



Department of Information Science and Engineering

**Skill Development Programme
On
“Five Day Open Course on Data
Analytics using R Programming”**

5th to 9th February 2018



In Association with



BMS Institute of Technology and Management
Doddaballapura Main Road, Yelahanka
Bengaluru-64, Karnataka, India

Department of Information Science and Engineering

VISION

Emerge as centre of learning in the field of information science & engineering with technical competency to serve the society.

MISSION

To provide excellent learning environment through Balanced Curriculum, Best Teaching Methods, Innovation, Mentoring and Industry Institute Interaction

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THE EDITORIAL BOARD

Honorary Editor:
Dr. Manjunath T. N

Editor:
Prof. Gireesh Babu
Mrs.Arptha H M

Brochure



BMS INSTITUTE OF TECHNOLOGY & MGMT, BENGALURU

Department of ISE

"Five Day Open Course on Data Analytics using R Programming"

Under CSI Student Branch



5th to 9th February 2018



Organizing Chair

Dr. Manjunath T. N., Prof. & Head, ISE

About the Institute

BMS Institute of Technology & Management was started in the year 2002 affiliated to VTU recognized by AICTE, New Delhi. BMSIT & M has been awarded 'A' Grade by NAAC with 5 of our Programmes are NBA accredited out of 7 UG Programs and 3 PG programs and also has 7 R & D Centers recognized by VTU, Belagavi. BMSIT & M received various appreciations from media. BMSIT & M has

been recognized as the Outstanding Engineering Education Institute (South India) by Vijavaram. BMSIT & M has been elevated into NIRF (National Institutional Ranking Framework) Elite Club of Top 100 Institutions by securing 93th Position at National Level, (8th in Karnataka, 5th in Bengaluru and only affiliated institution in Karnataka to reach top Rankings of NIRF.)

About Departments

The Department of Information Science and Engineering (ISE) was started in the year 2010 with vision "Emerge as center of learning in the field of Information Science & Engineering with technical competency to serve the society". The department is headed by Dr. Manjunath T. N. It has a "Research Center" recognized by VTU. The department has well equipped laboratories with state-of-art infrastructure, department library and internet facilities.

About the Open Course

In today contemporary scenario, huge amount of data is getting generated from the systems around us. Data analytics is the process of examining data sets in order to infer conclusions about the information that we generate day to day. Data analytics technologies and techniques are widely used in commercial industries to enable organizations to make more-informed business decisions and by scientists and researchers to verify or disprove scientific models, theories and hypotheses. This Five day course provides knowledge on data analytics using R language. The course is intended for beginning students with any computer language skills.

Objectives of the Course

1. To drive the importance of data analytics using contemporary tool R.
2. To provide students with theory concepts and hands on experience in Data Analytics.
3. To provide a platform to handle minor and major projects in the related domains.
4. To provide value addition during placement process.

Target Audience

Students of all disciplines who are interested to work on Data Analytics using R.

Course Material

Soft Copy of the presentation and software used in the program will be provided for all the students along with the certificate of participation.

Course Contents:

- About Data science and Data analytics.
- Introduction about R.
- Accessing resources using R.
- Statistics using R.
- R applications.
- Case study-examples.

Registration details:

Categories	Amount
CSI Member	400/-
Non-CSI Member	500/-

For Details Contact:

Prof. Gireesh Babu C N, Asst. Prof, Dept. of ISE

Mob: 9902377161

Email: gireeshbabu@bmsit.in

For Registration please click link below:

<https://goo.gl/forms/ZLLQOFr9pnIUTQzKs>

Event Schedule



B M S INSTITUTE OF TECHNOLOGY & MANAGEMENT, BENGALURU
Department of Information Science & Engineering



Five Days Short Term Open Course on "Data Analytics using R Programming"

Date: 5th to 9th February 2018

Schedule

Date/Day	Session-1	Session-2	Session-3	Session-4
Time	9:00 AM to 10:30 AM	11:00 AM to 12:30 PM	1:30 PM to 2:30 PM	3:00 PM to 4:00PM
Day-1	Registration+ Inauguration	Key Note & Use Cases of Data Analytics (Dr. Manjunath T. N)	R Installation (Dr. Pushpa S K)	Exploring R studio (Dr. Pushpa S K)
Day-2	Basics of R language (Dr. Pushpa S K)	Hands on R basics (Dr. Pushpa S K)	R Data Interfaces (Mrs. Mahalakshmi S)	R Packages (Mrs. Mahalakshmi S)
Day-3	R Charts & Graphs (Mr. ChandraShekhara K T)	Hands on plots using R (Mr. ChandraShekhara K T)	Accessing Web data & database using R (Mr. Gireesh Babu C N)	Case Study: Word count using R (Mr. Gireesh Babu C N)
Day-4	Regression using R (Mr. Amogh & Team)	Distribution using R (Mr. Amogh & Team)	R statistics with examples (Mr. Amogh & Team)	Chi Square test using R (Mr. Amogh & Team)
Day-5	Applications of R (Mr. Amogh & Team)	Case Study: Twitter Analysis using R (Mr. Amogh & Team)	Course Assessment	Certificate Distribution & Feedback

|

COURSE OUTCOMES

CO1: Acquire and apply knowledge on installation and configuration of software necessary for generic and statistical programming environment (PO1)

