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Department of Information Science & Engineering

Certification Course

On

"Data Analytics with Spark-Hands On Session"

Academic Year 2022-23



A Unit of Alva's Education Foundation (R) (Affiliated to Visvesvaraya Technological University, Belagavi. Approved by AICTE, New Delhi & & Recognized by Government of Karnataka Shobhavana Campus, Mijar, Moodbidri- 574 225, Mangalore, D.K., Karnataka State.

> Phone: 08258-262724 (O), 262725(P), Telefax: 08258-262726 Email: principalaiet08@gmail.com, web: www.aict.org.in

Approval Letter

Daet: 16/08/2022

To.

The Principal

AIET, Mijar

Respected Sir,

Subject: Conducting Certification Programme on "Data Analytics with Spark – Hands On Session"

With reference to the above subject I would like to bring to your kind notice that the department ha planned to organize five days Certification programme on "Data Analytics with Spark with Hands on Session" from 23rd to 27th August 2022. Resource person for this student development / certification programme is Mr. Vignesh Shetty, Software Developer, IBM India Private Limited, Bengaluru. Participants for this certification programme are students of 3rd and 5th semester.

Kindly consider our request and do the needful for further processing.

Thanking You Sir,

Coordinator

Mr.Jayantkumar A Rathod

Prof.Sudheer Shetty

H. O. D.

Dept. Of Information Science & Engineering Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 250

Dr.Peter Fernandes PRINCIPAL

Alve's Institute of Engg. & Technology, Milas. MOOSEIDRI - 574 275, D.K.



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Invitation Letter

Date: 18/8/2022

To,

Mr. Vignesh Shetty

Software Developer,

IBM India Private Limited, Bengaluru

Dear Mr. Vignesh Shetty

We are very much pleased to invite as a resource person for the certification course programme which will be scheduled from 23rd to 27th August 2022 on "Data Analytics with Spark - Hands On Session" at our premier institution. The participants for this course will be students of 3rd and 5th Semester, Department of Information Science & Engineering.

Kindly accept our invitation letter and do the needful.

Thanking You,

Coordinator

Mr. Jayantkumar A Rathod

Associate Professor

Department of ISE

Prof. Sudheer Shetty

Associate Professor & Head

H. O. D.

Dept. Of Information Science & Engineering Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225



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Circular

Date: 18/8/2022

It is hereby informed to all the students of 3rd and 5th Semester that department is organizing five days certification programme on "Data Analytics with Spark – Hands On Session" from 23rd to 27th August 2022. In this regard all the students are informed to attend the same and go through the basics of Big Data analytics and Spark. Certificate will be provided upon completion of course with minimum of 85% attendance and passing the test with 70 % marks conducted at the end of the course.

Coordinator

Mr. Jayantkumar A Rathod

Associate Professor

Department of ISE

Prof. Sudheer Shetty

Associate Professor & Head

H. O. D.

Dept. Of Information Science & Engineering Alva's Institute of Engg. & Tech Mijar, MOODBIDRI - 574 225

Resource Person

Mr. Vignesh Shetty

Software Developer,

IBM India Private Limited, Bengaluru.

Convener:

Prof. Sudheer Shetty

H.O.D Department of ISE,

AIET Moodbidri

Coordinators:

Mr. Jayantkumar A Rathod

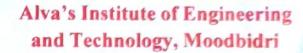
Dept. of ISE, AIET Moodbidri

Email: jayant1977@aiet.org.in

ABOUT THE INSTITUTION

Alva's Education Foundation (AEF) established in 1995 with the vision of our Chairman Dr. M. Mohan Alva has succeeded in making Moodbidri, an Educational hub in the South Canara Region, with more than 25000 students pursuing various courses ranging from primary school to post-graduate courses in social sciences, pure sciences, engineering and management. There are 21 institutions functioning under the Alva's Education Foundation.

Alva's Institute of Engineering and Technology, Moodbidri is a Premier Engineering Institute of Alva's Education Foundation, established in the year 2008. The college is certified to the ISO 9001:2008 standards. The institute offers top quality education in eight under graduate programs in Engineering-AIML, CSD, AGRI, Computer Science, Civil, Electronics & Communications, Information Science, Mechanical Engineering, Three Post Graduate programs- Master of Technology in Thermal Power Engineering, Computer Science & Engineering, VLSI Design Embedded System and Master of Business Administration.





