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## **Course Prospectus**

**Name of the Group:** Data Science

**Course Name:** PG Diploma in Data Science & Analytics

**Course Code:** DS 600

**NSDA CODE: (2020/ITES/NIELIT/03605)**

**NSQF LEVEL: 08**

**Duration:** 840 Hours, 6 Months

**Last Date of Registration:** 15-10-2021

**Written Exam for Provisional Selection List:** 20-10-2021

**Display of Provisional Selection List:** 21-10-2021

**Payment of first installment fee:** 21-10-2021 to 26-10-2021

**Course Start Date:** 27-10-2021

**Preamble:** Data Science refers to extraction of knowledge from large volumes of data that are structured or unstructured, which is continuation of data mining and predictive analytics. It involves different categories of analytical approaches for modeling various types of business scenarios and arriving at solution and strategies for optimal decision-making in marketing, finance, operations, organizational behaviour and other managerial aspects. This new field of study breaks down into a number of different areas, from constructing big data infrastructure and configuring the various server tools that sit on top of the hardware, to performing the analysis and developing the right transformations to generate useful results.

### **Objective of the Course:**

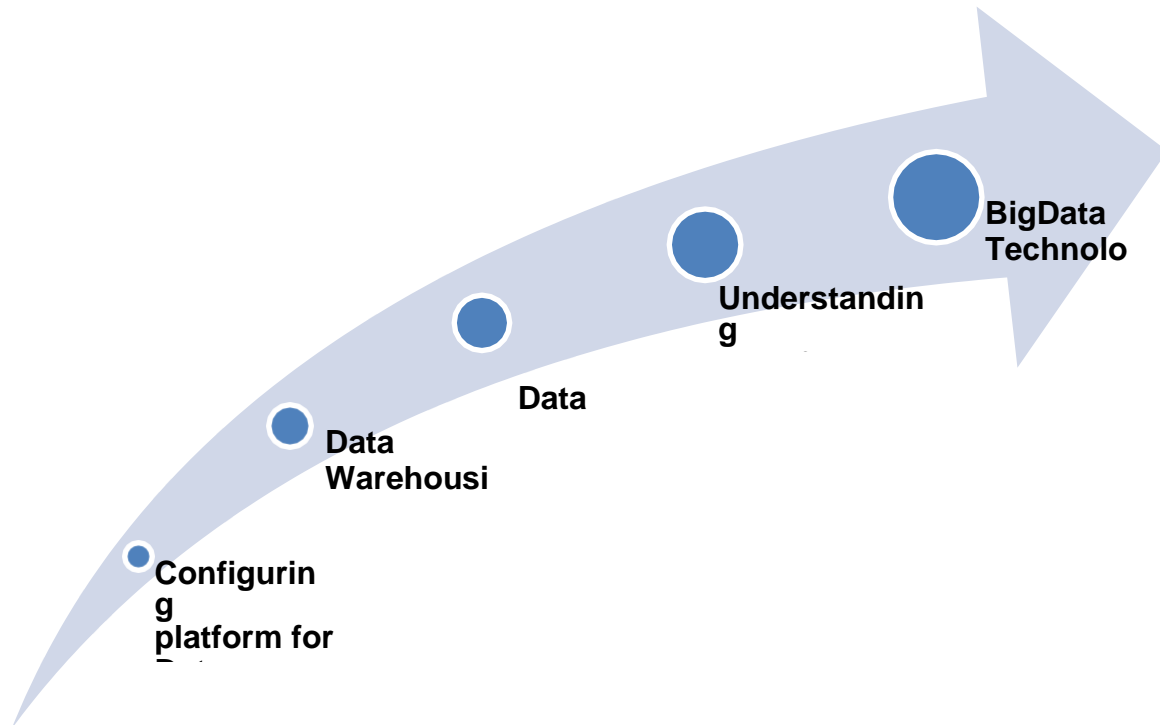
The **Post Graduate Diploma in Data Science & Analytics** a unique 6-month (840 Hours) program offered by NIELIT Chennai is an excellent blend of knowledge and practice in the field of Data Science and its industrial applications. The course is NSQF aligned with Level 8. The program is targeted for creating qualified Data Science professionals. The course progresses through the Operating System, concepts of Data and its storage, programming for data science, Big Data Technology and its implementation. Various advanced tools such as R and Python,

along with MySQL, MongoDB, Java Programming and Hadoop Framework are used for achieving the goal of solving critical business and Analytic problems. The Program also offers six weeks of hands-on real – life analytical projects for participants to get equipped with strong analytical and programming which makes them highly demanding and employable on completion of the program. The course has been designed after proper industry survey and consultation with multiple industry leaders to ensure that participants learn exactly what employers need.