CO2: Analyse various Data types and Visualization methods used in R Programming (PO2)

CO3: Solve problems individually or in teams using R (PO5, PO9)

CO4: Design Experiments on predictive models between variables by choosing appropriate packages. (PO3)

CO5: Study on real time cases on data analysis problem (PO4)

CO6: Recognize the need of R programming in current technological change and engage in lifelong learning. (PO12)

Participant List

Sl. No.	Name	USN	Branch	SEM
1	Abhishek V	1BY17CS007	CSE	2
2	Adarsh Vatsa	1BY17CS010	CSE	2
3	Adithya S Vasisth	1BY16IS002	ISE	4
4	Anant Shukla	1BY17CS023	CSE	2
5	Anirudh R S	1BY16IS007	ISE	4
6	Anuj V	1BY17CS027	CSE	2
7	Brinda Kulkarni	1BY15IS013	ISE	6
8	Geetha Priya.N	1BY16IS013	ISE	4
9	Harshithaa M	1BY16IS016	ISE	4
10	Ishaan Basavaraj	1BY16IS017	ISE	4
11	L Shreyasu	1BY15IS029	ISE	6
12	Pratik Lokesh	1BY16IS032	ISE	4
13	Ruchitha V	1BY16IS037	ISE	4
14	Sagar Devaraju	1BY16IS039	ISE	4
15	Shilpa Acharya	1BY16IS042	ISE	4
16	Shishir Shetty	1BY16IS043	ISE	4
17	Sumedha	1BY16IS053	ISE	4
18	Swathi P	1BY16IS055	ISE	4
19	Tabassum sarwar	1BY16IS063	ISE	4
20	Vaishnavi R	1BY15IS063	ISE	6

21	Vinutha S N	1BY16IS060	ISE	4
22	Yashaswini S	1BY16IS062	ISE	4
23	Rakesh V Kashyap	1BY15EC062	ECE	6
24	Jayanth G	1BY15EC033	ECE	6
25	Hemalatha B	1BY15EC029	ECE	6
26	Kumar R	1BY15EC038	ECE	6
27	Anandh Rajari S	1BY17EC011	ECE	2
28	Jerin Gregory Benny	1BY17EC065	ECE	2
29	Pavithra R	1BY15EC054	ECE	6
30	Roshini S R	1BY15EC073	ECE	6
31	Shreelakshmi Bhatt	1BY15IS051	ISE	6
32	S Rajeshwari	1BY15IS046	ISE	6
33	Tejaswini Prakash	1BY15IS046	ISE	4
34	Mohammed Zaman	1BY15CS052	CSE	6
35	Manish K	1BY15CS046	CSE	6
36	Harshita T R	1BY15CS030	CSE	6
37	Nikhil A R	1BY15CS056	CSE	6
38	Parth Chowla	1BY17CS056	CSE	2
39	Abhishek B	1BY15CS005	CSE	2
40	Mohammed Danainyal	1BY15CS051	CSE	6
41	Nikhil Sunil Elias	1BY15EC050	ECE	6
42	Pragya Arora	1BY16IS030	ISE	4
43	Veda shree	1BY16IS059	ISE	4
44	Manish P	1BY15EC040	EC	6
45	Nayana.G	1BY17EC104	EC	2
46	Ramyashree .S	1BY17EC135	EC	2
47	Deepak kumar .B	1BY16EC022	EC	4
48	Akash S.M.U	1BY16EC009	EC	4
49	VIKAS CHAUHAN	1BY17IS072	ISE	2
50	RENUKA.A RAJUS	1BY15EC066	EC	6
51	ABHISHEK.P.SHENOY	1BY15EC002	EC	6
52	KARTHIK.B.M.K	1BY15EC031	EC	6
53	SAMEEKSHA.S	1BY15EC150	EC	4
54	ANITHA.J.SAINI	1BY17EC020	EC	2
55	AISHWARYA NANENDRA	1BY17EC007	EC	2
56	ANUSHREE GUDOOR	1BY15CS011	CSE	6
57	MADHUKAR SHETTY	1BY15CS045	CSE	6
58	KAVYA MANI	1BY15CS039	CSE	6
59	SAI KRISHNA.L	1BY16EC070	EC	4
60	RAMYA.R	1BY15EC063	EC	6
61	LEKHANA.D.A	1BY15EC039	EC	6
62	SUSHMA.V	1BY15EC091	EC	6
63	VIKAS GOWDA R.D	1BY15EC096	EC	6

