

नेशनल इंस्टीट्यूट ऑफ इलेक्ट्रॉनिक्स एंड इन्फॉर्मेशन टेक्नोलॉजी, चेन्नई  
**National Institute of Electronics and Information Technology, Chennai**

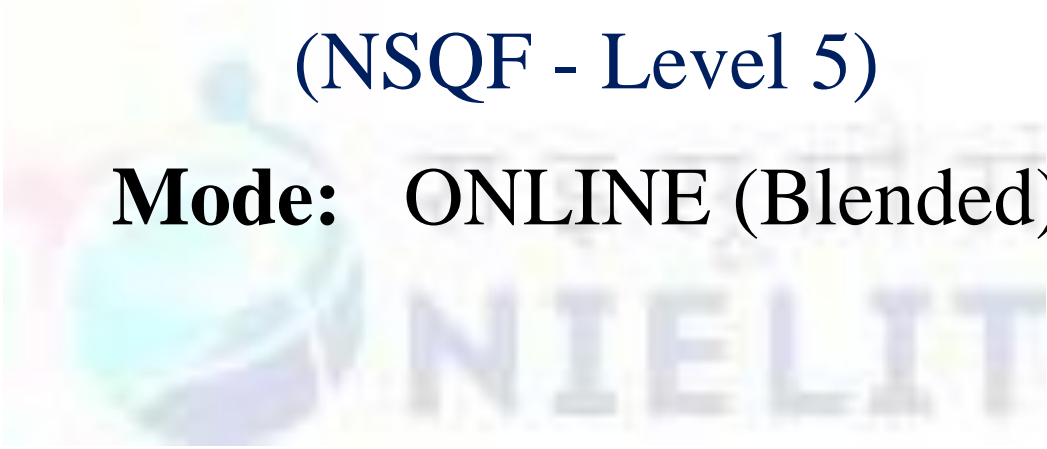
Autonomous Scientific Society of Ministry of Electronics & Information Technology (MeitY), Govt. of India

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

# Course Prospectus

## Cloud Computing Engineer (NSQF - Level 5)

**Mode: ONLINE (Blended)**



## Index

<b>Topic</b>	<b>Page No.</b>
Objective of the Course.....	3
Outcome of the Course.....	4
Full Flow of Course.....	4
Course Structure .....	4
Course Fees .....	6
Registration Fee .....	7
Eligibility.....	7
Number of Seats.....	7
How to Apply .....	7
Registration.....	7
Selection Criteria of candidates.....	8
Admission.....	8
Discontinuing the course.....	8
Location and how to reach.....	9
Important Dates.....	9
Examination & Certification.....	9