The objective of this program is to make Statistical Analysts, Data Scientists, Data Analysts, Big Data Engineer, Hadoop Developer. There is a huge demand for resources skilled in Data Science. The MCKINSEY Global Institute has predicted that in forthcoming years, the world will face a shortage of more than 38-40 million highly skilled manpower with deep analytical skills that can leverage data analysis to make effective decisions for their organizations. So, it is quite obvious that existing resources along with new candidates who are interested in perusing career in this field needs to be trained. Our objective is to create a pool of talent who can meet this demand. This course is meant to sensitize students for computational statistics applications and usage as well as provide hands-on experience with solving real world data science issues.

**Outcome of the Course:** On completion of the Course, the Participants will learn the concept of Data Analytics using open source statistical tools like R, Python and some very good visualization tools and techniques. They will be able to implement industry-oriented Data Analytics Project.

## Full Flow of Course



## Course Structure

This course contains total six modules. After completing the first five modules, the students have to do a 120 Hours project using any of the topics studied to earn the PG Diploma. Click here to view the Detailed Syllabus - [Detailed-Syllabus.pdf](#)

DS 600	Module Name	Duration (in Hours)
Module 1	Linux Bash Scripting & Data Warehousing	240
Module 2	Data Analytics & Machine Learning	240
Module 3	Big Data Analytics	240
Module 4	Mini Project (Implementation of Data Analytics)	120
<b>Total Duration</b>		<b>840</b>

## Course Fees

Course fee is Rs.42,000/- (Can be paid as a single instalment of Rs. 41,000/- or in 2 instalments as given below)

Registration Fee	Rs. 1000/- for SC-ST Refundable/Adjustable against advance security deposit.	Rs. 1000/- for others Adjustable with Training fee	
Instalment No.	SC-ST Candidates (Fee including GST in Rs.)	General Candidates (Fee including GST in Rs.)	Last Date
1	*	20,000.00	26-10-2021
2		21,000.00	24-12-2021
<b>Total</b>	-----	41,000.00	

**\* Tuition Fees are waived for eligible SC/ST students who are successfully completing the course with NSQF certification under SCSP/TSP scheme.**

*\*GST is Applicable as per Govt. Norms GST (currently it is 18%).*

*Apart from above fee, following fee to be paid by all selected candidates (excluding SC-ST candidates) directly while applying for NSQF examination:*

*1. NSQF Examination fee of Rs. 2600/- while applying for examination*

**Registration Fee** (non-refundable if candidate is selected for admission but refused)

SC/ST: Rs. 1000/- for SC-ST, refundable/adjustable against advance security deposit.

Others: Rs. 1,000/-. (Adjustable with Total fee for candidates.)

However, the above registration fee shall be refunded on few special cases as given below

- ✓ Candidates are not selected for admission.
- ✓ Course postponed and new date is not convenient for the student.
- ✓ Course cancelled.

## Eligibility

- ✓ ME/M.Tech/ BE/B.Tech/MCA/M.Sc/DOEACC B Level with Knowledge of Statistics and Computer Programming.

## Number of Seats: 100 (One Hundred) - Total

Category	No. of Seats
SC (15%)	15
ST (7.5%)	08
OTHERS	77
<b>Total</b>	<b>100</b>

**Note: Seats are allocated based on the merit of the Qualification.**

### How to Apply

Candidates can apply online in our website <http://reg.nielitchennai.edu.in>. Payment towards non-refundable registration fee can be paid through any of the following modes:

- ✓ Online transaction: Account No: 31185720641 Branch: Kottur (Chennai), IFS Code: SBIN0001669.

**Note:** The Institute will not be responsible for any mistakes done by either the bank concerned or by the depositor while remitting the amount into our account

**Last date of Registration: 15<sup>th</sup> October, 2021**

### Registration Procedure

All interested candidates are required to fill the Registration form online with registration fees before **15<sup>th</sup> October, 2021** with all the necessary information.

