

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:

Haryana State Electronics Development Corporation Ltd. (HARTRON)
SCO 111-113, Sector – 17/B, Chandigarh-160017

Name and contact details of individual dealing with the submission

Name:	Rajesh Deswal
Position in the organisation:	Project Manager
Address if different from above:	N/A
Tel number(s):	0172-2562456
E-mail address:	pmhartron@gmail.com

List of documents submitted in support of the Qualifications File

1. About HARTRON (Annexure -1)
2. Curriculum (Annexure-2)
3. Industry Validation (Annexure-3)

NSQC Approved

NSQF QUALIFICATION FILEApproved in 23rd NSQC, Dated: 22nd August, 2019**SUMMARY**

1	Qualification Titles	Diploma in Computer Application
2	Qualification Code, if any	HAR/SD-1/DCA
3	NCO code and occupation	3514.0300 Programming Assistant 2356.9900 Information Technology Trainer
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term)	Diploma course to study computer applications in depth. The course imparts scientific, practical and technical knowledge to its learners about various computer tools that are used in day to day life. (Long Term Qualification)
5	Body/bodies which will award the qualification	Hartron
6	Body which will accredit providers to offer courses leading to the qualification	Hartron
7	Whether Accreditation / affiliation norms are already in place or not , if applicable (if yes, attach a copy)	The courses are being run by Hartron through HARTRON Skill Centres (HSC) located throughout Haryana under the aegis of HARTRON.
8	Occupation(s) to which the qualification gives access	After successful completion of the qualification the candidates shall be employed in the industries for following occupations: <ul style="list-style-type: none"> • Programming Assistant • Computer Trainer / Faculty
9	Job description of the occupation	Responsible for developing, and testing new applications with team and to maintain & improve the performance of existing software.
10	Licensing requirements	N/A
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)	N/A
12	Level of the qualification in the NSQF	4

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13	Anticipated volume of training/learning required to complete the qualification	576 hrs. of classroom / lab learning
14	Indicative list of training tools required to deliver this qualification	<ol style="list-style-type: none"> 1. Comfortable seats with sufficient lighting and controlled temperature, 2. White Board, Markers and Dusters 3. Faculty's PC/Laptop with latest configuration and internet connection. 4. Stationery 5. Computer Lab with internet connection 6. MS Office / Open office, typing software & Browser 7. C/C++ compiler, Visual Basic Software 8. Reference books
15	Entry requirements and/or recommendations and minimum age	12 th , No age bar
16	Progression from the qualification (Please show Professional and academic progression)	<p>In Academic, student can go for higher Diploma or Degree courses.</p> <p>In Professional Initially candidate can work as an computer Lab instructor / Computer Trainer / Programming Assistant</p>
17	Arrangements for the Recognition of Prior learning (RPL)	N/A
18	International comparability Where known (research evidence to be provided)	N/A

19	Date of planned review of the qualification.	5 years after approval of the qualification	
20	Formal structure of the qualification Mandatory components		
	Title of component and identification Code/NOSs/Learning outcomes	Estimated size (learning hours)	Level
(i)	Computer fundamentals & Operating system	30	4

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(ii)	Office Automation Package	108	4
(iii)	Connecting to the World	30	4
(iv)	Using Smartphone	04	4
(v)	Introduction to Database Management System with MS-Access and SQL Server	80	4
(vi)	Basics of Web Page Designing	72	4
(vii)	Programming with C	60	4
(viii)	Introduction to OOPs with C++	80	4
(ix)	GUI Programming with Visual Basic	96	4
(x)	Communication & Employability Skills	16	4
(xi)	Sub Total(A)	576	4
(xii)	Optional components N/A (all component are compulsory)		
	Title of component and identification code /NOSs/ Learning outcomes	Estimated size (learning hours)	Level
	Sub Total(B)		

Total (A+B)	576	
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**SECTION 1
ASSESSMENT**

