राष्ट्रीय इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी संस्थान, चेन्नई
National Institute of Electronics & Information Technology, Chennai

Ministry of Electronics & Information Technology
Government of India

नेशनलइंस्टीट्यूटऑफइलेक्ट्रॉनिक्सएंडइंफॉर्मेशनटेक्नोलॉजी, चेन्नई

National Institute of Electronics and Information Technology, Chennai

Autonomous Scientific Society of Ministry of Electronics & Information Technology (MeitY), Govt. of India

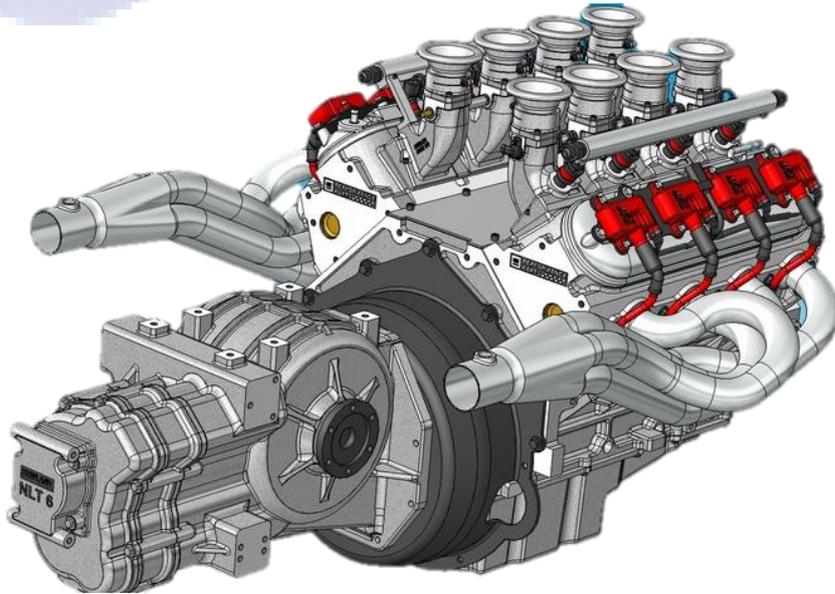ISTE Complex, 25, Gandhi Mandapam Road, Chennai - 600025

Course Prospectus

Certificate Course in

Computer Aided Design using

CATIA V5 (E-Learning)

Mode: ONLINE (Blended)

Index

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Course Prospectus

Name of the Group: ISM

Course Name: Certificate Course in Computer Aided Design using CATIA V5

Course Code: 3D 101

Duration: 80 Hours

Last Date of Registration: 15th March 2021

Display of Provisional Selection List: 18th March 2021

Course Start Date: 22nd March 2021

Preamble:

Computer Aided Design (CAD) is the powerful tool in design and manufacturing industries with its flexibility, reliability, efficient and cost effectiveness. With the use of CAD software, one can easily visualize and see the final product at the design stage itself with the use of computer. The final product can be modified easily according to the need of application. CATIA is a multi-platform software suite for CAD, CAM, CAE, PLM, etc. This software is developed by a French company Dassault Systemes, which is one of the popular and powerful CAD packages available on PC platforms and also a general-purpose CAD program for Part and Assembly Models. One can customize the powerful drawing tool to suit their specific application.

Objective of the Course:
The Course is of 80 Hrs. The course is aimed at giving exposure to and enhancing the knowledge and skills of engineers involved in CAD package and for those who want to provide training to others in this area. It gives exposure and hands on experience in the field of CAD (Part modeling, Assembly Modeling and Drafting).

This course is aimed to provide a 24/7 virtual lab facility using Cloud computing.

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Outcome of the Course: The participants will be able to:

➢ Understand the concepts of CAD and CAD tools.
➢ Visualize 3D objects using 2D design data.
➢ Sketch of Orthogonal Projection using 3D Models
➢ Design and Create Part models and Assembly models
➢ Create Drafting from Part and Assembly Models.

Requirements:

✓ You will need access to PC/Laptop with an Internet connection.
✓ You must have at least 4GB of free RAM on your system.

Course Structure: This course contains total four modules. After successful completion of the four modules, the candidates will be awarded certification.

Sl. No	Module Title	Duration		
		Theory	**Lab**	**Total**
1.	Introduction to CAD	2	2	4
2.	Part Modelling	6	24	30
3.	Design Assembly	4	16	20
4.	Drafting	6	20	26
Total Duration		18	62	80

Course Contents:

1. **INTRODUCTION TO CAD– 4 Hrs**

   Fundamentals discusses the basic tasks in using CATIA such as collaboration, managing data, working with the user interface, working with the model and so on. Fundamentals introduce you to the basic terminology, tasks, and procedures so you can build your models efficiently and share information, ideas, and processes in real time. You will learn how to use data management tools, customize the user interface, work with your models and manage model composition.