### Selection Criteria of candidates

The selection to the course shall be based on the following criteria:

Selection of candidates will be based on their marks in the qualifying examination subject to eligibility and availability of seats.

- ✓ **Each registered candidates need to appear for the written examination on 20-10-2021. The candidate who qualifies the exam will be provisionally selected for the course.**
- ✓ The first list of Provisionally Selected Candidates will be published on NIELIT Chennai website ([www.nielit.gov.in/chennai](http://www.nielit.gov.in/chennai)) on **21-10-2021** by **5:00 PM**. In case of vacancy, an additional selection list will be prepared and the selection will be intimated by email only.

- ✓ Provisionally selected candidate has to upload following document on registration portal for online verification :
- ✓ **For SC/ST :**
  - Original Copies of Proof of Age, Qualifying Degree (Consolidated Mark sheet & Degree Certificate/Course Completion Certificate), 10<sup>th</sup> and 12<sup>th</sup> mark sheets.
  - Self-attested copy of community certificate.
  - One passport size photograph.
  - **AADHAR Identity proof must for SC/ST Candidates** (For availing concession).
  - **Candidates under fee-waver category (SC-ST) have to give undertaking (notarized) through post indicating that they will not discontinue the course in between.**
- ✓ **For Others (General, OBC, EWS) :**
  - Original Copies of Proof of Age, Qualifying Degree (Consolidated Mark sheet & Degree Certificate/Course Completion Certificate), 10<sup>th</sup> and 12<sup>th</sup> mark sheet.
  - One passport size photograph.
  - Self-attested copy of Govt. issued photo ID card
- ✓ After document verification selected candidates (other than SC-ST) have to pay first instalment of Rs. **20,000/-** on or before **26-10-2021** by payment mode mentioned above. Selected candidates are requested to upload the proof of remittance of fee on registration portal and also send the proof of remittance of fee as email to [skjha@nielit.gov.in](mailto:skjha@nielit.gov.in)/[trng.chennai@nielit.gov.in](mailto:trng.chennai@nielit.gov.in).

**Admission:** All provisionally selected candidates whose documents are verified and paid the fees (full or first instalment) and verified by accounts section of NIELIT Chennai will get a welcome message in his login id provided during registration. The credential and url for online portal will be shared through WhatsApp or email.

### Discontinuing the course

- ✓ No fees (including the security deposit) under any circumstances, shall be refunded in the event of a student who have completed the process of admission or discontinuing the course in between. No certificate shall be issued for the classes attended. Only Grade Sheet will be issued.
- ✓ If candidates are not uploading consecutive 3 assignments within assigned time, then their candidature will be cancelled without any notice and all fees paid will be forfeited.
- ✓ If candidates are not appearing for any internal examinations/practical their candidature will be cancelled without any notice and all fees paid will be forfeited.

**Course Timings:** This program is a practical oriented one and hence there shall be more lab than theory classes. The classes and labs are online cloud based from 9.30 am to 5:30 pm and Monday to Friday.



## Address:

National of Electronics and Information Technology  
 ISTE Complex, No. 25, Gandhi Mandapam Road, Chennai – 600025  
 E-mail: [trng.chennai@nielit.gov.in](mailto:trng.chennai@nielit.gov.in)/Phone: 044-24421445  
 Contact Person: Dr. Sanjeev Kumar Jha, Mobile: 7765803105

## Course enquiries

Students can enquire about the various courses either on telephone or by personal contact between 9.15 A.M. to 5.15 P.M. (Lunch time 1.00 pm to 1.30 pm) Monday to Friday.

**Placement:** Placement assistance is provided to students who qualify our courses.

## Important Dates

- Last Date of Registration: 15-10-2021**
- Written Exam for Provisional Selection List: 20-10-2021**
- Display of Provisional Selection List: 21-10-2021**
- Payment of first installment fee: 21-10-2021**
- Course Start Date: 27-10-2021**

## Examination & Certification

- ✓ Certification Body: Examination Section, NIELIT Chennai
- ✓ PG Diploma Certificates will be issued after successful completion of all the modules including mini project. For getting PG Diploma certificate a candidate has to pass with minimum required marks.

