



Unit 5 - Unit V : Non-parametric statistical methods & Time series analysis

Course outline

UNIT - I :
Transcendental
Polynomial &
Simultaneous
equations and
Interpolations ()

UNIT - II :
Numerical
differentiation and
Integration ()

UNIT - III :
Numerical
Solutions of ODE
()

UNIT - IV :
Statistical
distributions and
Test of hypothesis
()

Unit V : Non-
parametric
statistical
methods & Time
series analysis ()

Lecture 1 : Advantages
and disadvantages of
Non parametric
methods (week 13)
(unit?
unit=74&lesson=75)

Lecture 2 : Some non-
parametric methods
(week 13) (unit?
unit=74&lesson=76)

Quiz: Assessment – 13
(assessment?
name=83)

Lecture 3 : Sequential
Analysis, Sequential
Probability Ratio test
(week 14) (unit?
unit=74&lesson=77)

Lecture 4 : Sequential
Probability Ratio test

Assessment - 14

The due date for submitting this assignment has passed.

Due on 2023-06-25, 23:59 IST.

As per our records you have not submitted this assignment.

Time Series-I

- 1) Identify the component of time series in “Increase in prices of vegetables due to floods”.

1 point
- ☐ Secular trend

☐ Seasonal component

☐ Cyclical component

☐ Irregular component

No, the answer is incorrect.
Score: 0
Accepted Answers:
Irregular component

2) The variations repeat themselves after one year interval of time is known as

1 point

☐ cyclical variations

☐ Seasonal variations

☐ Irregular variations

☐ None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
cyclical variations

3) The variations repeat themselves after every season

1 point

☐ cyclical variations

☐ seasonal variations

☐ Irregular variations

☐ None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
seasonal variations

4) The general problem of finding equations of approximating curves which fit a given data is called_____.

1 point

☐ Curve fitting

☐ Approximating curve.

☐ Empirical relation.

☐ Linear form

No, the answer is incorrect.
Score: 0
Accepted Answers:
Curve fitting

5) Cyclic fluctuations are caused by _____.

1 point

☐ Flood.

☐ War

☐ Strike

☐ None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Flood.

(cont..) (week 14) (unit? unit=74&lesson=78)

○ Lecture 5 : Time series analysis – Introduction (week 14) (unit? unit=74&lesson=79)

○ Lecture 6 : Time series Analysis - trends(week 14) (unit? unit=74&lesson=80)

○ Quiz: Assessment - 14 (assessment? name=90)

○ Lecture 7 : Principal Component Analysis (week 15) (unit? unit=74&lesson=81)

○ Lecture 8 : PCA (cont..) (week 15) (unit? unit=74&lesson=82)

○ Quiz: Assessment – 15 (assessment? name=87)

6) Seasonal variations in a time series are computed using

1 point

- ☐ Ratio to trend method
- ☐ Method of least squares
- ☐ Method of moving averages
- ☐ Periodogram analysis

No, the answer is incorrect.

Score: 0

Accepted Answers:

Ratio to trend method

7) Which of the following is not a method of measuring trend in time series data?

1 point

- ☐ Method of semi averages
- ☐ method of growth curves
- ☐ Link relative method
- ☐ Moving average method

No, the answer is incorrect.

Score: 0

Accepted Answers:

Link relative method

8) The component of time series attached to long term variations is termed as

1 point

- ☐ seasonal variations
- ☐ cyclical variation
- ☐ irregular variation
- ☐ secular trend

No, the answer is incorrect.

Score: 0

Accepted Answers:

secular trend

9) Which of the following is an example of time series problem?

1 point

1. Estimating number of hotel rooms booking in next 6 months.
2. Estimating the total sales in next 3 years of an insurance company.
3. Estimating the number of calls for the next one week.

- ☐ Only 3
- ☐ 1 and 2
- ☐ 2 and 3
- ☐ 1,2 and 3

No, the answer is incorrect.

Score: 0

Accepted Answers:

1,2 and 3

10) Which of the following is not an example of a time series model?

1 point

- ☐ Naive approach
- ☐ Exponential smoothing
- ☐ Moving Average
- ☐ None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

None of the above

11) Which of the following can't be a component for a time series plot?

1 point

- ☐ Seasonality
- ☐ Trend
- ☐ Cyclical
- ☐ None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

None of the above

12) Which of the following is relatively easier to estimate in time series modeling?

1 point

- ☐ Seasonality
- ☐ Cyclical
- ☐ No difference between Seasonality and Cyclical
- ☐ all the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Seasonality

13) Imagine, you are working on a time series dataset. Your manager has asked you to build a highly accurate model. You started to **1 point** build two types of models, Model 1: Decision Tree model. Model 2: Time series regression model. At the end of evaluation of these two models, you found that model 2 is better than model 1. What could be the possible reason for your inference?

- ☐ Model 1 couldn't map the linear relationship as good as Model 2
- ☐ Model 1 will always be better than Model 2
- ☐ You can't compare decision tree with time series regression
- ☐ None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

Model 1 couldn't map the linear relationship as good as Model 2

14) An orderly set of data arranged in accordance with their time of occurrence is called

1 point

- ☐ Arithmetic series
- ☐ Harmonic series
- ☐ Geometric series
- ☐ Time series

No, the answer is incorrect.

Score: 0

Accepted Answers:

Time series

15) A time series consists of:

1 point

- ☐ Short-term variations
- ☐ Long-term variations
- ☐ Irregular variations
- ☐ All the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All the above



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