64	ARJUN DEV SIKHWAL	1BY15ME008	ME	6
65	SHARSH BUVY	1BY15ME045	ME	6
66	HARSHITHA.A.S	1BY15EC009	EC	6
67	PRATYUSH	1BY17EC125	EC	2
68	SHIVAM	1BY17IS051	ISE	2
69	ADITYA RANA	1BY17IS005	ISE	2
70	RAJAN KUMAR	1BY17EC132	EC	2
71	ADARSH AANJAY SRI	1BY17EC004	EC	2
72	TANISHQ.KRISHNAN	1BY15CS091	CSE	4
73	HARSHIT	1BY16IS015	ISE	4
74	PRAKASH PAWAN	1BY15IS031	ISE	4
75	PRINCE TONGER	1BY17ME038	ME	2
76	RAKSHITHA .K	1BY16EC067	EC	4
77	DHEERAJ.S.SHEKAR	1BY16EC025	EC	4
78	ADITHYA N.RAO	1BY16EC006	EC	4
79	P.YESHWANTH	1BY17IS037	ISE	2
80	Y.MADHAVI.G.SHENOY	1BY15EC098	EC	6
81	V.NITYA KRISHNA	1BY16EC094	EC	6
82	SUPRIYA SINGH	1BY17EC173	EC	2
83	M.S.VISHAL	1BY17EC085	EC	2
84	SUMAN.R.A	1BY16CS085	CSE	4
85	POORVIKA ITHAL	1BY16CS060	CSE	4
86	SPOORTHY.M	1BY16CS083	CSE	4
87	DEEPTHA.S	1BY15CS023	CSE	6
88	YASHASWINI	1BY16CS096	CSE	4
89	SHRUTI POTDAR	1BY16CS078	CSE	4
90	VARSHA VIVEK	1BY16CS092	CSE	4
91	ANKESH AMAN	1BY17ME007	ME	2
92	CHANDAN.S	1BY16EC019	EC	4
93	NARAYANA.M.HEGDE	1BY16EC054	EC	4
94	ROBIN RAJ	1BY16EC068	EC	4
95	RAFELIA EDWIGE FERNANDES	1BY15EE042	EE	4
96	G.LEHYA REDDY	1BY15CS027	CSE	4
97	K.MYTHRI	1BY16IS026	ISE	4
98	AKSHARA Y TARIKERE	1BY17IS007	ISE	2

Profile of Resource Persons

Dr. Manjunath T N

M.Tech, Ph.D, LMISTE

Professor & HoD

Dept. of Information Science & Engineering, BMSIT, Yelahanka, Bangalore



Brief Biodata

Prof. **Dr. Manjunath T N** has completed her B.E from SJCIT, Chickballapur and M. Tech from JNNCE, Shimoga and Ph. D from R & D Centre, Bharathiar University, and Coimbatore. He is a Submitted: Oct-2013 Awarded: April-2015.

He has published more than 20 technical papers in various National & International Conferences and 28 papers in Journals. He has actively involving in organizing various technical talks, workshops and conferences. He has teaching and Industrial experience of more than 17 years in various company and Institutions like Global Softech India, Accenture services, Wipro Technologies, Bangalore, SJBIT, Acharya Institute of Technology. He is a Life member of Indian Society for Technical Education, International Association of Engineers and Member of the Society of Digital Information and Wireless Communications. At present she is working as an Professor & HoD in BMSIT& M, Bengaluru.

Contact Details

Mob: 9900130748 / 8095610444

E-mail: manju.tn@gmail.com

Dr. Pushpa S. K

B.E., M.E. Ph.D.,

Associate Professor,

Dept. of Information Science & Engineering, BMSIT, Yelahanka,

Bangalore



Brief Biodata

Dr. Pushpa S. K. received her Bachelor's Degree in Computer Science and Engineering from Bangalore University, Bangalore, Karnataka, India during the year 1995 and M.E in Computer Science and Engineering from Bangalore University, Bangalore, Karnataka, India during the year 2004. Currently Dr. Pushpa S.K is working as an Associate Professor in BMSIT & M, Dept. of ISE, Bengaluru. She is having 16+ year of teaching experience. She is having 8 Journal papers & 5 International Conference papers in her credit. She is life member of professional bodies like ISTE, ISC & IEEE member. Her areas of interests are Wireless Sensor Networks, Big Data.

Contact Details

Mob: 9449226987

E-mail: pushpask@bmsit.in

S. Mahalakshmi

B.E., M.E. (Ph.D.,)

Assistant Professor,

Dept. of Information Science & Engineering, BMSIT,**Yelahanka, Bangalore****Brief Biodata**

Prof. S. Mahalakshmi has completed her B.E from Jayaram College of Engineering and M.E from Bannari Amman Institute of Technology in the year 2003 and 2008 respectively. She is a rank holder and received gold medal in her PG from Anna University, Chennai and has won Best Student -2008 Award. She has completed certification on CCNA Exploration from Cisco Networking Academy and workshop on High impact teaching skills from Dale Carnegie Inc. Her areas of interest include High performance Computing and Big data. She is pursuing her PhD in Vellore Institute of Technology, Vellore.

She has published more than 15 technical papers in various National &International Conferences and 12 papers in Journals. She has actively involving in organizing various technical talks, workshops and conferences. She has teaching experience of more than 13 years in various Institutions like SRM University, VIT University. She is a life member of Computer society of India and Institution of Engineers. At present she is working as an Assistant Professor in BMSIT, Bengaluru.

Contact Details

Mob: 9036143710

E-mail: maha.shanmugam@bmsit.in

Prof. Gireesh Babu C N

B.E., M.Tech. (Ph.D.,)

Assistant Professor,

Dept. of Information Science & Engineering, BMSIT&M,

Yelahanka, Bangalore



Brief Biodata

Prof. Gireesh Babu C.N. received his Bachelor's Degree and M.Tech in Computer Science and Engineering from Visvesvaraya Technological University, Belagavi, Karnataka, India during the year 2009 and 2012 respectively. He has published more than 15 technical papers in various National & International Conferences and 10 papers in Journals. He has actively involving in organizing various technical talks, workshops and conferences. He has teaching and Industrial experience of more than 5 years. He is a Life member of Computer Society of India and Indian Society for Technical Education. At present he is working as an Assistant Professor in BMSIT& M, Bengaluru. His areas of interests are Smart Networks- IOT, Big Data and Cloud Computing.