## Course Prospectus

**Name of the Group:** Cloud Computing

**Course Name:** Cloud Computing Engineer

**Course Code:** IS 900

**NSDA CODE:** NIELIT/IT/L8/027

**NSQF LEVEL:** 05

**Duration:** 840 Hours, 6 Months

**Last Date of Registration:** 19-01-2022

**Display of Provisional Selection List:** 20-01-2022

**Payment of first instalment fee:** 20-01-2022 to 23-01-2022

**Course Start Date:** 24-01-2022

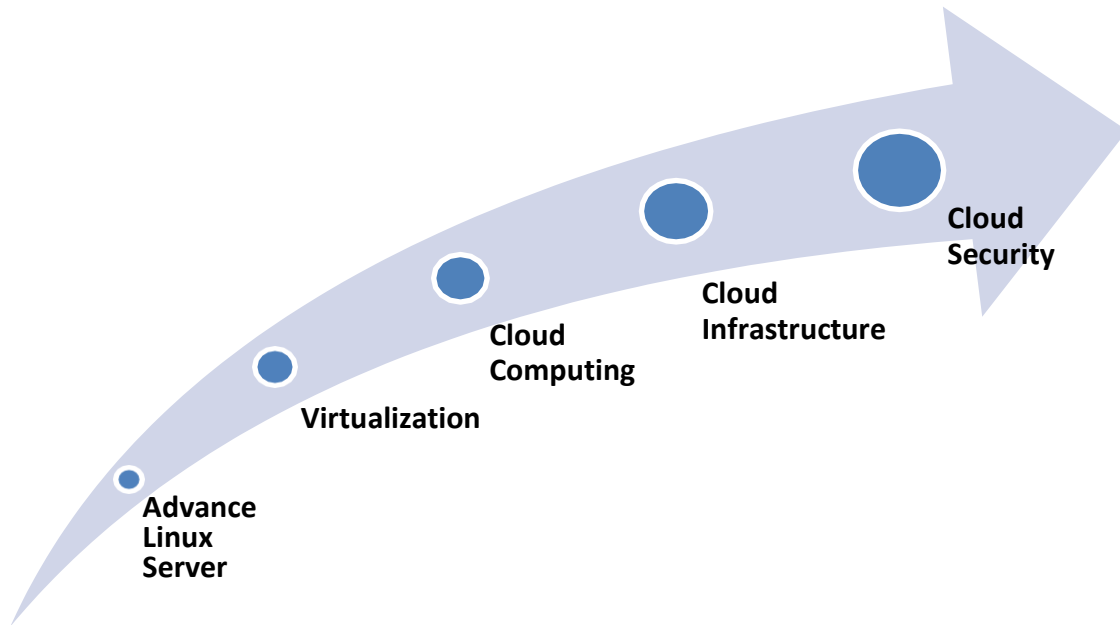
**Preamble:** Business @ the speed of thought has moved from a buzzword to a business reality owing to the integration of business and technology. Digital infrastructures and information networks have become central to any business activity. The information residing on these computers, networks and in cloud are an essential asset and due care should be taken for its security. The impact of any loss of this asset or any downtime of the infrastructure is Quite high with the proliferation of easy-to-use tools and open how-to-discussions, the number of people aiming to hack in to or bring down the network is high, both in this country and abroad. Hence, there is a need for heightened security measures to protect both infrastructure and data.

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

The Course is 840 Hrs. (6 Months) program aimed at molding candidates to Skilled System/Cloud Engineer with Information Security knowledge to maintain the Systems, Networks and cloud infrastructure in today's scenario.

**Outcome of the Course:** This skill-oriented course provides candidates with information required for configure and administration of OS Server, Cloud Deployment & its Security and equip them with the skills required to protect & recover the computer systems & networks from various security threats in dedicated or cloud environment.

## Full Flow of Course



## Course Structure

This course contains total six modules. After completing the first five modules, the students have to do a 210 Hours project using any of the topics studied to earn the Certification.

Sl. No.	Module Name	Duration (in Weeks)
1	Introduction to Network Management	2 Weeks
2	Introduction to Windows &Linux Server	3 Weeks
3	Advance Linux Server	3 Weeks
4	Virtualization	3 Weeks
5	Cloud Computing	2 Weeks
6	Cloud Infrastructure	3 Weeks
7	Cloud Security	2 Weeks
8	Project	6 Weeks
<b>Total Duration</b>		<b>24 Weeks</b>

## Course Contents

### 1. Introduction to Network Management

- Introduction to ISO & TCP/IP Stack
- DNS/UDP/IP
- TCP/HTTP/HTTPS
- ICMP/DHCP
- Cabling
- Addressing
- Managing Basic Switches
- Managing Advanced Switches
- Managing Basic Routers

### 2. Introduction to Windows & Linux Server

- Installing Windows Server
- Setting Active Directory
- Managing Active Directory
- Managing User & Group
- Setting File, Web Server
- Backup and Restore
- Introduction to Linux Fundamentals & Commands
- Advanced Linux Commands
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### 3. Advanced Linux Server

- Configuring DNS Server
- Configuring Web Server with Virtual Hosting
- Configuring MySQL Server
- Configuring Mail Server
- Configuring File Servers

### 4. Virtualization

- Configuring Virtual Box
- Configuring VMware
- Configuring KVM Server
- Configuring Xen
- Configuring Hyper-V
- Deploying Vagrant
- Setting Linux Container
- Configuring Open Storage
- Configuring Open vSwitch

