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MUSTUDENTS UNITED

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How to Score Well in the Applied Data Science Exam?

1. Explain the data science process in detail.
2. Explain SMOTE in detail.
3. Difference between data science and data analytics.
4. Explain the significance of Volume, Dimension and Complexity to Data Science Techniques.
5. Explain in brief the objectives of data exploration.
6. Explain Univariate and Multivariate Exploration.
7. What are Type I and Type –II errors?
8. Brief about ANOVA and its types. How it is different from a t-test?
9. What is Hypothesis testing? Explain the steps involved in Hypothesis testing with an example
10. Explain cross-validation, K-fold cross-validation, leave-1 out and Bootstrapping
11. What is data visualization? State the importance of Data visualization. State the purpose of scatter plots, quartile plots, bubble charts or density charts
12. Explain the DBSCAN algo to detect outliers. Give the advantages and disadvantages of the algo.
13. What are Outliers and their Causes? Ways to detect outliers.
14. Explain in brief the taxonomy of time series forecasting.
15. Explain the Auto Regressive Integrated Moving Average (ARIMA) model in detail
16. Describe how the predictive modelling can be applied to the House price prediction recommendation or Fraud detection.
17. What is anomaly detection? Explain the process of anomaly detection.

18. Describe how the time-series approach is useful for forecasting the demand for a product
19. Time series analysis using linear regression
20. What are Recommendation engines? Explain
21. Explain Smoothing methods in Time Series Forecasting
22. What are the attributes of time series decomposition? Explain the classical decomposition technique.

NUMERICALS (WATCH ALL THESE VIDEOS AND THEN PRACTICE QUESTIONS FROM PYQS)

1. Karl Pearson's Coefficient of Skewness (Numerical)
(<https://www.youtube.com/watch?v=AN7B4Cm0DoY>)
2. Bowley's Coefficient of Skewness (Numerical)
(<https://www.youtube.com/watch?v=24ImkXCGccY>
<https://www.youtube.com/watch?v=Z1srtzoZ5H0>)
3. Karl Pearson coefficient of correlation (Numerical)
(<https://www.youtube.com/watch?v=PWQsG0cU3Qc>)
4. T-tests (Numerical)
(<https://youtu.be/VPd8DOL13Iw?si=BLis7ksMwIM4PlrG>
<https://youtu.be/zD3VIBkwc-0?si=YjO-PPryAWCjIPeU>
<https://youtu.be/jyoO4i8yUag?si=z8Zk0Pj7AR25jJq3>)
5. Z-test (Numerical)
(<https://www.youtube.com/watch?v=BWJRsY-G8u0>)

Good luck!

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