

QUALIFICATION FILE

CONTACT DETAILS OF THE AWARDING BODY FOR THE QUALIFICATION

Name and address of awarding body:

**National Institute of Electronics and Information Technology
(NIELIT)
Electronics Niketen, 6 CGO Complex,
Lodi Road, New Delhi 110003, India**

Name and contact details of individual dealing with the submission

Name : H.Ghananjoy Singh

Position in the organization : Scientist -C

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List of documents submitted in support of the Qualifications File

1. Talent Demand Supply Analysis Report
2. Occupational Analysis report for ITS
3. Occupational Map (ITS)
4. Industry Validation(Attached at Annexure I)
5. Placement Details(Attached at Annexure II)
6. Detailed Curriculum (Attached at Annexure III)

QUALIFICATION FILE

SUMMARY

Qualification Title:	Certificate Course in PC Assembly & Maintenance
Nature and purpose of the qualification	This Certificate course will enable the students to understand the fundamentals of PC assembly and maintenance.
Body/bodies which will award the qualification:	Examination Cell, National Institute of Electronics and Information Technology, 6-CGO Complex, Electronics Niketan, Lodhi Road, New Delhi.
Body which will accredit providers to offer courses leading to the qualification:	Examination Cell, National Institute of Electronics and Information Technology, 6-CGO Complex, Electronics Niketan, Lodhi Road, New Delhi.
Body/bodies which will be responsible for assessment:	Examination Cell, National Institute of Electronics and Information Technology, 6-CGO Complex, Electronics Niketan, Lodhi Road, New Delhi.
Occupation(s) to which the qualification gives access	Computer Technician, Technical support (Desktop)
Proposed level of the qualification in the NSQF.	3
Anticipated volume of training/learning required to complete the qualification:	80 hours
Entry requirements / recommendations.	10 th
Progression from the qualification.	<p>Academic progression: As this is an entry level course students completing this course and who passed 12 standard can further study the ESDM course Assembly and maintenance of Personal Computer which is having 240 learning hour.</p> <p>Professional progression: The entry level job profile will be junior technician and with experience he/she can be progress to senior technician.</p>
Planned arrangements for the Recognition of Prior learning (RPL):	Presently, only candidates who undergo training shall be assessed and it will be incorporated once RPL strategy is finalized.
Licensing Required:	NA
International comparability where known:	Yes (details available in Section 5)
Formal structure of the qualification :	

Title of NOS/unit or other component (include any identification code used)	Mandatory/ Optional	Estimated size (learning hours)	Level
Understanding the basic of computer and its different I/O devices	M	5	3
Develop skills to identify Monitors (CRT/LCD/LED),Memory	M	11	
Develop skills to identify Hard Disk (SATA, USB, Solid State)	M	6	
Develop skills to identify different types of Mother Board, its components and configuring it.	M	9	
Develop skills to identify different types of Buses and their usage	M	4	
Develop skills to identify I/O Ports, graphic cards and their usage	M	5	
Develop skills to install and configure Printer/Modem/OS/Scanner	M	10	
Acquiring skills to setup Computer BIOS	M	7	
Acquiring skills to troubleshoot and recovery of Computer	M	9	
Develop skills for preventive maintenance & setting up of Anti-Virus	M	7	
Acquiring the Networking Fundamentals skills	M	7	
Total		80	

Please attach any document giving further detail about the structure of the qualification – e.g. a Curriculum or Qualification Pack. Give details of the document here: Curriculum (Annexure III)

SECTION 1 **ASSESSMENT**

Name of assessment body:

Examination Cell,
National Institute of Electronics and Information Technology,
6-CGO Complex, Electronics Niketan, Lodhi Road, New Delhi.

Will the assessment body be responsible for RPL assessment?

Give details of how RPL assessment for qualification will be carried out and quality assured.

Presently, only candidates undergoing training shall be assessed. Later on, candidates having experience and knowledge shall be assessed. The information will be provided on finalization of such procedure.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:

This course would lay more emphasis on developing the practical skills of the student. His overall knowledge shall be tested based on a comprehensive written assessment; his practical skills shall be equally measured with a detailed practical assessment. The communication skills of the student and his ability to express himself shall be tested in Viva Voce Assessment. Each assessment shall define an OUTCOME and marked separately. Student shall be required to pass in all OUTCOMES individually and marks shall be allotted for each OUTCOME along with final aggregate marks in course.

Following assessment methodologies may be used:

- A. Written Assessment (Multiple Choice Questions)
- B. Practical Assessment
- C. Viva Voce Assessment

Supporting evidences for Assessment

The assessment results are backed by following evidences.

