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| **Time Series Analysis** | | |
| Total Marks: 30 | | |
| **Section A** | | |
| 1. | What is autocorrelation? | 2 marks |
| 2. | Explain seasonality. How is it different from cyclical variations? | 2 marks |
| 3. | What is MAPE? | 2 marks |
| 4. | What is a Random Walk Model? | 2 marks |
| **Section B** | | |
| 5. | What is ARIMA modelling? | 3 marks |
| 6. | What are the characteristics of a stationary time series? | 3 marks |
| 7. | Explain the concepts of AIC and BIC. | 3 marks |
| 8. | Read the petrol.csv dataset. Use Exponential smoothing method to forecast for the next 5 periods. | 3 marks |
| **Section C** | | |
| 10. | Choose the correct answer: -  1. Adjacent observations in time series data (excluding white noise) are independent and identically distributed (IID).  A) TRUE  B) FALSE  2. Fit an ARIMA Model, evaluate model’s accuracy and forecast for future.  Perform the analysis on Tractor Sales Data and forecast tractor sales for the next 3 quarters. | 7 marks |