Contact Details

Mob: +91-9902577161

Email: gireeshbabu@bmsit.in

Prof. Chandrashekar T

B.E., M.Tech. (Ph.D.,)

Assistant Professor,

**Dept. of Information Science & Engineering, BMSIT&M, Yelahanka,
Bangalore**



Brief Biodata

Mr. Chandrashekhara K. T received his Bachelor's Degree in Computer Science and Engineering from Visvesvaraya Technological University, Belgaum, Karnataka, India during the year 2002 and M. Tech in Computer Science and Engineering from VTU, Belgaum, Karnataka, India during the year 2008. Currently Mr. Chandrashekhara K. T is working as an Assistant Professor in BMSIT, Dept. of ISE, Bengaluru. He is having 6+ year of teaching experience and 3+ years of industry experience at Intellinet Technologies, Bengaluru and Wipro Technologies Ltd. Bengaluru. He is having 7 Journal papers in his credit. He is member of professional bodies like ISTE, CSI. His areas of interests are Smart Networks-IOT, Big Data and Data Mining.

Contact Details

Mob: +91-9741320283

Email: chandru@bmsit.in

Mr. Mahantesh C. Angadi

B.E., M.Tech.

Software Engineer at SakhaTech Information Systems Pvt. Ltd.

Mr. Mahantesh C. Angadi is having an IT experience of 2 years and currently working as Software Engineer at SakhaTech Information Systems Pvt. Ltd., Bengaluru. He has published 2 research papers in International journal and National Conference. He is the core member of BigData Community and he has conducted and delivered lectures at various FDPs. Currently he is working on BigData, Machine Learning, Hadoop Framework, MongoDB, Java and R. His areas of interests include Data Analytics, Parallel and Distributed Computing, and Cloud Computing.

Prof. Amogh Pramod Kulkarni

B.E., M.Tech. (Ph.D)

Assistant Professor,

**Dept. of Information Science & Engineering, Sai Vidya Institute of Technology,
Yelahanka, Bangalore**

Mr Kulkarni presently works at dept. of ISE, Sai Vidya Inst. of Tech. He has 8 years of teaching experience. His area of interest includes Hadoop, Big data analytics, Cloud Computing. He has published 4 papers in international journals He has delivered many technical talks in FDPs and workshop.

About Workshop

In today contemporary scenario, huge amount of data is getting generated from the systems around us. Data analytics is the process of examining data sets in order to infer conclusions about the information that we generate day to day. Data analytics technologies and techniques are widely used in commercial industries to enable organizations to make more-informed business decisions and by scientists and researchers to verify or disprove scientific models, theories and hypotheses. This Five day course provides knowledge on data analytics using R language. The course is intended for beginning students with any computer language skills.

Day-1

Dr.Manjunath T N, delivered a keynote address in open course on Data Analytics using R, he emphasized on the need of R in the current IT scenario and how you all should equip to meet this requirements as promising professionals in coming days. He showed few examples of usage of R in real time environment. He also monitored and moderated the entire program with the gamification event every day before starting the sessions on every day.



Day-1 afternoon session addressed by Dr. Pushpa S. K, Associate professor, Dept. of ISE. She addressed about the need for analytics, what is business analytics, Data visualization. In the second half, R installation, exploring R studio and Basics computations in R.



Interaction with Students

Day-2

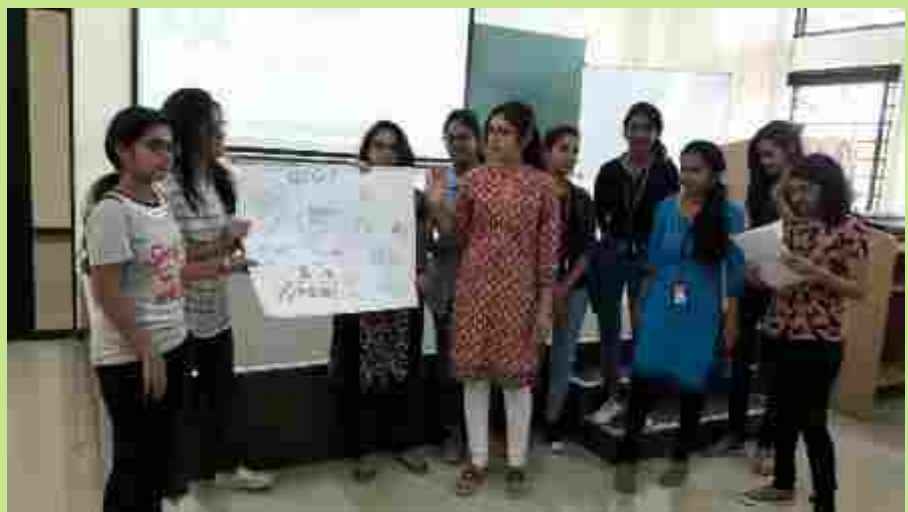
Day -2: Morning session continued quiz on previous days learning, students who were able to answer questions were motivated by giving chocolates, students enjoyed quiz. Quiz followed with R installation, various data type in R programming like usage like vectors, lists, matrices, factors and data frames with hands-on. Students enjoyed the session and they gave a very good feedback.