5 Days Certification Program On

"Data Analytics with Spark"

From 23rd Aug to 27th Aug 2022

Organized by

Department of Information Science and Engineering



ABOUT THE DEPARTMENT

The Department was started in the year 2008 with an intake of 60 for the undergraduate program. The course has become popular among students due to their achievements and rigor. The department has well qualified, experienced and committed faculty to provide quality industry tuned education to the students. The faculty members regularly participate in Workshops, Faculty development programs and seminars to keep themselves updated with the cutting-edge technologies. Faculty members prolifically publish research papers in renowned journals and conferences Department has well- equipped laboratories housing state of the art equipment including computer systems with the latest configurations, which are completely networked and the latest software for applications and development areas. The department is affiliated with Visvesvaraya Technological University (VTU), Belagavi.

COURSE CONTENT

- Introduction to Data Analytics
- Learning of R and Python
- Analytics Tools and Techniques
- Introduction to Spark
- How to ingest data with Spark, analyze the Spark UI

VISION

To Impart quality learning and nurture students to become successful technocrats by achieving excellence in information science and engineering field for addressing the evolving needs of the industry as well as the society.

MISSION

M1: To provide quality technical education and research training for preparing competent professionals in the Information technology field.

M2: To provide a suitable infrastructure and environment that inculcates the best engineering practices for the Socio-economic development of society.

M3: To foster the students to become successful technocrats to meet the global competency in the field of IT industry.

M4: To develop entrepreneurship skills with active research and innovation by inculcating ethical values among students.

23-Aug-2022

Inauguration:	09.00 am to 10:00 am
Keynote Address:	10.00 am to 11.00 am
Tea Break:	11.00 am to 11.15 am
Session 1:	11.15 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 2:	02:00 pm to 05:00 pm

PROGRAM SCHEDULE

24-Aug-2022

Session 3:	09.00 am to 11:00 am
Tea Break:	11.00 am to 11.20 am
Session 4:	11.20 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 5:	02:00 pm to 05:00 pm

25-Aug-2022

Session 6:	09.00 am to 11:00 am
Tea Break:	11.00 am to 11.20 am
Session 7:	11.20 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 8:	02:00 pm to 05:00 pm

26-Aug-2022

Session 9:	09.00 am to 11:00 am
Tea Break:	11.00 am to 11.20 am
Session 10:	11.20 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 11:	02:00 pm to 05:00 pm

27-Aug-2022

Session 12:	09.00 am to 11:00 am
Tea Break:	11.00 am to 11.20 am
Session 13:	11.20 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 14:	02:00 pm to 04:00 pm
Validictory	04:00 pm to 05:00 pm

Department of Information Science & Engineering

V. The Cold to the Cold Cold State of

3rd Semester Student List (2022-23)

SI.	LIGHT	Nama af the fluidant		D	ates			Signature
No.	USN	Name of the Student	23/8	24/8	25	26	27	
1	4AL211S001	ADITHYA TEJASWI D	1	2	3	1.4	5	A.
2	4AL211S002	AFIZA A	1	2	3	14	5	Mari
3	4AL211S003	AISHWARYA SALIMATH	1	2	3	14	5	- they warya
4	4AL211S004	AKASH DEVADIGA	1	2	3	4	5	Those
5	4AL211S005	AMAR B M	1	2	3	14	5	16000
6	4AL211S006	ANAGHA UDUPA Y N	1	2	3	14	d	OF st.
7	4AL21JS007	ANANYA	1	2	3	14	4	Avange
8 (1	4AL211S008	ANIRUDH KAMATH K	1	2	3	14	5	dra
9	4AL211S009	ANKITHA B	1	2	3	14	5	millia
10	4AL21IS010	BHAGYASHREE R PUJARI	1	2	3	14	5	aberp
11	4AL21IS011	BHARATH J	1	5	3	4	5	Pharath_
12	4AL21IS012	BHUMIKA S KULKARNI	ı	2	3	2.4	5	+ Other
13	4AL21IS013	CHAITRA S KODDADDI	1	2	3	4	5	1
14	4AL211S014	CHANDAN M N	1	2	3	14	6	CV9-
15	4AL211S015	CHINDAN B V	1	2	3	40	5	Chat an
16	4AL21IS017	GOWRISH N	1	2	3	4	5	BHO.
17	4AL211S018	HARSHITHA B	1	2	3	14	5	Harritta B
18	4AL21IS019	JAHNAVI	1	2	3	4	5	7092
19	4AL21IS020	KARTHIK MADAKARI T P	1	2	3	4	5	torne
20	4AL21IS021	KELVIN DMELLO	1	2	3	14	5	Monelle
21	4AL211S022	KOUSHIK ACHAR	110	2	3	14	5	Bout
22	4AL211S023	KRUPASHREE R	1	2	3	ч	6	trupophier. 2
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28	4AL211S029	MANOJ M U	1	a	3	4	6	1 Tames. M. U
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30	4AL211S031	MOHAMMED RIHAN	i	2	3	4	g	Work
31	4AL21JS032	MUHAMMED YAMIN SHARFUDDIN	1	2	3	u	6	toma
32	4AL211S033	NANDAN S	1	2	3	19	1	1 15
33	4AL211S034	NISHANT KUMAR		2	3	L	C	Children 1
34	4AL211S035	PRAGATHI G GOWDA	1	0	3	4	5	West 10
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38	4AL211S039	PREETHAM BYADAGI	1	2	3	4	5"	? Jule
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40	4AL211S041	RANJITH	1	Ω	3	L	5	Rough
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42	4AL211S043	SANNIDHI K S	1	2	3	u	5.	Sound

