Quiz 04

Due Jan 16, 2019 at 23:59 **Points** 10 **Questions** 10
Available Jan 14, 2019 at 11:00 - Jan 16, 2019 at 23:59 3 days
Time Limit 30 Minutes

Instructions

Quiz 04 covers the material in lectures 10 - 12 (pages 59 - 84 of the Course Notes)

This quiz is no longer available as the course has been concluded.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	21 minutes	9 out of 10

Score for this quiz: **9** out of 10
Submitted Jan 16, 2019 at 15:42
This attempt took 21 minutes.

Question 1

1 / 1 pts

Once we have plotted our data in a Time Series plot, we ...

- assess whether the data exhibits seasonality
- assess whether there is a random component in the data
- assess whether there is any evidence of autocorrelation in the data

Correct!

- assess whether a trend exists and if there is a trend, what type of trend it is

Question 2

1 / 1 pts

If we detect a polynomial trend in our series ...

polynomial trends are an indication of possible cycles in our series

describing the behaviour of a polynomial trend is almost impossible

Correct!

All other options are correct

we rarely, if ever fit a polynomial trend

Question 3

1 / 1 pts

If we detect a break in an otherwise linear trend ...

we fit a dummy variable that takes the value "1" after the break and "0" before it

we model the data in 2 separate models, one before the break and one after it

we ignore any change in slope unless it is large

Correct!

we fit an additional time variable that has "0" values up to the point where the trend changes slope and then a sequence of integers (1, 2, 3 ...)

Question 4

1 / 1 pts

Growing or Decaying trend models are usually estimated using ...

a combination of linear and non-linear models

a standard linear model

a non-linear model

Correct!

a non-linear model that has been transformed to linearity

Question 5

0 / 1 pts

If we fit a Holt-Winters Exponential Smoothing model ...

You Answered

- [x] our predictions will be the final value of the smooth for all future predictions
- [ ] the series must be stationary
- [ ] the model requires an initialising value, usually the value when time = 1

Correct Answer

- [ ] All other options are correct

Question 6

1 / 1 pts

Non-stationary series can be modelled with a modified form of exponential smoothing ...

- [ ] using a multiplicative version if the seasonal component increases or decreases through time
- [ ] using an additive version if the seasonal component is constant through time

Correct!

- [x] All other options are correct
- [ ] provided the trend is monotonic

Question 7

1 / 1 pts

If we wish to assess how well our model will predict future values of our series, the best way is to model the data after removing a year of observations, predict that year's values and then compare the predictions with the actual known values.

Correct!

- (•) True
- ( ) False

Question 8

1 / 1 pts

If we are going to compare predictions with known values for a quarterly series, we ...

Correct!

- (•) All other options are correct
- ( ) use a statistic that calculates the average error of prediction across our 4 predictions
- ( ) use a statistic such as RMSEP
- ( ) choose the model with the smallest average prediction error and then redo the model using all the data values and predict the unknown future values

Question 9

1 / 1 pts

Seasonally adjusted models ...

Correct!

- (•) are built after estimating and removing the seasonal component from the series
- ( ) can only be used if the original data has constant seasonal variation
- ( ) cannot be used effectively if our main interest is prediction
- ( ) are built using the actual data values and the seasonal component is then removed before predictions are done

Question 10

1 / 1 pts

If we have had to transform our data to obtain constant seasonal variation and we then fit a seasonally adjusted model, we ...

- do our predictions, back-transform and then add back the seasonal component

Correct!

- do our predictions, add back the seasonal component and then back-transform

- can only report predictions on the transformed scale

- can only predict seasonally adjusted values

Quiz Score: **9** out of 10