21	<p>Body/Bodies which will carry out assessment:</p> <p>Haryana State Electronics Development Corporation Ltd. (HARTRON) SCO 111-113, Sector – 17/B, Chandigarh-160017</p>
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<p>22</p>	<p>How will RPL assessment be managed and who will carry it out?</p> <p>It will be finalized when the national RPL policy will be finalized</p>									
<p>23</p>	<p>Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.</p> <p>The assessment process under HARTRON aims to test and certify the skills & knowledge based on the performance of the students. Overall Assessment is broadly divided into two stages.</p> <p>1. Internal Evaluation: - This is done through continuous assessment by respective HSC as per the Hartron guidelines. Marks are allotted according to their attendance, class performance and typing test.</p> <p>2. External Evaluation: - This includes a written exam followed by viva voce at the end of the course. The test is conducted at respective HSC with the overall supervision of officers/officials of examination cell. For this, minimum two examiners are deputed at HSC to conduct the exam. Each and every student mark their attendance through biometric device as well as on the attendance sheet provided by examiners. Exams are being conducted by examiners under CCTV surveillance students are allowed in the examination hall only after producing Id Proof</p> <p>The current pattern of the exam comprises objective and subjective type questions, which is prepared by vocation expert in the field.</p> <p>Viva Voce is taken to make sure that the student has acquired sufficient knowledge of the subject during the course.</p> <p>The marking pattern and distribution of marks for the qualification are as under:</p> <table border="1" data-bbox="440 1549 1377 1946"> <thead> <tr> <th>S.No.</th> <th>Assessment Method</th> <th>Maximum marks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Internal Evaluation <ul style="list-style-type: none"> • Attendance • Class performance • Typing Test </td> <td>15 15 30</td> </tr> <tr> <td>2</td> <td>External Evaluation</td> <td></td> </tr> </tbody> </table>	S.No.	Assessment Method	Maximum marks	1	Internal Evaluation <ul style="list-style-type: none"> • Attendance • Class performance • Typing Test 	15 15 30	2	External Evaluation	
S.No.	Assessment Method	Maximum marks								
1	Internal Evaluation <ul style="list-style-type: none"> • Attendance • Class performance • Typing Test 	15 15 30								
2	External Evaluation									

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	<ul style="list-style-type: none">• Written Exam• Viva	180
		60
Total		300

Qualifying Criteria
Candidate shall be considered to have qualified the course if he/she obtains 35% marks in written examination and 50% marks in the aggregate of internal and external evaluation.

The marks will be translated into grades as below:-

Marks Scored	Grade to be awarded
80% or above	A +
70% to less than 80%	A
60% to less than 70%	B
50% to less than 60%	C
Less than 50%	Fail

Please attach most relevant and recent documents giving further information about assessment and/or RPL.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the qualification” in the Summary.

NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.

24. Assessment evidences

Title of Component:

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
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Computer Fundamentals & Operating System	<ul style="list-style-type: none">• Understanding the concept of input and output devices of Computers and how computer works.• Learn the basic concepts of operating system.• Understand the settings and working of Windows.• Identify and fix peripherals mishaps and malfunctions.
Office Automation Package.	<ul style="list-style-type: none">• Know the correct posture while typing.• Learn to type with accuracy and speed.• Learn to create and manipulate document.• Learn to apply formula and functions in spreadsheet.• Using various tools of word processor and spreadsheet.• Know to present information visually & effectively using digital presentation
Connecting to the world	<ul style="list-style-type: none">• Learn basic concepts of network and internet skills.• Learn communication over Internet.• Recognize the various security and privacy issues on internet and safety measures• Understand cloud and cloud storage services over internet• Recognize e-Governance & Digital Financial services
Using Smartphone	<ul style="list-style-type: none">• Understand the user interface and basic application of smart phone.• Learn to use various useful apps on smartphone like news, weather, GPS, e-mail, social media etc.
Introduction to Database Management System with MS-Access and SQL Server	<ul style="list-style-type: none">• Understand the concept of database and database management software.• Learn to retrieve and manipulate data using SQL query commands.• Learn designing a form, generating a report, Importing and exporting data in MS Access.• Learn joining tables, creating stored procedures and triggers in SQL Server
Basics of web Page Designing	<ul style="list-style-type: none">• Create web pages using HTML and CSS.• Learn and apply JavaScript to write object oriented web applications.• Validate a web page.
Programming with C	<ul style="list-style-type: none">• Understand the concepts of structured programming language through C.

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	<ul style="list-style-type: none">• Learn to write programs using control flow statements, Functions and Arrays etc.
Introduction to OOPs with C++	<ul style="list-style-type: none">• Understand how C++ improves C with object-oriented features.• Learn to implement major object-oriented concepts in C++.
GUI Programming with Visual Basic	<ul style="list-style-type: none">• Understand the Visual Basic Integrated Development Environment, language structure and language syntax.• Learn to assemble multiple forms, modules, and menus into VB solution.• Learn effectively to develop applications with full functionality and a graphical user interface using the Visual Basic
Communication & Employability Skills	<ul style="list-style-type: none">• Know the importance of effective communication.• Learn the basic communication skills to enhance competencies
Total Marks	
Means of assessment 1 Assessment will be evidence based comprising the following : <ul style="list-style-type: none">• Attendance and punctuality• Class performance and Assignments / Tests• Typing Test	
Means of assessment 2 Assessment will be evidence based comprising the following : <ul style="list-style-type: none">• Answer sheets of the written assessment• Viva voce	
Pass/Fail The minimum pass percentage is 35 % for written examination and 50% marks in the aggregate of internal and external evaluation.	