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44	4AL21IS045	SARTHAK K JAIN ·	1	2	3	4	5	Soutable F. JOR
45	4AL21IS046	SATEESH DYAVAPPA SATYANNAVAR	1	2	3	N	5	3
46	4AL21IS047	SATHWIK K D	1	2	3	4	5	SOMULD
47	4AL21IS048	SHARAVI R RAI	(2	3	4	5	Rue
48	4AL21IS049	SHASHIDHAR MAHADEV PATGAR	1	2	3	4	5	Show
49	4AL21IS050	SHRAVAN R POOJARY	1	2	3	4	5	Sher
50	4AL21IS051	SHRAVITHA	1	ຊ	3	4	5	Showitha
51	4AL21IS052	SHREYA RAI	1	2	3	4	5	miliata
52	4AL21IS053	SHRUJAN KUMAR H V	1	2	3	4	5	2000
53	4AL21IS054	SOORAJ	1	2	3	4	5	Scarry
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55	4AL21IS056	SRIKANTH RAJU SRINIVAS	i	2	3	4	5	Stikanth.
56	4AL21IS057	SRUJAN K M	1	2	3	4	5	Stryings
57	4AL21IS058	SRUSTI P S	1	2	3	2	5	Bauxie:
58	4AL21IS059	SUVAN P KEDILAYA	1	2	3	4	5	عمانا
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60	4AL21IS061	SYED SALEHA	1	2	3	ч	5	Call
61	4AL21IS062	VASAVI RAI C	1	2	7	4	5	vorisaid
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68	HOURT SEJAH	NAMRATHA . J. CHETTY	1	2	3	7	5	Dennal La Plutte
69	HALDDISHOS	RAHULOP. SHETTY	-	2	3	Н	5	Pahel holly

Coordinator (Mr. Tayaultamar A.R.) Stand HoD (Prof. Fudheer Shetty)