Poster presentation of 6th sem students of ISE



Poster presentation of 4th sem students of ISE



Poster presentation by students of CSE



Poster presentation by students of CSE

On the second day 6th February 2018 Prof. S. Mahalakshmi has handled sessions on how to access files through R packages and how to access online resources through R commands. In this session students were trained on how to install new packages manually & using default menu option and commands to load the installed packages to library and to list all the packages. Students also had hands on session on R data interfaces like how to access CSV files, xls files, binary files, XML files, JSON files and how to analyse those files. At the end of the session group Assignment has been given and students completed their assignment and submitted before the next day session.

Assignment Questions

1. Print the present working directory
Set current directory and display the new current directory
Create a new xls file with the fields
Name age income doj
print the data type of new data
Find the maximum salaried person and display
Get the persons whose age is above 35 and income above 25000
Get the persons whose age is above 35 and income above 25000
joined after 5th May 2016
2. Consider the R inbuilt data "mtcars"
Create a csv file from it and convert it to a binary file and store it as a OS file
Read the values from 4th byte to 8th byte which represents "cyl" and display.
3. Install xml package
Create a XML file from internet into a text editor like notepad. Save the file with a .xml extension and choosing the file type as all files(*.*).
Read the Xml file and get number of nodes present in the XML file
4. Install xml package
Create a XML file from internet into a text editor like notepad. Save the file with a .xml extension and choosing the file type as all files(*.*).

Read the Xml file and Display the details of root node.

Get second, fifth and sixth element of the node.

5. Install xml package

Create a XML file from internet into a text editor like notepad. Save the file with a .xml extension and choosing the file type as all files (*.*)).

Read the Xml file and print the result.

Convert the XML file to data frame and display it.

6. Install rjson package

Create a JSON file by copying the below data into a text editor like notepad. Save the file with a .json extension and choosing the file type as all files (*.*)).

Load the required package and read the json file and print the result.

Convert the JSON file to data frame



Day -3: Morning session continued quiz on previous days learning, students who were able to answer questions, and it is motivated by giving chocolates, students enjoyed quiz. Quiz followed with plotting of various charts & graphs by Prof. Chandrashekhara K T. Prof Chandrashekhara K T has demonstrated how to create Pie chart, bar chart, Line chart and other graphical interfaces using R programming language.

Afternoon session started by Prof. Gireesh Babu C N, he explained how to create database using MySQL and accessing database using R language then discussed about a case study “WordCloud – Text mining” is a concept of predicting more frequent words usage in any collected data. Students enjoyed by creating wordcloud to different applications such as Whatsapp, facebook and twitter conversations.



Day -4: Morning session continued quiz on previous days learning, students who were able to answer questions, and it is motivated by giving chocolates, students enjoyed quiz. Quiz followed with explanation of Linear Regression and its applications by Prof. Amogh Pramod Kulkarni.



Afternoon session started with Machine Learning using R by Mr. Mahantesh C. Angadi, He explained real time projects with respect to different technologies such as Java, Python and R. Using this student's got exposure to IT projects.



Day -5: The morning session started by Mr Kaushik C M ,Data Scientist in Sakha Global Information Systems, Bengaluru. He explained about Data Science with respect to Python & R and also demonstrated many projects in data science using Python.



Afternoon session end with certificate distribution to all the participants.



GALLERY

Inauguration photos



Welcome speech by Dr. Pushpa S K

Session Gallery: Day 1



Session Gallery: Day 2

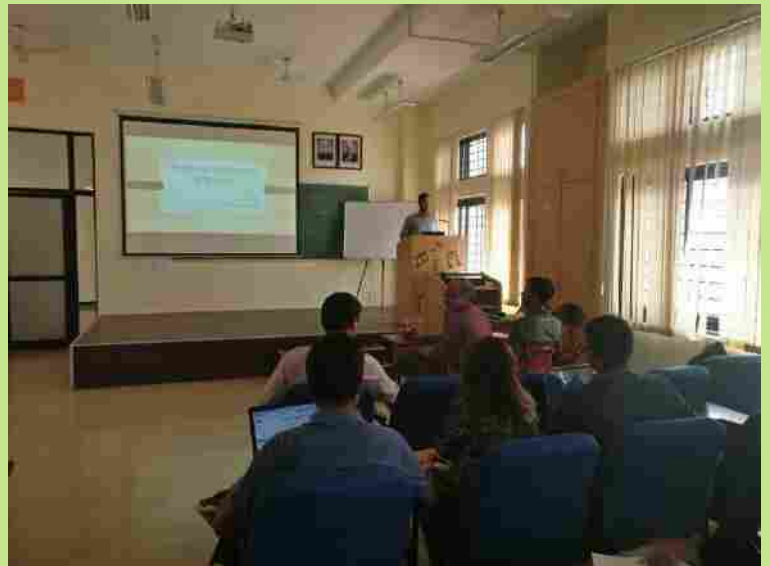




Session Gallery: Day 3



Session Gallery: Day 4



Session Gallery: Day 5



Participants



Vote of thanks

Mementos given by Dr. Manjunath T N to Mr. Kaushik C M



Mementos given by Dr. Pushpa S K to Mr. Mahantesh C. Angadi,

Feedback for Short Term Open Course on “Data Analytics using R Programming”