## NSQF Examination Pattern:

Theory (Each Question will carry 1 mark) Duration (in Min): 90		Practical			Internal Assessment (Marks)	Project / Presentation / Assignment (Marks)	Major Project/ Dissertation		Total
Papers	No. of Questions/ Paper	Papers	Duration (in Min)	Marks/Paper			No. Of Projects	Marks	

3	100	2	180	90	60	60	1	100	700
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Examination scheme is as follows:

### Theory Papers

- **Theory 1** – Linux Bash Scripting & Data Warehousing
- **Theory 2** – Data Analytics and Machine Learning
- **Theory 3** – Big Data Analytics

### Practical Papers

- **Practical 1** – Data Analytics Technique & Machine Learning
- **Practical 2** – Big Data Analytics

Means of Assessment						
	Theory	Practical	Internal Assessment	Project/ Presentation/ Assignment	Major Project/ Dissertation	
<b>No of Papers</b>	03	02	01	01	01	
<b>Marks Each Paper</b>	100	90	60	60	Presentation	Projects
					40	60
<b>Total Marks</b>	300	180	60	60	100	
					<b>700</b>	

## Grading Scheme

Following Grading Scheme (on the basis of total marks) will be followed:

Grade	S	A	B	C	D	Fail
<b>Marks Range (in %)</b>	<b>85 to 100</b>	<b>75 to 84</b>	<b>65 to 74</b>	<b>55 to 64</b>	<b>50 to 54</b>	<b>Below 50</b>

Final Grading as per above grading scheme will be given on the basis of total marks obtained in all modules.

## Director, NIELIT Chennai



### Dr. Pratap Kumar S

Director

**Dr. Pratap Kumar S**, is BTech (Electrical Engineering), MTech (Digital Electronics), MBA (Marketing) and PhD (Strategic Management). He has More than 29 year's experience in planning and execution of industrial consultancy projects, and capacity building projects funded by both industry and central & state ministries. Executed 7 major industrial consultancy projects and associated with the development of more than 50 product technologies, empowered more than 10,000 candidates through various capacity building programs and facilitated more than 40,000 job seekers through various job fairs and outreach programs. He has expertise in Strategy, Product Development, Automotive Electronics, Embedded Systems, and Power Electronics.

## Programme Co-Ordinator



### Dr. Sanjeev Kumar Jha

Joint Director and Head (Academics)

**Dr. Sanjeev Kumar Jha**, is Masters in Statistics and Ph.D. in Computer Science and Engineering. He has extensive experience of more than two decades as an educator and researcher. He has published various research papers. Currently, he is Joint Director (Technical) at National Institute of Electronics and Information Technology (NIELIT), Chennai. He has expertise in various domains like Data Science, Big Data, Power BI and Software Development (Open Source). He has more than 24 years of experience in planning and execution of various training Programs and capacity building projects funded by both industry and central & state ministries.

## Faculties



**Saran S**

Resource Person

Saran S, has an Integrated M.Sc. in Computer Science from Pondicherry University. He has extensive Hand on Experience in Hadoop Big Data Tools, ML & AI Integration in Data Science, Network Developer on Java Networks Application with Arduino Boards. He is currently a Project Engineer at National Institute of Electronics and Information Technology (NIELIT), Chennai. His areas of interest include Data Science, Big Data Analysts, ML & AI Developer, and Software Developer (Python & Java).



**Lakshmi Priya S**

Resource Person

Lakshmi Priya S, is Masters of Engineering in Computer Science and Engineering with Specialization in Big Data Analytics. She is a Project Engineer at National Institute of Electronics and Information Technology (NIELIT), Chennai. She has an experience as an educator in various domains like Big Data, Data Analytics using R and Python, RDBMS, NoSQL. She is expertise in statistics and has taken many short-term courses like Data Analytics using R, Python and PG Diploma Courses in Data Science and Analytics.

**Gayathri V****Resource Person**

Gayathri.V, is Masters in Computer Science and Engineering . She is a Resource Person (IT) at National Institute of Electronics and Information Technology (NIELIT), Chennai. She has an experience as an educator in various domains like Networks and security, Artificial Intelligence ,DBMS etc. for 4 years. Her area of interest is Data Science & Networks.

**Jayakodi R****Resource Person**

Jayakodi R is Masters of Engineering specialization in Software systems. She is a Resource Person (IT) at National Institute of Electronics and Information Technology (NIELIT), Chennai. She has an experience in various domains like Telecommunication domain and hands on experience in Java technologies. Her areas of interests include Web Technologies, Databases and Software Development.