Department of Information Science & Engineering

5th Sem Student List

5 Sem Stude	it List
(23 - Aug - 202	2 To 27-Aug-2022)
Attendance &	Certification Course

	1 11111	NAME			Date	S		Signature
SN	USN	NAME	23	24	25	26	27	165-1-1
1	4AL20IS001	ABHISHEK R BHAT	l	2	3	4	5	Abhistek
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5	4AL20IS005	ANAND M RASTAPUR	1	2	3	4	5	And .
6	4AL20IS006	ANSON SAROSH DSOUZA	١	2	3	H	5	OMONDO
7	4AL20IS007	ASHWINI M	1	2	3	4	5	Ashereni W
8	4AL20IS008	B S SUMUKHA	1	2	3	4	5	8.3.3
9	4AL20IS009	C H RAKESH	1	2	3	4	5	COR
10	4AL20IS010	CHANDANA A S	(2	3	4	5	chandana
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12	4AL20IS013	DARSHAN S	ı	2	3	4	5	Ded.
	4AL20IS013	DEEKSHITH	1	2	3	H	5	Dut
13 14	4AL20IS014 4AL20IS015	DEVADIGA LIKHIT KUMAR	1	2	3	4	5	Q thit too
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16 17	4AL20IS017	FIÑNY PAUL	1	2	3	4	5	Author
	4AL20IS019	GARY RICHARDS R	1	2	3	H	5	Car
18	4AL20IS020	KEERTHANA G	i	2	3	4	5	40esthar
19	4AL20IS020	LIKHITA K M	1	2	3	4	5	10
20	4AL20IS021	MADHU M	1	2	3	4	5	M.J.
21	4AL20IS023	MADHUSHREE	i	2	3	4	5	Madhushree
22	4AL20IS025	MEGHANA K	1	2	3	Н	2	Ughanak
	4AL20IS026	MOHAMMED FIROZ	1	2	3	H	5	Offins
24	4AL20IS027	MOHAMMED SUFIYAN	1	2	3	H	5	Sept fre
25 26	4AL20IS027	MOHAN RAJU V	1	2	3	H	5	12
27	4AL20IS029	MONISHA N S	1	2	3	H	5	MONTHUNCE
28	4AL20IS030		1	2	3	H	5	Transpor
29	4AL20IS031	NANDAN M R	1	2	3	4	2	Kandan,
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36	4AL20IS038	RAHUL R POOJARY	1	2	3	4	5	1
37	4AL20IS039	RAVINDRAREDDY	1	8	3	4	5	Taul
38	4AL20IS040	RAVIRAJ	1	2	3	4	5	Rayivaj
39	4AL20IS041	S G YASHAVARDHAN	1	2	3	4	5	A.

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48	4AL20IS050	SUDHEER	1	2	3	4	5	Sollies.
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Cordinator

Mr.Jayantkumar A Rathod

Ruhy

Prof.Sudheer Shetty

H. O. D.

Dept. Of Information Science & Engineering Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225

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Phone: 08258-262724 (O), 262725(P), Telefax: 08258-262726

Email: principalaiet08@gmail.com, web: www.aiet.org.in

Feedback Form

Resource	Person	:	Mr.	Vignesh	Shetty
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Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-
The resource person wa	as presented in a clea	or and well-organi	zed manner.
Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-
The resource person an satisfactory manner.	swered to questions	in an informative,	appropriate and
Strongly Disagree-1	Disagree-2	Agree-3 \	Strongly Agree-
The resource person co	vered all the topics a	s per the schedule	e de la companya de l
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If any other remarks or comments or suggestions you would like to make. Resource person had good knowledge about the topic & Sersion was interactive & informedive.



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Phone: 08258-262724 (O), 262725(P), Telefax: 08258-262726 Email: principalaiet08@gmail.com, web: www.aiet.org.in

Shwetha L. Sharma

Test Question Paper

- 1) What is data analytics?
- a) The process of collecting data b) The process of cleaning data
- c) The process of extracting insights from data d) The process of storing data
 - 2) Which of the following is a key step in the data analytics process?
 - a) Data visualisation (b) Data collection
 - c) Data encryption d) Data transmission
 - 3) What does the term "Big Data" refer to in data analytics?
 - a) Data that is physically large in size b) Data that is collected from large organizations
- c) Data that is characterized by volume, velocity, variety, and complexity
 - d) Data that is processed using big computers
 - 4) What is the purpose of data preprocessing in data analytics?
 - a) To make data less accessible b) To remove outliers from the data
- c) To transform raw data into a suitable format for analysis d) To encrypt the data
 - 5) Which of the following is an example of structured data?
 - a) Text documents b) Social media posts
- Spreadsheet files d) Images
 - 6) What is Apache Spark primarily used for?
 - a) Web development b) Data analytics and processing
 - c) Video streaming d) Mobile app development
 - 7) What is the core data structure in Spark for distributed data processing?
 - a) DataFrames b) RDDs (Resilient Distributed Datasets)
 - c) Data Tables d) DataSets
 - 8) What is the default storage level in Spark?

Memory_Only B) Disk Only

C) Memory_And_Disk D) Off_Heap

9) Which programming languages are supported by Apache Spark?
a) Java, Python, and Scala b) Java, Python, and C#
c) Java, PHP, and Scala d) Java, Python, and Ruby
10) What is the main advantage of using data analytics tools and software?
a) They eliminate the need for collecting data. b) They can process data faster than humans.
c) They don't require any programming knowledge. d) They always provide accurate results
11) What does the acronym "BI" stand for in the context of data analytics?
a) Big Information (b) Business Intelligence
c) Basic Insight d) Binary Integration
12) What does the term "lazy evaluation" mean in the context of Spark?
a) Spark waits for a long time before processing data.
Spark doesn't execute transformations until an action is called.
c) Spark processes data as soon as it arrives.
d) Spark executes transformations immediately upon receiving data.
13) Which of the following is NOT a feature of Apache Spark?
a) Batch processing b) Stream processing
c) Graph processing (d) Word processing
14) What is an RDD?
a) A Resilient Distributed Dataset b) A Remote Data Depot
c) A Replicated Database Descriptor d) A Recursive Data Definition
15) Which of the following is NOT a type of transformation in Spark?
a) map b) filter
c) reduce d) join
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Condinator
Coordinator (19r. Tayart-kumar A-Pathod)
(Mr. Jayant Kumar. H- Kaywood)