1. The assessor collects a copy of the attendance for the training done under the scheme. The attendance sheets are signed and stamped by the In charge / Head of the Training Centre.
2. The assessor verifies the authenticity of the candidate by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/Government. The same is mentioned in the attendance sheet.
3. The assessor assigns roll number.
4. The assessor takes photograph of all the students along with the assessor standing in the middle and with the Centre name/banner at the back as evidence.

ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification.

Job Role

Computer Technician

Title of Unit/Component:

(Detailed Curriculum attached As Annexure-III)

Assessable Outcomes	Assessment criteria for the outcome	Total Marks	Written	Practical	Viva voce
1. Will learn Basics of Computer.	Identification of various parts of Computer. Connection of various devices like CPU, Monitor, KB, mouse etc.	45	10	10	5
	Shut down procedure. Working in DOS & in Windows. Opening of CPU Identify various cards like Motherboard inside the CPU. Identify Clock section in the CPU. Soldering and De-soldering skills.		5	10	5
		Total	15	20	10
2. Acquire knowledge of Computer Monitors (CRT/LCD/LED) & Memory	Tracing of various Primary memories i.e. RAM and ROM on the board and their capacity/size.	45	10	10	5
	Hard disk and Identify its specifications. Connection of Hard disk in the CPU.		10	5	5
		Total	20	15	10
3. Interfacing, partitioning etc of Secondary memory	Identify secondary memory like Hard Disk and its types & size & other specifications.	45	10	5	5
	Formatting Hard disk, Partitioning of Hard disk in different logical drives, Disk defragmentation, Disk clean up, Scan disk etc.		10	10	5
		Total	20	15	10
4. Configuration Computer Mother Board	Identification & connection of different types of Motherboard	50	10	10	5
	Configuration of Motherboard Identifying Internal and External connectors and data cables		10	10	5
		Total	20	20	10
5. Understanding Computer Buses	Acquiring detailed knowledge about System bus and its types, functions and features	25	10	10	5
		Total	10	10	5
6. Understanding Computer I/O Ports, graphic cards	Identification & information of Different types of I/O Ports available in the CPU and their purpose	45	10	10	5

	Identify Graphic & other cards and their function & testing.		10	5	5
		Total	20	15	10
7. Installation of OS /Printer/ Modem / Scanner	Installation of Operating System i.e. DOS / Windows	50	10	10	5
	Interface Printers, Scanner, Modem etc. Installation of Printer, Driver, Modem etc.		10	10	5
		Total	20	20	10
8. Develop skills to setup Computer BIOS	Set up BIOS , Boot configuration, Boot Menu etc.	30	10	10	10
		Total	10	10	10
9. Develop skills to Recover & Troubleshoot	Can Take Backup file.	50	10	10	5
	Restore point, Automated System Recovery (ASR).				
	Use of POST (Power on Self-Test). Identifying problems by Beep codes errors, Troubleshooting Boot Failures, Replacement of components etc.		10	10	5
		Total	20	20	10
10. Enhancing Skills for Preventive maintenance & Anti-Virus	Computer maintenance and security	60	5	10	5
	Running of System utility.		5	10	5
	Running of virus protection programme.		5	5	5
		Total	15	30	15
11. Acquiring about Networking basics.	Identify basic networking Components like switch, modem, hub etc. model	55	10	5	5
	Identify Networking Components - switches, bridges, routers, Gateways etc.		10	5	5
	Use of various networking components.				
	Identify and use of various Transmission media- Guided media and Unguided media		5	5	5
		Total	25	15	15
Grand Total		500	195	190	115

Means of assessment 1

Proctored online assessments (LAN and Web based), carried out using a variety of question formats applicable for linear / adaptive methodologies; performance criteria being assessed via situation judgement tests, simulations, code writing, psychometrics and multiple choice questions etc.

Pass Percentage

To qualify for a pass for the qualification, a candidate must have obtained at least 50% in each theory and practical examination.

