Total number of printed pages-7 11 and 1

trend with the help of two points only is 2 ATA (2020) 5 CBCS) 5 CBCS (Fill in the blank) is known as ____ method. (Fill in the blank)

2024

Periodic changes in a time series related

to busines 23 ITSITATS called

Anold and n (Honours Elective)

Paper : STA-HE-5026 piess

(Time Series Analysis)

Full Marks: 60

Time: Three hours

The figures in the margin indicate full marks for the questions.

- 1. Answer the following questions as directed: $1 \times 7 = 7$
 - (a) Most frequently used mathematical model of a time series is
 - labom aviitibba (i) blank
 - (ii) multiplicative model
 - calculate trend labom baxim (iii)
 - (iv) All of the above (Choose the correct option)

(b) The method which determines secular trend with the help of two points only is
known as method. (Fill in the blank)
Periodic changes in a time series related
to business activities are called
Fill in the blank)
(d) Residual method is used for determining
(Time Series Analysis) trend component Full Marks: 60
(ii) seasonal component
etili) cyclical component sample and
full marks for the questions (vi)
The same of the correct option)
Deseasonalisation data means eliminating from the series.
(Fill in the blank)
Simple average method is used to
calculate trend component.
State true or False)
(Choose the correct aptient
3 (Sem-5/CBCS) STA HE 2/G 2

If the trend line with 1975 as origin is Y = 20.6 + 1.68X, the trend line with horizontal properties as origin is:

(i) Y = 20.6 + 6.72X(ii) Y = 20.6 + 6.72Xoitat lo trend and and and transport of the content of the state of the content of the state of the content of the state of the correct option).

(iii) Y = 34.61 + 1.68X nine of the above (iv) None of the above the correct option).

8=4×2 : anoits appropriate the uses of time series analysis.

(b) Describe the mathematical models for a time series analysis.

Which component of the time series is the following cases?

Mod Ad + p = V nousupe

A lock-out in a factory for a month specific tend of the control o

3 (Sem-5/CBCS) STA HE 2/G

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3 Lbtno3 CPCS) STA HE 2/G

questions

(iii) The sales of a departmental store on Dushera and Diwali.

1900 = A (() ---

(iii) Price of gold over a long period

(iv) Prosperity

State one merit and one demerit of ratio to moving average method.

(d) Explain irregular movements in a time series.

3. Answer any three from the following questions: 5×3=15

**ELECT Answer belowing questions and supplies the following questions are supplied to the following questions and supplies the following questions are supplied to the following questions

(a) Explain the uses of time series analysis.

Describe the mathematical models for a time series analysis.

(c) How can you convert annual trend equation Y = a + bX to

The Which component of the rem

A lock-out in a factory for a month ?

(i) monthly-trend equation?

(ii) quarterly-trend equation?

(a) Explain simple average method. Also discuss its merits and demerits.

Of = (e) While measuring trend by the method of curve fitting using least square this bordmethod, what are various types of curves that may be used to describe the given data?

[Give mathematical expression for the nislax curves with names]

gniwollos and brief the procedure of finding the serious and the following the serious and the following deseasonalised values from the serious and the serious and the serious and the serious serious and the serious seriou

Define a time series. Describe various

components of a time series with
components of a time series with
examples.

2+8=10

boots a variage and the boots and the boots are a point of the boots and the boots are a point of the boots are a point o

(b) Describe the method of link relatives for finding seasonal indices. Also write the merits and demerits of this method.

5+5=10

3 (Sem-5/CBCS) STA HE 2/G 50 DIE 3H ATE (2030 Contd. 8

3 (Sem - 5/CBCS) STA HE 2/G 48 D\S STA HE 2/G 48

(c) Describe the method of moving averages for estimating the trend in a time series. Also discuss its merits and demerits.

01=2+6 While measuring trend by the method of curve fitting using least square

(d) (i) Explain semi-average method with its merits and demerits.

erly tol (ii) what do you mean by deseasonalisation of data? Explain in brief the procedure of finding the deseasonalised values from a time series.

Describe ratio to trend method and ratio moving average method determining seasonal fluctuations.

01=2+5 finding seasonal indices. Also write the merits and demerits of this method.

3 (Sem-5/CBCS) STA HE 2/G 3 (Sem-5/CBCS) STA HE 2/G

What is exponential smoothing? **(f)** How does the method of exponential smoothing help in business forecasting?

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