



GOVERNMENT COLLEGE KASARAGOD

VIDYANAGAR, KASARAGOD, KERALA, 671123

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NAAC 3RD CYCLE ACCREDITATION

**ADD ON COURSE ON
"DATA ANALYSIS WITH R PACKAGE"**



GOVERNMENT COLLEGE KASARAGOD

VIDYANAGAR, KASARAGOD, KERALA 671123

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DEPARTMENT OF PG STUDIES AND RESEARCH IN ECONOMICS Government College Kasaragod

Add-on Course on "Data Analytics with R - Package"

Syllabus

Course Objectives:

This add-on course specifically aims to introduce the students to the world of data analytics with special emphasis on R - Package. The course would also give exposure to the basics of data management and analytics using programmes like Ms-Excel and Gretl so as to provide the right foundation for the science of data analytics.

Course Credit:

1

Total Contact Hours:

30 hours (Theory: 15 Hours + Practical: 15 Hours)

Module I: Introduction to Big Data Analytics – Understanding Economic Data - Data Management – Fundamentals

(Hours: 3)

Module II: Handling Data – Basics – Data Analytics with MS Excel – Building Functions in Excel – Statistical Functions – Regression with Excel

(Hours: 7)

Module III: Data Analytics with Gretl – Cross section data analysis in Gretl – Cross section regression and test for basic assumptions – Time series data analysis in Gretl – Unit root tests and Time series regressions – Cointegration – test for basic assumption

(Hours: 8)

Module IV: Introduction to R Package – Data Import techniques in R – Data Visualization – Data Mining – Clustering Techniques – association rule mining and collaborative filtering techniques

(Hours: 12)

Basic Readings

Prajapati, V. (2013). *Big data analytics with R and Hadoop*. Packt Publishing Ltd.

Patil, S. (2016). Big data analytics using R. *International Research Journal of Engineering and Technology*, 3(7), 78-81.

Runkler, T. A. (2020). *Data analytics*. Springer Fachmedien Wiesbaden.

Venables, W. N., Smith, D. M., & R Development Core Team. (2009). *An introduction to R*.

Crawley, M. J. (2014). *Statistics: an introduction using R*. John Wiley & Sons.



Name and Signature of the Principal
Dr. Ananthapadmanabha A.I.

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Programme Schedule of Technical Sessions

Date	Session	Content	Resource Person
Day 1	I (10.00 am to 1.00 pm)	Introduction to Big Data Analytics	Biju P
	Lunch Break (1.00 pm to 2.00 pm)		
	II (2.00 pm to 4.00 pm)	Understanding Economic Data	Biju P
Day 2	I (10.00 am to 11.00 am)	Data Management – Fundamentals	Nithin M
	II (11.00 am 1.00 pm)	Handling Data – Basics	Nithin M
	Lunch Break (1.00 pm to 2.00 pm)		
	III (2.00 pm to 3.00 pm)	Data Analytics with MS Excel–	Nithin M
	IV (3.00 pm to 4.00 pm)	Building Functions in Excel	Nithin M
Day 3	I (10.00 am to 11.00 am)	Statistical Functions	Biju P
	II (11.00 am 1.00 pm)	Regression with Excel	Biju P
	Lunch Break (1.00 pm to 2.00 pm)		
	III (2.00 pm to 4.00 pm)	Data Analytics with Gretl	Biju P
Day 4	I (10.00 am to 11.00 am)	Cross section data analysis in Gretl	Nithin M
	(11.00 am to 12.00 pm)	Test for basic assumptions	Nithin M
	III (12.00 pm to 1.00 pm)	Time series data analysis in Gretl – Unit root tests and Time series regressions	Nithin M
	Lunch Break (1.00 pm to 2.00 pm)		
	IV (2.00 am to 3.00 pm)	Cointegration	Nithin M
	V (3.00 pm to 4.00 pm)	Test for basic assumption	Nithin M
Day 5	I (10.00 am to 11.00 am)	Introduction to R Package	Biju P
	II (11.00 am 1.00 pm)	Data Import techniques in R	Biju P
	Lunch Break (1.00 pm to 2.00 pm)		
	III (2.00 pm to 4.00 pm)	Data Visualization	Nithin M
Day 6	I (10.00 am to 11.00 am)	Data Mining – Clustering Techniques	Biju P
	II (11.00 am 1.00 pm)	Association rule mining	Biju P
	Lunch Break (1.00 pm to 2.00 pm)		
	III (2.00 pm to 4.00 pm)	Collaborative filtering techniques	Nithin M



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POST GRADUATE DEPARTMENT OF ECONOMICS

List of Participants of Add on Course- 8th to 14th August, 2019.