### 5. Cloud Computing with SaaS & PaaS Cloud

- Introduction to Cloud Computing
- Types of Cloud Services
- Introduction to SaaS Cloud
- SaaS Cloud Deployment with Open Source Tools
- Introduction to PaaS Cloud
- PaaS Cloud Deployment

## 6. Cloud Infrastructure using OpenStack, XenServer & vSphere

- Introduction to IaaS Cloud
- Types of Cloud Deployment with Xen/KVM
- Setting Private Cloud with XenServer and XVP
- Setting Private Cloud with vSphere
- Deployment with Public Cloud AWS

## 7. Cloud Security

- Access Control Types
- Cryptography and Algorithm Analysis
- Configuring Secure DNS Server
- Configuring Secure Web Server
- Configuring Secure Mail Server
- Configuring Secure File Server
- Cloud Monitoring
- Cloud Auditing
- Cloud Automation
- Cloud Security Best Practices
- Cloud Standards

## 8. Project

### Course Fees

Course fee is Rs. 35,280/- + GST as applicable. {Can be paid as a single instalment of Rs.41,630/- (Including Reg. fee) or in 2 instalments as given below }

Registration Fee	Rs. 1000/- for SC-ST Candidates Adjustable against advance security deposit.	Rs. 1000/- for General Candidates	
Installment No	*SC-ST Candidates (Fee including GST in Rs.)	General Candidates (Fee including GST in Rs.)	Last Date
1	*	20,315.00	23-01-2022
2	*	20,315.00	26-03-2022
<b>Total</b>	<b>---</b>	<b>41,630.00</b>	

\* 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 while directly applying for registration and NSQF Examination.*

- 1. NSQF Examination fee of Rs. 2600/- while registering for Examination*
- 2. (NSQF Exam fee will be refunded only to SC-ST candidates after successful completion of all Examination).*

**# Important Note: This course is submitted for NSOF validity approval. SC/ST Fee relaxation will be subjected to the approval of NSOF validity.**

## Registration Fee

**(non-refundable if candidate is selected for admission but did not join and if a candidate has applied but not eligible.)**

SC/ST: Rs. 1000/- for SC-ST, 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 eligible but not selected for admission.
- ✓ Course postponed and new date is not convenient for the student.
- ✓ Course cancelled.

## Eligibility

- ✓ BE / BTech, BCA, BSc (IT / Computer Science / Electronics), or equivalent of any of these or Diploma (IT / Computer Science / Electronics) with Experience of 2 Years in Cloud Domain.

## Number of Seats: 60 (Sixty) - Total

Category	No. of Seats
SC (15%)	08
ST (7.5%)	04
OTHERS	48
<b>Total</b>	<b>60</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: 19<sup>th</sup> January 2022**

## Registration Procedure

All interested candidates are required to fill the Registration form online with registration fee before **19<sup>th</sup> January 2022** 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.

- ✓ 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 **20-01-2022** 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.
- ✓ 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).
- ✓ For Others:
  - 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.
- ✓ After document verification selected candidates have to pay first instalment of Rs. **20,315/-** on or before **23-01-2022** 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.

**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.



## 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.

### Address:

**National Institute 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: Coordinator, Mobile: 9443349257

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

### Important Dates

- Last Date of Registration: 19-01-2022**
- Display of Provisional Selection List: 20-01-2022**
- Payment of first instalment fee: 21-01-2022 to 23-01-2022**
- Course Start Date: 24-01-2022**

### Examination & Certification

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

### Examination

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 (Min)	Marks /Paper			No. Of Projects	Marks	
3	100	2	180	90	60	60	1	100	700

Module Name	Means of Assessment		
	Total Marks	Written	Practical
Introduction to Network Management	50	25	25
Introduction to Windows & Linux Server	50	25	25
Advance Linux Server	90	50	40
Virtualization	75	50	25
Cloud Computing	70	50	20
Cloud Infrastructure	75	50	25
Cloud Security	70	50	20
Mini Project	160	-	160
Internal Assessment	60	-	-
<b>Total</b>	<b>700</b>	<b>300</b>	<b>340</b>

## Grading Scheme

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

Grade	S	A	B	C	D	Fail
Marks 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. For last module grade will be given on the basis of project demonstration.