

# Quiz 08

<b>Due</b> Jan 30, 2019 at 23:59	<b>Points</b> 10	<b>Questions</b> 10
<b>Available</b> Jan 29, 2019 at 11:00 - Jan 30, 2019 at 23:59 1 day	<b>Time Limit</b> 30 Minutes	

## Instructions

Quiz 08 covers the material in lectures 20 - 22 (pages 137 to 166 of the Course Notes)

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

## Attempt History

	Attempt	Time	Score
LATEST	<a href="#">Attempt 1</a>	17 minutes	9 out of 10

Score for this quiz: **9** out of 10  
Submitted Jan 30, 2019 at 22:02  
This attempt took 17 minutes.

Correct!

Question 1

1 / 1 pts

An ARMA(1,1) series ...

☐ can be tried when an MA model is indicated where q is large

☐ can only be used in place of an AR(1)

☒ can be tried when an AR model is indicated where p is large

☐ can only be used in place of a MA(1)

Question 2

1 / 1 pts

An ARMA(1,1) model will be stationary and invertible if ...

☐ the value of the parameter for the AR term is less than 1 in absolute terms

Correct!

☒ the value of the parameters are both less than 1 in absolute terms

☐ the value of the parameter for the MA term is less than 1 in absolute terms

☐ the value of the parameters are both either positive or negative

Question 3

1 / 1 pts

The plot of the acf of an ARMA model shows ...

☐ persistence

☐ cut-off

☐ decay or cut-off depending on the size of the parameters

☒ decay

Correct!

Question 4

0 / 1 pts

The plot of the pacf of an ARMA model shows ...

☐ decay if the autoregressive parameter is positive

☒ All other options are correct

☐ persistence if the autoregressive parameter is negative

☐ decay or persistence

You Answered

Correct Answer

Question 5

1 / 1 pts

When we plot the acf and the pacf of an ARMA model ...

☐ we get no indication of the order for the AR component

☐ we can only determine that it is an ARMA model so we always begin with an ARMA(1,1)

Correct!

☒ All other options are correct

☐ we get no indication of the order for the MA component



## Question 6

1 / 1 pts

If we wish to determine whether an ARMA(p,q) model is stationary, we ...

☐ see if the roots of the characteristic equation for the AR component lie outside the unit circle in the complex domain

Correct!

☒ see if the roots of each characteristic equation lie outside the unit circle in the complex domain

☐ see if the roots of each characteristic equation lie inside the unit circle in the complex domain

☐ see if the roots of the characteristic equation for the MA component lie outside the unit circle in the complex domain

## Question 7

1 / 1 pts

The characteristics used to determine whether a series is stationary ...

☐ usually only work well when the values of the MA parameter(s) is large

Correct!

- ☒ usually only work well when the sample size is large
- ☐ usually only work well when the value of the AR parameter(s) is large
- ☐ always work well

## Question 8

1 / 1 pts

When we assess the goodness of fit of a stationary time series model using AIC ...

- ☐ we select the model with the highest AIC
- ☐ we select the model with the highest number of estimates
- ☐ we select the model with the lowest number of estimates
- ☒ we select the model with the smallest AIC

Correct!

## Question 9

1 / 1 pts

When modelling Stationary Time Series ...

- ☐ we only need to model any autocorrelation pattern in the data
- ☐ we often have to use trial and error especially if the indicated model is an ARMA series
- ☒ All other options are correct
- ☐ the best model to try is often difficult to assess unless the sample size is 1000 or more observations

Correct!

## Question 10

1 / 1 pts

We can use stationary Time Series modelling techniques on the residual series from a non-stationary model when ...

Correct!

- ☒ All other options are correct
- ☐ the partial autocorrelation plot of the residuals shows decay or persistence
- ☐ the autocorrelation pattern in the residuals cannot be eliminated by fitting a single lagged response variable
- ☐ the autocorrelation pattern in the residual series appears to indicate an ARMA residual series

Quiz Score: **9** out of 10