Sl No	Name	Class	8/8/19	9/8/19	10/8/19	12/8/19	13/8/19	14/8/19
1	Marshida Sulthana	II MA Economics						
2	Aswini V V	II MA Economics						
3	Sajitha B M	II MA Economics						
4	Akhil Raj K	II MA Economics						
5	Divya Kannan	II MA Economics						
6	Divyajyothi A	II MA Economics						
7	Abhinith	II MA Economics						
8	Sethulakshmi P V	II MA Economics						
9	Nileena B	II MA Economics						
10	Hridhya Mohan	II MA Economics						
11	Sruthy U	II MA Economics						
12	Neethu V K	II MA Economics						
13	Stiniya Salatin	II MA Economics						
14	Lijna Johnson	I MA Economics						
15	Swapna M	I MA Economics						
16	Arun Kumar	I MA Economics						
17	Savad Badr	I MA Economics						
18	Sreelekha	I MA Economics						
19	Sajana Narayanan	I MA Economics						



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	Rajeshwari V	I MA Economics	<i>Part</i>	<i>Part</i>	—	<i>Part</i>	<i>Part</i>	—
21	Aswathi B	I MA Economics	✓	<i>Asw</i>	<i>Asw</i>	<i>Asw</i>	<i>Asw</i>	—
22	Aswathi V	I MA Economics	<i>Asw</i>	<i>Asw</i>	—	<i>Asw</i>	—	<i>Asw</i>
23	Greeshma	I MA Economics	<i>Asw</i>	<i>Asw</i>	<i>Asw</i>	<i>Asw</i>	<i>Asw</i>	<i>Asw</i>



[Signature]

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**DEPARTMENT OF POST GRADUATE STUDIES
AND RESEARCH IN ECONOMICS**

GOVERNMENT COLLEGE, KASARAGOD
(Reaccredited by NAAC with A Grade)
Vidyanagar P.O. Kasaragod-671123

Certificate

This is to certify that Mr/Ms..... has successfully completed

Add on Course on "R Software for Social Science Research" organized by the Department of Post Graduate Studies and Research in Economics, Government College, Kasaragod from 8th August to 14th August 2019.

Date: _____
Place: _____


Principal
GOVERNMENT COLLEGE
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HOD Economics


Co-ordinator




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Dr. Ananthapadmanabha A.I.

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**DEPARTMENT OF PG STUDIES AND RESEARCH IN
ECONOMICS
Government College Kasaragod**

Add-on Course on “Data Analytics with R - Package”

Course Report

The PG department of Economics, Govt. College Kasaragod has organized Add-on Course on “Data Analytics with R - Package” from 8th August to 14th August 2019 at room no: 31. This add-on course specifically aims to introduce the students to the world of data analytics with special emphasize on R - Package. The course would also give exposure to the basics of data management and analytics using packages like Ms-Excel and Gretl so as to provide the right foundation for the science of data analytics.

The Course was inaugurated by Dr. Hari Kurup K K, Principal in charge and Head of the department of Economics. Smt. Rejuna C A, Course Co-ordinator welcomed the gathering. Kumari Murshida Sulthana, student participant proposed vote of thanks.

Following the inaugural session, technical sessions were handled by Mr. Baiju P, Research scholar, Department of Humanities and Science, NIT Goa and Mr. Nithin .M, Research scholar, Department of Humanities and Science, IIT Kharagpur.

The programme began with an introduction to big data analytics and basic understanding on economic data. In this session, he elaborated the big data and pinpointed various sources of economic data. The second day started by the resource person Nidhin M on the fundamentals of data management and how to enter, manage and handle data. Hands on training on Microsoft excel like building functions and analytics are given in the afternoon session. Basic idea on econometric functions like correlation and regression are given in the third day. Along with this, hands on training on how to run regression and checking of its basic assumptions are given. Basic idea on Gretl statistical software is provided in the afternoon session. Fourth day started with data analytics with Gretl. In this session cross section data analytics, its assumptions, time serious data analysis, unit root test and time serious regressions were discussed and hands on training on the same are given. Introduction to R software, its installation procedure and data importing techniques are discussed in the morning session of the 5th day. Visualization of data and its training are given in the afternoon session. A detailed




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idea on data mining, clustering techniques, filtering techniques are discussed in the last day of the course.

After the technical sessions, the participants got together for an evaluation of the course. All of them gave positive remarks on the organization and the selection of the topic. It was a fruitful evaluation by the participants. The course ended up with the valedictory session, which was presided over by Dr. Hari Kurup K.K. Certificates were distributed by Dr. Harikurup K K. The welcome and vote of thanks were extended by Prof. Ismail.P. and Prof. Anoopkumar M.



Rejuna C A

Course Co-ordinator

HARI KURUP K K

HOD Economics



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