualization using R.	4
6	Experiment with different analytics techniques and visualization using Python.	4

Assignment-1

Date: **SubmissionDate:**

Q. No.	**Question**	**Marks**	**BL**	**CO**	**PSO**	**PI**
1	Explain for one case study how Data Analytics Life Cycle will be implemented.	5	3	1	1	1.3.1, 1.4.1, 2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.2.3, 12.1.1, 12.2.1, 12.2.2, 12.3.1
2	Describe how logistic regression can be used as a classifier. Discuss how the ROC curvecan be used to determine an appropriate threshold valuefor a classifier.	5	3	2	1,2	2.3.1, 2.3.2, 2.4.1, 2.4.2, 2.4.3, 2.4.4, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 3.1.6, 4.1.1, 4.1.2, 4.1.3, 5.1.1, 5.1.2, 5.2.1, 5.2.2, 6.1.1, 7.1.2, 8.2.2, 12.1.1, 12.2.1, 12.2.2, 12.3.1
3	Evaluate the following dataset to fit multiple linear regression model.	5	4	2	1,2,3	2.4.1, 2.4.2, 2.4.3, 2.4.4, 3.2.1, 3.2.2, 3.3.1, 3.3.2, 4.2.1, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 5.2.2, 5.3.1, 5.3.2, 10.1.1, 10.1.2, 10.3.1, 10.3.2, 11.3.1, 12.2.1, 12.2.2, 12.3.1

Y	X1	X2
140	60	22
155	62	25
159	67	24
179	70	20
192	71	15
200	72	14

	212 | 75 | 14 215 | 78 | 11						
4	Fit an appropriate ARIMA model on the following datasets included in R. Provide supporting evidence on why the fitted model was selected, and forecast the time series for 12 time periods ahead.1. faithful: Waiting times (in minutes) between Old Faithful geyser eruptions 2.JohnsonJohnson: Quarterly earnings per J&J share	5	4	3	1,2	1.1.1, 1.1.2, 1.3.1, 1.4.1, 2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.2.5, 2.3.1, 2.3.2, 2.4.1, 2.4.2, 2.4.3, 2.4.4, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 3.1.6, 3.2.1, 3.2.2, 3.3.1, 3.3.2, 4.1.1, 4.1.2, 4.1.3, 4.2.1, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 5.1.1, 5.1.2, 5.2.1, 5.2.2, 5.3.1, 5.3.2, 6.1.1, 7.1.2, 8.2.2, 10.1.1, 10.1.2, 10.3.1, 10.3.2, 11.3.1, 12.1.1, 12.2.1, 12.2.2, 12.3.1

Name: **Signature:**
Date: