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| <b>Semester: August 2021 – December 2021</b>   |   |   |
| <b>Examination: ESE Examination (RE-EXAM)</b>  |   |   |
| <b>Programme code: 54</b><br><b>Programme: B.TECH</b>  | <b>Class: SY</b>                              | <b>Semester: III</b><br><b>(SVU 2020)</b> |
| <b>Name of the Constituent College:</b><br><b>K. J. Somaiya College of Engineering</b>   | <b>Name of the Department</b><br><b>COMP</b>  |   |
| <b>Course Code:</b><br>116H54C301  | <b>Name of the Course:</b> Data Visualization |   |
| <b>Duration : 1 Hour 45 Minutes (15 minutes extra for uploading )</b>  | <b>Maximum Marks : 50</b>                     |   |
| <b>Instructions:</b><br>1) Solve problems on Tableau<br>2) Assume suitable data if necessary<br>3) Apply all Visualization Principles.<br>4) Put screenshot of the results in the word file and write the interpretation (wherever required / asked) |   |   |

| Question No. |  | Max Marks                   |
|--------------|--|-----------------------------|
| Q1           | <p>Consider the dataset of “COURSERA”, link to the dataset is given below:</p> <p><a href="https://drive.google.com/file/d/1aCm0bo_xrRw1CledPKcpRoMfDcXAUeBg/view?usp=sharing">https://drive.google.com/file/d/1aCm0bo_xrRw1CledPKcpRoMfDcXAUeBg/view?usp=sharing</a></p> <p>With respect to the above mentioned dataset, attempt the following questions:</p> <p>a. Extract the data from the given google sheet and perform preprocessing (if required).</p> <p>b. Use any of the two visualization methods to depict the relation between difficulty level of the course and number of students enrolled. Interpret the results in your own words.</p> <p>c. Generate a dashboard to relate number of students enrolled for different type of courses offered by different organizations having different difficulty levels. Interpret the results in your own words. Apply proper design principles.</p> | <p>4</p> <p>10</p> <p>6</p> |
| Q2           | <p>Consider the dataset of “Property Stolen and Recovered”, link to the dataset is given below:</p> <p><a href="https://drive.google.com/file/d/19vmHeahlSixlFF5jOJYNxZFs2TyIgHWN/view?usp=sharing">https://drive.google.com/file/d/19vmHeahlSixlFF5jOJYNxZFs2TyIgHWN/view?usp=sharing</a></p> <p>With respect to the above mentioned dataset, attempt the following questions:</p>  |                             |

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|  | a. Perform Time series analysis using Additive model and Multiplicative Model.  | 8  |
|  | b. Interpret and compare the results using both models.   | 4  |
|  | OR  |    |
|  | a. Generate Choropleth Map for the given dataset to show the total cost of stolen property with respect to years for every state. Use Orange Color, and add label.              | 6  |
|  | b. Generate Heat Map for showing the states having good property recovery as compared to property stolen. Use seven colors and label with state name.                           | 6  |
|  | c. Perform story telling with 5-8 slides interpreting the given dataset. Write in brief about the story.  | 10 |
|  | d. Apply Lollipop Chart on Property stolen cases and property recovered cases.  | 4  |
|  | OR  |    |
|  | d. Perform Likert Visualizations using the given dataset to show the total number of Property stolen cases and property recovered cases for every state. with respect to years. | 4  |
|  | e. Create word cloud for the states based on the cost of recovered properties. Interpret the results.   | 4  |