**NSDA Reference**

To be Added by NSDA

CONTACT DETAILS OF THE AWARDING BODY FOR THE QUALIFICATION

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| 1. **Name and address of awarding body:**

**National Academy of RUDSETI****Chitrapur Bhavan****15th Cross, 8th Main****Malleswaram****Bengaluru- 560 055****Ph: 080- 2346 2875****Email:** **info@rudsetacademy.org**1. **Name and contact details of the Individual dealing with the submission:**

**Name: Sri. R. R. Singh****Position in the Organization**: **Director General****Address:** Same as above**Email:** **dg@rudsetacademy.org**1. **List of Documents submitted in support of the Qualifications file (Annexure)**
2. **About National Academy of RUDSET**
3. **RUDSETI Model of Entrepreneurship Development**
4. **Curriculum document /Syllabus**
5. **Session Plan**
6. **Bank wise list of RSETIs**
7. **Research Studies regarding RUDSETI/RSETI**
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#  SUMMARY

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| **Qualification Title: UPS and Battery Making & Servicing** |
| **Qualification Code: NARQ40053-PROCESS** |
| **Nature and purpose of the qualification:**This qualification enables the trainee to set up his/her own enterprise for servicing and repairing of UPS and Inverter and battery making.According to NSSO Data (2013) among workers in rural areas, 54.2% are self-employed and 38.6% work as casual labor, whereas only 7.2% have regular wage employment. Most of the self employed are engaged in agriculture and have very little formal skills both in farm and non-farm occupations. Hence, the need to skill rural youth so that the next generation of workers become skilled, productive and contribute positively for the growth of the economy. On gaining skills in servicing inverter and UPS and entrepreneurship, the candidates trained in this qualification can start their own servicing centre in inverter and UPS unit. There is increasing demand for this service especially for private (domestic) and public events in the rural areas and small towns. On becoming an entrepreneur the candidate trained in this qualification will initially promote a micro-enterprise which can gradually grow to become a small and later medium scale enterprise. The Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant and dynamic sector of the Indian economy over the last five decades. MSMEs are playing a crucial role in providing large employment opportunities at comparatively lower capital cost than large industries. They are also contributing in a significant manner to the industrialization and development of rural and backward areas. This helps to reduce regional disparities and provides for a more equitable distribution of national income and wealth. MSMEs contribute enormously to the socio-economic development of the country. This sector today consists of 36 million units and provides employment to over 80 million persons. The Sector through more than 6,000 products contributes about 8% to GDP besides 45% to the total manufacturing output and 40% to the exports from the country. The MSME sector has the potential to spread industrial growth across the country and can be a major partner in the process of inclusive growth. Entrepreneurship, and resultant creation of employment and wealth, is a major mean for inclusive development. |

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| **Body/bodies which will award the qualification:** **National Academy of RUDSETI, Bengaluru** The **National Academy of RUDSETI** was established in April 2009 in response to an emerging need for capacity building and mentoring of more than 585 Rural Self Employment Training Institutes (RSETIs) established in each district of the country as joint venture between different Banks and the Ministry of Rural Development, Government of India to work as National Level Resource Organization for RUDSETIs and RSETIs and other similar type of Institutes1. To design and conduct training programmes and undertake project in Enterprise Promotion, Rural Development, Technology Transfer and imparting Human Resource Development (HRD) concepts.
2. To conduct research and development work in the field of Entrepreneurship Development
3. To act as a advisory to policy makers relating to Enterprise Promotion and Rural Development (for Government /NGOs/ Other Organizations / Financial Institutions /Corporate Entities / Central Secretariat, RUDSETI)
4. To take up any other activities connected with Rural Development and Entrepreneurship Development and Rural Development.
5. To provide Consultancy and Counseling Services in the field of Entrepreneurship Development and Rural Development.
6. Any other activity aimed at Development of Entrepreneurship, Rural Development and serving the society at large.