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SECTION 2

25. EVIDENCE OF LEVEL

OPTION A

Title/ Name of qualification/ Component:		Diploma in Computer Application	Level: 4
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Process	Candidate is required to install and maintain operating system, create documentation, apply formulas and functions, make presentations, handle database and web sites, programming using C/C++/Visual basic etc. All the above tasks are highly process oriented in nature & the candidate has to work in familiar & predictable situations, but leading to clear logical choices.	Work in familiar, predictable, routine, situation of clear choice.	4
Professional knowledge	Candidate on the job needs to have factual knowledge of computer hardware, software, operating systems, creating documents, spreadsheets, presentations, database handling, and web designing tools like HTML, CSS and JavaScript, and programming languages like C, C++ and Visual Basics.	Factual knowledge of field of knowledge or study.	4
Professional skill	Candidate needs to recall and demonstrate practical skill related to basic computer and	Recall and demonstrate practical skill, routine and repetitive in narrow range of application,	4

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	internet activities. He/she needs to develop, test, write, modify and debug software based applications in routine and repeat them until required outcomes are met. The outcomes of these test cases are recorded using appropriate rules, tools & using quality concepts through appropriate templates.	using appropriate rule and tool, using quality concepts.	
Core skill	The candidate should possess good communication skills both verbal and written, with the required clarity in order to understand the work. He/she needs to have skill to basic arithmetic and algebraic principles, to demonstrate knowledge of the foundational mathematical concepts in computing. He/ she will be able to create and maintain effective working relationships and team environment through collaboration.	Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment.	4
Responsibility	Candidate is independently responsible to perform all the tasks as per requirements of the job, hence is responsible for own work and learning.	Responsibility for own work and learning.	4

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26	What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?	
	Basis	In case of other Awarding Bodies (Institutes under Central Ministries and states departments)
	Need of the qualification	The course is running successfully from number of years and is also considered for the recruitment in public and private sectors (copy of advertisement for recruitment is attached as supporting document)
	Industry Relevance	Hartron having special emphasis on HRD up-gradation started imparting computer education from 1994 with one of the main objective to provide professional, continuous and upgraded training in IT as per market requirement. It has been found that there is a good demand of this segment of IT candidates in various establishment/industries etc. (Industrial validation from various industries is attached as supporting document). Moreover, the job roles defined for the qualification is also as per the national qualification occupation 2015 developed by Employment Directorate under the ministry of Labour and Employment. Thus is in line with the qualification relevance for industry
	Usage of the qualification	With this qualification, it has been seen that students acquire sufficient knowledge to handle computer work required in day to day activity along with the programming skills. The popularity of this qualification/ course can gauged from the fact that about 10,000 students get enrolled in this course per year
	Estimated uptake	Based on the response of student towards Hartron courses, it is expected that number of enrolment will definitely increase.

27	Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences	
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	This course is being run by Hartron after getting the approval from the State Government.
28	<p>What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification</p> <p>The qualification is originally designed by academic professionals in HARTRON and is approved by state government. A desk search was conducted and the qualification packs were also referred for the mapping curriculum. As per the search it is found that no such identical qualification is available in public domain.</p>
29	<p>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? Specify the review process here</p> <p>Feedback would be taken from students and teachers regarding the course content, structure and timeline of the programme. Feedback will also be taken from the HSC conducting the course. Demand for courses based on enquiries handled at the HSC were also considered. In certain interval of time market survey is also done by the HARTRON Officials to know the current trend of courses in demand. Changes suggested will be assessed by the State Government before incorporating them in the curriculum.</p>

Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

SECTION 4

EVIDENCE OF PROGRESSION

30	<p>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? <i>Show the career map here to reflect the clear progression</i></p> <p>After completion of this course the candidate has the following options of progression.</p> <ul style="list-style-type: none">• Hartron certificate for the course or Up-gradation to Post Graduate Diploma course of Hartron.• Can directly apply for second component i.e. typing test of SETC (State Eligibility Test in Computer) which is conducted for existing/newly recruited clerks, steno for the grant of promotions and increments in pay scale.• Initially a candidate can work as an Programming Assistant and with upgrade in his qualification along with specialized IT courses a candidate may also have the following career options:<ul style="list-style-type: none">➤ IT Faculty➤ Programmer➤ Web Designer➤ Web Developer➤ Software Engineer➤ System Analyst
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