Participant Name:

Dept:

Sem:

Date:

INSTRUCTIONS

Please circle your response to the items. Rate aspects of the workshop on a 1 to 5 scale:

1 = "Strongly disagree," or the lowest, most negative impression

3 = "Neither agree nor disagree," or an adequate impression

5 = "strongly agree," or the highest, most positive impression

Choose N/A if the item is not appropriate or not applicable to this course.

Your feedback is sincerely appreciated. Thank you.

COURSE CONTENT (Circle your response to each item.)

1=Strongly disagree 2=Disagree 3=Neither agree nor disagree 4=Agree 5=Strongly agree
N/A=Not applicable

- | | | | | | | |
|----------------------------------------------------------|---|---|---|---|---|-----|
| 1. I was well informed about the Outcomes of this course | 1 | 2 | 3 | 4 | 5 | N/A |
| 2. This course lived up to my expectations | 1 | 2 | 3 | 4 | 5 | N/A |
| 3. The material was presented in an organized manner | 1 | 2 | 3 | 4 | 5 | N/A |

COURSE DESIGN

- | | | | | | | |
|----------------------------------------------------------------------------|---|---|---|---|---|-----|
| 1. The course outcomes were clear to me | 1 | 2 | 3 | 4 | 5 | N/A |
| 2. The Day wise assessment stimulated my learning. | 1 | 2 | 3 | 4 | 5 | N/A |
| 3. The activities in this course gave me sufficient practice and feedback. | 1 | 2 | 3 | 4 | 5 | N/A |
| 4. The difficulty level of this course was appropriate. | 1 | 2 | 3 | 4 | 5 | N/A |
| 5. The pace of this course was appropriate | 1 | 2 | 3 | 4 | 5 | N/A |

COURSE INSTRUCTOR (FACILITATOR)

- | | | | | | | |
|-------------------------------------|---|---|---|---|---|-----|
| 1. The instructor was well prepared | 1 | 2 | 3 | 4 | 5 | N/A |
| 2. The instructor was helpful. | 1 | 2 | 3 | 4 | 5 | N/A |

COURSE RESULTS

- | | | | | | | |
|----------------------------------------------------------------|---|---|---|---|---|-----|
| 1. I am able to install and configure packages necessary for R | 1 | 2 | 3 | 4 | 5 | N/A |
| 2. I am able to select the appropriate | 1 | 2 | 3 | 4 | 5 | N/A |

data types and visualisation tools for my project

- | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|-----|
| 3. I can solve problems individually or with my team and able to give appropriate solution to the given problem using R | 1 | 2 | 3 | 4 | 5 | N/A |
| 4. I am able to design experiments on predictive models by choosing appropriate packages. | 1 | 2 | 3 | 4 | 5 | N/A |
| 5. This course made me to study on real time cases on data analysis problem | 1 | 2 | 3 | 4 | 5 | N/A |
| 6. I Recognize the need of R programming in current technological change and interested in attending advanced course of this subject | 1 | 2 | 3 | 4 | 5 | N/A |

GENERAL FEEDBACK

1. The course was a good way for me to learn the content. 1 2 3 4 5 N/A

2. What did you most appreciate/enjoy/think was best about the course?

3. Any suggestions for improvement?

4. Please describe the top two topics you would like to learn more about in the next 12 months:

Topics: _____

Preferred level: a. Introductory b. Intermediate c. Advanced

Preferred format: a. Seminar/workshop (how many days? _____)

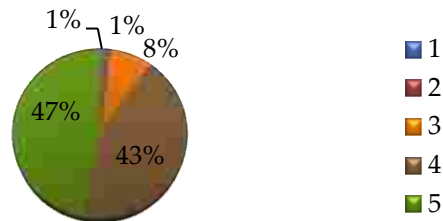
b. Self-study materials

c. Interactive distance learning (i.e., Web based)

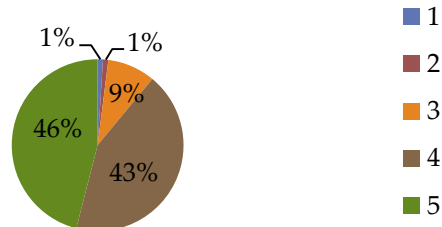
d. Other: _____

Open Course Feedback Analysis

1. I was well informed about the Outcomes of this course (79 Responses)



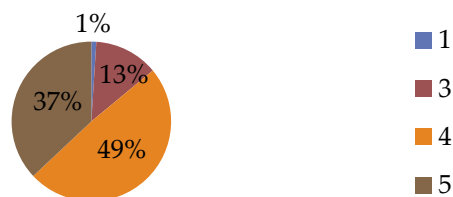
2. This course lived up to my expectation (79 Responses)