(See Annexure I for a complete profile of NAR and Annexure II for RUDSETI model of Entrepreneurship Development) |

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|  **Body which will accredit providers to offer courses leading to the qualification:** National Academy of RUDSETI, Bengaluru |

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|  **Body/bodies which will be responsible for assessment** National Academy of RUDSETI, Bengaluru |

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| **Occupation(s) to which the qualification gives access:**This qualification will enable the trainee to establish Inverter and UPS servicing and repairing Unit as his/her own undertaking. Besides skills in the field of Inverter and UPS servicing and repairing the qualification will give access to the trainee to:1. Acquire and internalize the required Entrepreneurial Competencies (skill as well as attitude).
2. Knowledge and techniques for identifying the business opportunities, selection of an entrepreneurial activity, launching of the venture and skills for managing a Micro Enterprise.
3. Build confidence in one’s own abilities
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|  **Proposed level of the qualification in the NSQF:**  Level 4 |

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|  **Anticipated volume of Training / Learning required to complete the qualification** 240 hours See Annexure III for curriculum document & Annexure IV for Session Plan |

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| **Entry requirements / Recommendations:**Male or Female Candidates in the age group of 18 to 45 years having inclination for taking up inverter and UPS servicing and repairing and battery making as a self-employment occupation. Must be able to read and write in any language. |

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| **Progression from the qualification:**This qualification will enable the trainees to become self employed by providing the service of repairing inverter and UPS and making Battery. He/she will be able to set up his/her own unit in inverter and UPS servicing and repairing and battery making. In due course they will graduate to become an entrepreneureeentrepreneurentrepreneur through expansion thereby providing employment to others also. |

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| **Planned arrangements for the Recognition of Prior learning (RPL):** Not applicable |

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| **International comparability where known:**  **------** |

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| **Formal structure of the qualification** |
| **NARQ40053 –PROCESS-**  | **Mandatory/****Optional** | **Estimated Size** **(learning hours)** | **Level** |
| **Professional Knowledge****A - Entrepreneurship**1. Knowledge of self-confidence , attitude
2. Entrepreneurial competencies
3. Banking, insurance , financial accountancy and management
4. Legal aspects ,regulatory aspects of SMEs

**B – Technical Knowledge**1. Basic introduction of Inverter, basic electronics,
2. Using tools and machines for servicing and repairing of Inverter and UPS.
3. Difference between Inverter and Generator
4. PCB Components ,and parts
5. PCB assembling and wiring
6. Use of component ,mounting inverter fitting,
7. Inverter wiring theory
8. PCB Soldering
9. Transformer relay and soldering
10. Inverter wiring testing-theory
11. Inverter fault- theory
12. Introduction to Battery and basic components
13. Classification of Battery
14. Construction and working of Battery-theory
15. Repairing and servicing of UPS and Inverter- theory
16. Safety precautions while servicing Inverter and UPS
17. Types of FUEL Cells
 |  MandatoryMandatory | 32 hours64 hours | Level 4Level 4 |
| **Professional Skills**1. Tools and testing for Inverter and UPS
2. Basic Electronics and its working system
3. Identify the difference between Inverter and generator
4. Identify the parts of Inverter and UPS
5. Identify the PCB components
6. PCB assembling and wiring
7. Inverter wiring and fitting
8. PCB component soldering
9. Fault finding of Inverter
10. Repairing of Inverter and battery maintenance
11. Basic components of Battery and classification of battery
12. Different Battery construction
13. Different types of fuel cells and working.
 | Mandatory | 108 hours | Level 4 |
| **Core Skills** 1. Identify business opportunities in chosen sector
2. Conduct market survey and prepare simple business plan
3. Ability to plan and assess risk
4. Problem solving capabilities
5. Time management skills
6. Communication skills
7. Business Management skills
 | Mandatory | 34 hours | Level 4 |
| **Admission, Evaluation test & Valedictory** | Mandatory | 6 hours | - |
| **Total Duration of the Course** | 240hours |