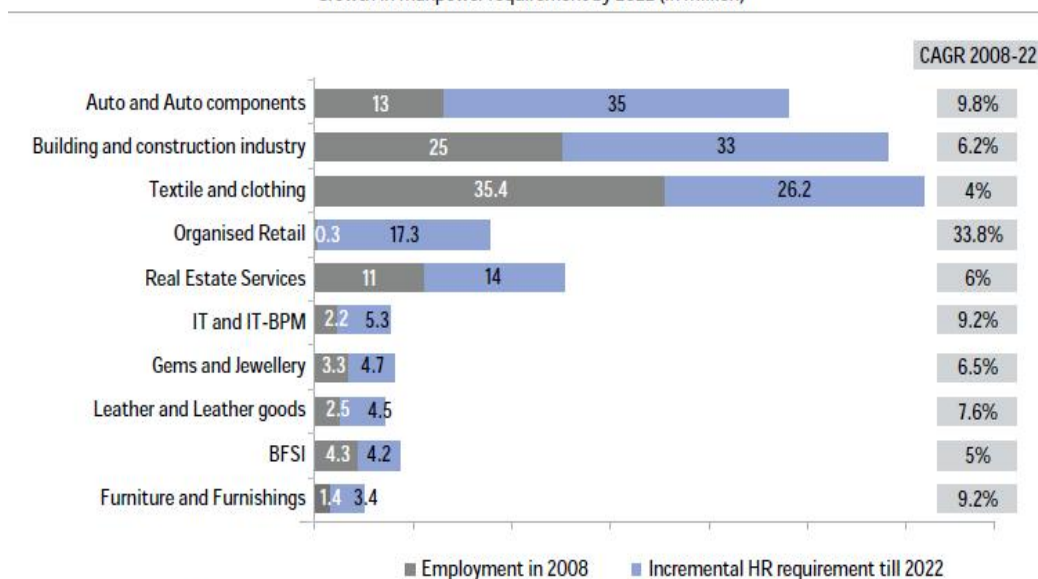
SECTION 2

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

NASSCOM's Projected Growth in Sector-wise Manpower Requirement for IT and IT-BPM is estimated to be 5.3 million by 2022. As this sector is dependent on Computer for their day to day activities there is strong requirement for "Computer Technician" to repair and maintain the Computers. The research documents pertaining to this sub-sector are attached as per Sl.No.1 and 2 respectively (Occupational Analysis report for the sub-sector" and "Talent Demand Supply Analysis Report").

Figure 17: Projected Growth in Sector-wise Manpower Requirement
Growth in manpower requirement by 2022 (in million)



Source: Knowledge Paper on Skill Development in India: Learner first E&Y

What is the estimated uptake of this qualification and what is the basis of this estimate?

- Student uptake from Industry.

What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?

- The qualification PC Assembly & Maintenance does not exist as per information available in public domain ,National Qualification Register(www.nqr.gov.in)

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

The Qualification is to be monitored and reviewed every two years.

The following data will be used

1. Results of assessments
2. Employer feedback regarding student skill after conducting a placement drive
3. Employer feedback will be sought post-placement
4. Student feedbacks
5. Workshops and seminar for reviewing the qualifications
6. Consultation/ Tie-up with Industries or Expert for review of the Curriculum.

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here: Talent Demand Supply Analysis Report(attachment Sl. no. 1)

SECTION 3

SUMMARY EVIDENCE OF LEVEL

Level of Qualification: 3

Summary of Direct Evidence:

Justify the NSQF level allocated to the QP by building upon the five descriptors of NSQF. Explain the reasons for allocating the level to the QP.

Generic NOS is/are linked to the overall authority attached to the job role.

Computer Technician - NL/S/L3/C010					
Process required	Professional knowledge	Professional skill	Core skill	Responsibility	Level
Computer Technician carries out the job to assemble, maintain and troubleshoot which are necessary in running the Computer error free. These jobs are routine and predictable.	After acquiring professional knowledge on assembling, maintaining and troubleshooting the computer, the Computer Technician will be competent to assemble and maintain the computer error free. They can assemble and troubleshoot the computer system when needed.	They are proficient in assembling, maintaining and troubleshooting the computer whenever required based on theoretical and practical knowledge gained during course.	Computer Technician acquire skills on technical level and interact with different stakeholders like vendors, clients and users. They propose solution starting from Assembling, Configuration, Maintenance and troubleshooting the Computer.	They have responsibility in assembling the computer components and maintaining it.	3
3	3	3	3	4	

SECTION 4

EVIDENCE OF RECOGNITION OR PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

This qualification comprises both technical and analytic skills and can be linked to any qualification higher than this one, existing or to come. Adequate NOSs / performance criteria have been added to ensure progression to related path ways identified as per the occupational map (ITS).

After completing this course students can further undergo the advanced qualification “**Assembly and Maintenance of Personal Computer**” which is under ESDM and having the learning hour of 240 hrs. Students can also undergo the advanced networking qualification “**Networking Specialist (NS)**” which is having learning hours of 780 hrs.

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

- NA

SECTION 5

EVIDENCE OF INTERNATIONAL COMPARABILITY

List any comparisons which have been established

- Muhimbili University of Health and Allied Sciences is offering similar kind of Qualification on “**Computer Hardware & Software Maintenance**” having similar course structure.
(Source: <http://dict.muhas.ac.tz/index.php/ict-trainings/short-courses/computer-maintenance>)
- The University of the West Indies, Open Campus is also offering similar kind of Qualification on “**PC Support/Maintenance**” having similar course structure.