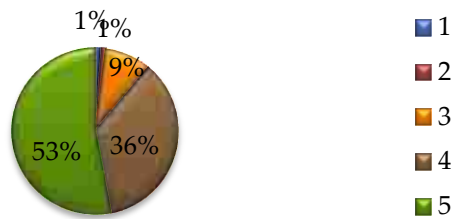
3. The material was presented in an organized manne (79 Responses)



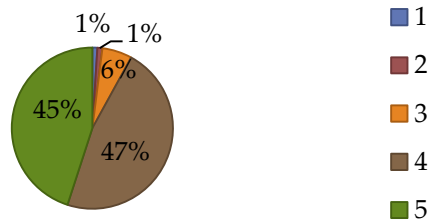
4. The course outcomes were clear to me (79 Responses)



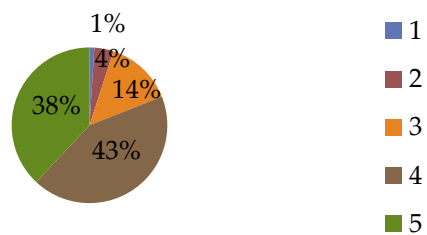
**5. The Day wise assessment stimulated my learning.
(79 Responses)**



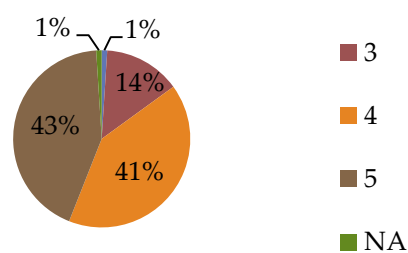
6. The activities in this course gave me sufficient practice and feedback (79 Responses)



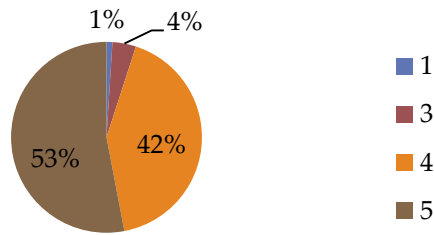
7. The difficulty level of this course was appropriate (79 Responses)



8. The pace of this course was appropriate (79 Responses)



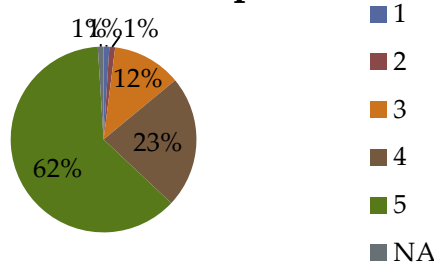
9. The instructor was well prepared (79 Responses)



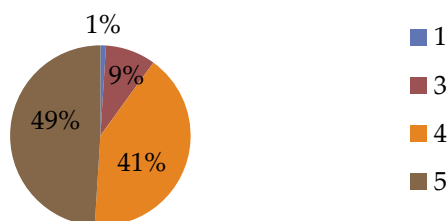
10. The instructor was helpful (79 Responses)



11. I am able to install and configure packages necessary for R (79 Responses)



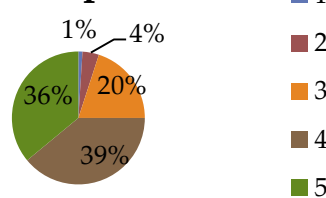
12. I am able to select the appropriate data types and visualization tools for my project (79 Responses)



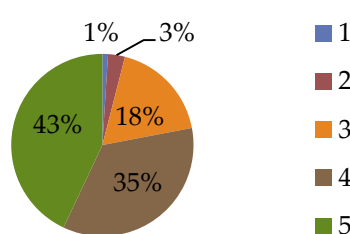
13. I can solve problems individually or with my team and able to give appropriate solution to the given problem using R (79 Responses)



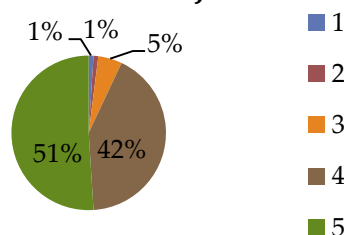
14. I am able to design experiments on predictive models by choosing appropriate packages (79 Responses)



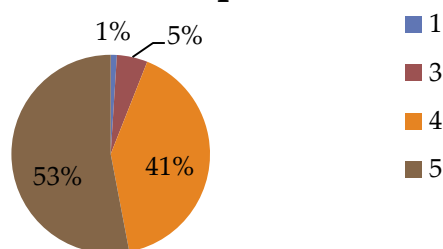
15. This course made me to study on rcases on data analysis problem eal time (79 Responses)



16. I Recognize the need of R programming in current technological change and interested in attending advanced course of this subject (79 Responses)



17. The course was a good way for me to learn the content. (79 Responses)



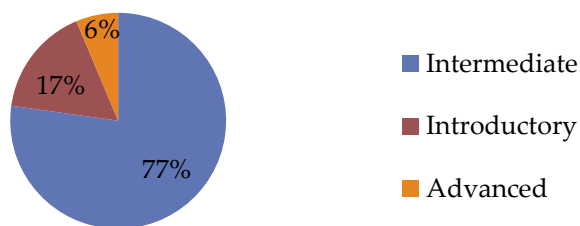
18. Any suggestions for improvement? (sample Comments)

