**QUESTIONNAIRE - Assessment 1**

**Task-Based on COVID-19 Dataset:**

1. Obtain the number of patients by taluka’s, occupation, education respectively.
2. Obtain the mean age of patients in each taluka. What is the distribution and shape of age? Plot appropriate graph and interpret.
3. Consider the following classification of COVID-19.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Mild COVID-19 (All of the Following indications)** | **Moderate- COVID-19 (Any one of the following indication)** | **Severe COVID-19 (Any one of the following indication)** |
| Respiratory rate (R R) | Less than 24 bpm | 24 bpm – 30 bpm | More than 31 bpm |
| Pulse Oximeter (SpO2) | Greater than or equal 97 % | 92-96 % | Less than 92 % |
| Corona Symptoms | No difficulty in breathing | Fever (≥99 F) after day 5 of illness |  |
|  |  | Worsening Cough after day 5 of illness |  |

**Table 1: Stages of COVID-19**

Using the above classification obtain the taluka-wise prevalence of Mild, Moderate, and Severe COVID-19 cases.

1. Obtain the number of patients of appropriate age group-wise. Classify stages of COVID-19 ( see Table 1 )according to age group.
2. Is it possible to do a simple linear regression of the prevalence of COVID-19 on the mean age of patients of taluka. Explain
3. Visually and numerically determine the shape of the age, occupation, respiratory rate. Interpret.
4. Apply any three appropriate transformations to the data.
5. Choose four appropriate variables and do multivariate analysis. Justify the technique used.

**The dataset is provided in the sheet “data” of the attached excel file. The descriptions of the**

**variables are provided in the sheet “Description” of the same excel file.**

**QUESTIONNAIRE - Assessment 2**

**Answer the following questions :**

1. What are the types of variables?
2. Why is McNemar test?
3. When you use median, mean and mode?
4. Why p values are used in any test?
5. What are the assumptions of ANOVA?
6. When you use non-parametric test?
7. What is the non-parametric alternative for T-test?
8. What is the difference between association and correlation?
9. To perform linear regression what needs to be satisfied?
10. What are the different techniques that be can used for categorical regression.?
11. What is meta analysis? What are the requirements for performing meta analysis and explain the analysis steps.

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