2. **PART MODELING - 30 Hrs**

   Part Modeling lets you create a part from conceptual sketching through solid feature-based modeling, including the ability to build and modify your parts through direct and intuitive graphical manipulation. The Part Modeling area introduces you to the terminology, basic design concepts, and procedures that you must know before you start building your part. You will learn how to build a 3D parametric part out of a 2D sketch by combining basic and advanced features like extrusions, sweeps, cuts, holes, slots, rounds etc. Part Modeling provides procedures for modifying your part's features and resolving failures.

3. **DESIGN ASSEMBLY – 20 Hrs**

   Assembly lets you design and manage assemblies, their features, and their components. With Assembly you can work with large, highly complex models. Use the Assembly area to learn about creating and manipulating your assemblies. Assembly shows you how to form assemblies by combining component parts designed specifically to fit together, model simple and compound in your assembly, and modify, analyse or reorient your assembly.

4. **DRAFTING - 26 Hrs**

   Drafting is a process of generating 2D Machine drawing for the 3D part models to send it to the manufacturer. With drafting you can learn to add the dimensions, notes and other elements of design between the model and its views on the plotted sheet. Detailing lets you create and manipulate detailed engineering drawings that use your 3D model as a geometry source. With Detailing, you can pass dimensions, notes, and other elements of design between the model and its views on the plotted sheet. Use the Detailing area to learn about creating drawings directly from the solid model, customizing the drawings with sketched

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geometry, and making cosmetic changes to the drawings. Detailing shows you how to manipulate items in a drawing, annotate your drawings, and add different kinds of textual and symbolic information. You will learn how to create views and custom formats and how to use logic statements to control the look of the drawing.

Course Fees:

Course Fees : Rs. 3500/- Inclusive of GST (18%) (Non-Refundable)
*GST is Applicable as per Govt. Norms GST (currently it is 18%).
However, the above Training fee shall be refunded on few special cases as given below:
1. If course postponed and new date is not convenient for the student.
2. If course cancelled

Payment Schedule:

Instalment No.	Last Date for Payment	Amount (in Rs.)
1.	15-03-2021	Rs.3500/-

Eligibility:

✓ Diploma Completed (Any Branch)

✓ B.E/B.Tech or Equivalent (Any Branch) Completed or Undergoing.

Number of Seats: 40 (Forty) - Total

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

Name of the Account Holder	NIELIT Chennai
Name of the Bank	State Bank of India
Name of the Branch	Kottur (Chennai)
Bank Account Number	31185720641
Bank IFSC 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*

Registration Procedure:

All interested candidates are required to fill the Registration form online with registration fees on or before **15th March, 2021** with all the necessary information.

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Selection Criteria of candidates:

Selection is based on the first come basis (subject to fulfilling the eligibility criteria).

✓ The first list of Provisionally Selected Candidates will be published on NIELIT Chennai website (www.nielit.gov.in/chennai) on 18-03-2021 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 their document on registration portal for online verification.

Admission Procedure:

All interested candidates are required to fill online Registration form with the Course fees on or before 15-03-2021 with all the necessary following documents.

- Self-attested Copy of Proof of Age

- Self-attested copy of Govt. issued photo ID card

- Candidates completed their Diploma/ B.E./ B. Tech. or Equivalent should attach self-attested copy of Degree Certificate/ Valid Provisional Certificate.

- Candidates undergoing their B.E./B.Tech or Equivalent degree should attach self-attested copy of ID Card.

- Passport Size photograph

All provisionally selected candidates whose documents are verified and paid the fees 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 learning portal will be shared through Email.

Note: Working days are from Monday to Friday.

Discontinuing the course

✓ No fees under any circumstances shall be refunded in the event of a student who has completed the process of admission or discontinuing the course in between. No certificate shall be issued for the classes attended.

Course Timings: 2 Hours online daily (From Monday to Friday) during working hours (3 PM to 5 PM)

Mode of Training: Online Instructor Led Live Lecture and 24x7 Virtual Lab Access

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E-mail: trng.chennai@nielit.gov.in/Phone: 044-24421445,
Contact Person: Mr. E. Leelakrishnan, Mobile: 7010808207,
Mr. Talapally Abhilash, Mobile: 8939423674.

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.

Important Dates

Last Date of Registration: 15-03-2021

Display of Provisional Selection List: 18-03-2021

Course Start Date: 22-03-2021

Examination & Certification

Certification Body: Examination Section, NIELIT Chennai

Certificate will be issued after successful completion of all the modules. For getting certificate a candidate has to pass each module individually with minimum required marks.

Examination Scheme

Examination scheme for each module is as follows:

Module Name	Means of Assessment		
	Total Marks	Theory	Assignments/ Practical /Projects
Introduction to CAD	10	10	0
Part Modelling	30	15	15
Design Assembly	30	15	15
Drafting	30	20	10
Total	100	60	40

Grading Scheme

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

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

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

Lab Infrastructure Details:

Software Facilities:

✓ CATIA V5- 6R2016 Software