More time for hands-on interaction	We needed much more hands on session during 4th and 5th day,it was bit theoretical.
More hands on approach	Every day should have students doing hands-on work
MORE CODING	The external resource persons could've been more prepared towards the topic of the course. They deviated very much from the objective of the course.
Make it more activity based	Should be a little more audible. No need to elaborate a simple topic.
please try to invite more data scientists .	Some sessions were way too monotonous to keep pace with.We or rather you could have kept that in the morning batch with very interesting case studies n better .
could be much more informative	Hands on sessions must be given more often. Teachers must be more interactive.
Should have been more audible	Some sessions were a bit boring. Therefore we expected those sessions to be a little more simple and interesting.
More quiz questions	The industrial aspect of the seminar could have been more interesting & hands on.
People who came from the industry to teach us could have made the session a little simpler in a level that we could understand. Sometimes felt like it was too difficult and couldn't catch up with what was going on during that session.	the last day it would be nice if we had a competition about coding using the skills that we all learned so that we get nice innovative ideas
Little more briefing about the basics for non-computer branch students	amogh and team could have made the sessions more practical oriented

20. Please describe the top two topics you would like to learn more about in the next 12 months: Topics (sample Topics)

Machine Learning & Prediction models	Python, Java
Machiene learning	Hadoop, Tableau
Graphs, data frame	Graph and wordcloud
Artificial intelligence and deep learning.	Regression Analysis and R charts & Charts
R, Javascript	graphics and game development
1)big data analytics (deep). 2) business analytics	Discreet Mathematics , Combinatorics

21.Preferred level:(79 Responses)



22.Preferred format:(79 Responses)



Target:

Target:50% of students gave feedback above 70%: Attainment level 3

Target:50% of students gave feedback above 65%: Attainment level 2

Target:50% of students gave feedback above 60%: Attainment level 1

This activity was conducted to improve Program Outcome (PO5- modern tool usage). Based on the survey more than 60% of the students are able

to use R language at very good level(level 3). Hence the Program outcome has attained.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)

PEO-1: Successful professional career in Information Science and Technology.

PEO-2: Pursue higher studies & research for advancement of knowledge in IT industry.

PEO-3: Exhibit professionalism and team work with social concern

PROGRAMME OUTCOMES (PO'S)

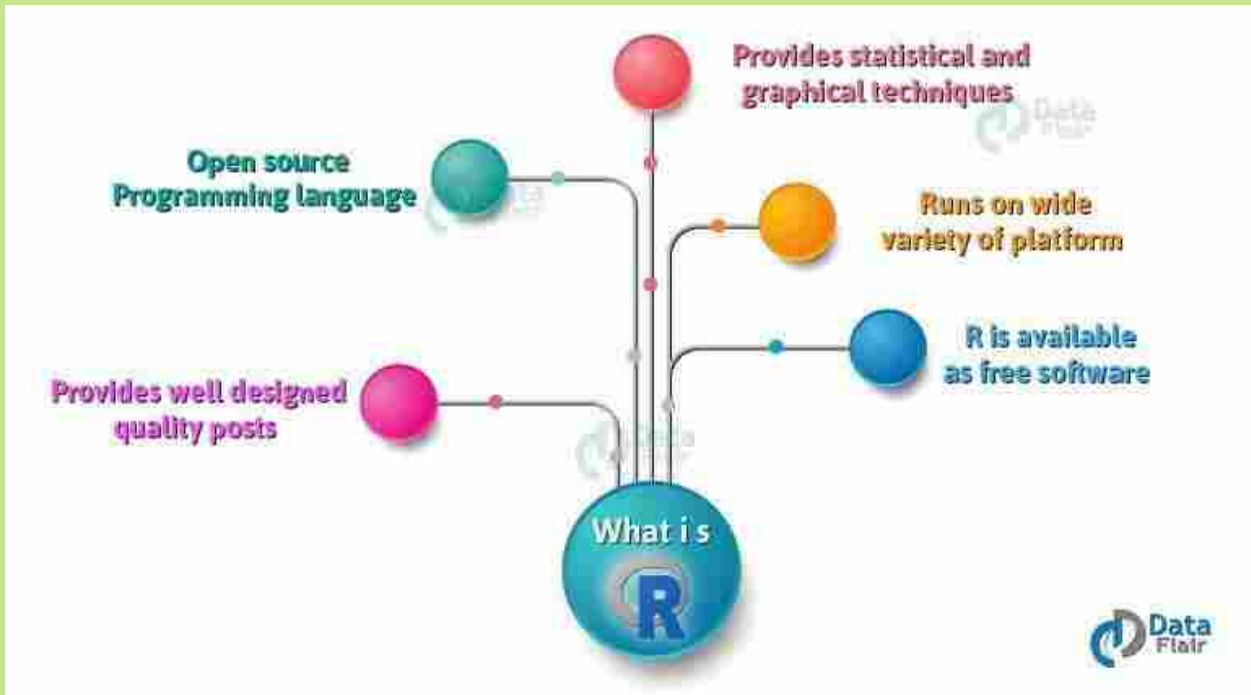
1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSO'S)

PSO-1: Apply the knowledge of information technology to develop software solutions.

PSO-2: Design and Develop hardware systems, manage and monitor resources in the product life cycle.



“The more we give importance to skill development the more competent youth will be.” -----Narendra Modi