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Report

On

"Data Analytics with Spark - Hands On Session"

The Department of Information Science and Engineering organized a 5 days Certification program on "Data Analytics with Spark – Hands On Session" from 23rd Aug to 27th Aug 2022. The certification course was inaugurated by the resource person, Mr.Vignesh Shetty, Software Developer, IBM India Private Limited, Bengaluru Prof. Sudheer Shetty, Associate Professor and Head and Program coordinator Mr.Jayantkumar A Rathod. A total of 125students participated in this certification course program.



The resource explained the students about Data analytics and its importance in present day applications. He gave a brief insight about Python and R-Programming. He also highlighted about the various tools and techniques used in Big Data analytics. Then he explained the students about Spark and its importance in Data Analytics. He explained about how to ingest data with Spark and analyse the Spark UI. The session was completely Hands-On session which helped the students to understand data analytics concept in depth. Finally the HoD thanked the resource person on behalf of entire department for sharing his thoughts on Data Analytics with Spark to our beloved students and helping them to enhance their knowledge.

Coordinator

Mr.Jayantkumar A Rathod

Prof.Sudheer Shetty

Dr. Peter Fernandes

Dept. Of Information Science & Engineering Mijar, MOODRIDRI - 574 225, D.K. Mijar, MOODRIDRI - 574 225



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Appreciation Letter

27th August, 2022

Mr. Vignesh Shetty Software Developer, IBM India Private Limited, Bengaluru.

Sub: Letter of Appreciation

Dear Mr. Vignesh,

On behalf of Management, the Principal, and the Department of Information Science & Engineering, we would like to express our sincere gratitude for holding the workshop on "Data Analytics with Spark – Hands On Session" from 23rd to 27th August 2022.

The certification course was informative, knowledgeable and thought-provoking. It was a truly wonderful hands-on experience that exposed students to data analytics and spark. Your opinions on this topic were valued and benefited by all of the students.

The College and the Department appreciates your time, dedicated effort for conducting the workshop, and contribution in improving the well-being of the participants. We thank you very much for accepting our request and doing the needful. We look forward to work with you in the future endeavors.

Thanking you,

Yours sincerely,

(Prof. Sudheer Shetty)

H. O. D.
Dept. Of Information Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225



Department of Information Science and Engineering CERTIFICATE

This is to certify that Mr/Ms <u>SHWETHAR SHARMA</u> bearing USN: <u>4AL20IS047</u> of 5TH Semester has successfully completed the certification course on "<u>Data Analytics</u> with Spark Hands on Session" conducted from <u>23rd Aug 2022 To 27th Aug 2022</u>.

COOKDINATOR

Mr.Jayantkumar A Rathod

HoD

Prof.Sudheer Shetty

PRINCIPAL

Dr.Peter Fernandes



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Department of Information Science & Engineering

Summary Report of Add-On / Certificate Program with its Outcomes

Academic Year: 2022-23	Duration: 23/Aug/2023 to 27/Aug/2022
Title of the Course	Data Analytics with SPARK – Hands On Session
Resource Person	Mr. Vignesh Shetty, Software Developer, IBM India Private Limited, Bengaluru.

The Department organized a five day certification course on "Data Analytics with SPARK -Hands On Session " from 23rd to 27th August 2022. The resource person for this certification program was Mr. Vignesh Shetty, Software Developer, IBM India Private Limited, Bengaluru. The participants were students of 3rd and 5th Semester. A total of 125 students attended the course. At the end of certification course the students could able to learn the following concepts.

- Data analytics and its importance in present day applications.
- Concepts of Python and R-Programming.
- The various tools and techniques used in Big Data analytics.
- Spark and its importance in Data Analytics.
- How to ingest data with Spark and analyse the Spark UI.

Prof.Sudheer Shetty

H. O. D.

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