**SECTION 1 - ASSESSMENT**

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| **Body/Bodies which will carry out assessment:**This qualification will be used by 585 RSETIs **(list is furnished in Annexure IV)** across the country which has been established in each district. These RSETIs are controlled by commercial banks (both Government owned and Private). NAR is a separate body and there is no linkage in management and control between the RSETIs offering the training and NAR which will conduct the assessment. The assessment of outcome of the qualification will be done by NAR which is an independent organization. It is run by professionals who are expert in rural entrepreneurship development. In NAR there will be a separate vertical similar to ‘Controller of Examinations’ in Universities, which will conduct the assessment through its empanelled assessors at the RSETI level. The empanelled assessors will be provided training by NAR.**How will RPL assessment be managed and who will carry out?** Not Applicable**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 NSQF.**Assessment tools for the Qualification are decided on the basis of composition of knowledge and skill in that particular Course. All assessments shall have at least two tools viz.1. Practical test and 2. Written test and/or Viva.1. **Assessment process:**

The assessment will be primarily carried out by collecting evidence of competence gained by the trainees by observing them at work, asking questions and initiating formative discussions to assess understanding and by evaluating their practical work. The question papers for the theory Examinations contain objective/descriptive type questions, drawings etc.**Minimum pass mark:** Overall 50% of marks allotted1. **Testing and certifications for the course:**

Arrangements will be made by NAR to ensure that the evidence on which assessment / judgments made are comparable for all trainees and that the judgments made does not vary from assessor to assessor. Arrangements relating to the conduct and monitoring process of assessment are as follows:* Questions papers will be prepared by NAR in consultation with vocation experts in the field.
* Structured tests at the Institute level will be administered in the presence of the assessors.
* The tests will be supervised and monitored at every Centre
* Theory and practical Examinations will be carried out with invigilators/examiners with the overall supervision of the certified assessors.
* Examiners called for evaluation of practical will have technical expertise in the field
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**ASSESSMENT EVIDENCE**

**Assessment & Evaluation:**

The trainees will be assessed through a structured test process. The test will comprise of both written, practical and viva voce. Standard question paper will be devised keeping in view the expected outcome of the training. The test will be administered by certified and empanelled assessors at RSETI level. The technical skill component will be tested through practical examination. Both of these tests will be followed by personal interview wherein the entrepreneurial competencies will be tested. The extent of internalization of the inputs given will be tested. The face-to-face interview will assess the overall ability of the trainee concerned to perform the defined job role including behavioral aspects of entrepreneurial competencies. On getting the results of these tests from the assessors at ground level, a senior expert in entrepreneurship at NAR, Bengaluru will review the marks and on his validation, system generated certificates will be issued to the successful candidates online.

**ASSESSMENT EVIDENCE**

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| **Entrepreneurship Development** |
| **Learning Outcomes** | **Performance Criteria** | **Assessment Criteria** |
| **Total** | **Theory** | **Practical** |
| 1. Candidate is clearly able to differentiate between Wage employment, Self-employment and Entrepreneurship
2. Understand, appreciate and develop the self-confidence for embarking on self-employment / entrepreneurship.
3. Understand and internalize entrepreneurial competencies and know their importance for becoming a successful entrepreneur.
4. Trainee is able to understand the legal and regulatory aspects of launching an enterprise.
5. Trainee is able to appreciate need for continuous growth and expansion of an enterprise
6. Trainee is able to analyze major trends in a given economic sector / sub-sector and identify Business Opportunities
7. Trainee is able to conduct market survey and develop sound Business Plans based on obtained data.
8. Develop effective personal management skills like time management and communication skills.
9. Knows to maintain simple books of accounts and prepare financial statement for small business
10. Trainees able to devise a simple marketing and sales strategies and plan for a small business
11. Trainees able to manage small team of workers required for managing a small business
 | **PC 1** – Understanding the Context and Need for Rural Entrepreneurship Development, Role of RSETIs | 1 | 1 | 0 |
| **PC 2** – Developing Self Confidence and Positive Attitude (Micro Lab & Tower Building) | 2 | 1 | 1 |
| **PC 3** – Comparative Advantages of Entrepreneurship and Self Employment over Wage Employment | 1 | 1 | 0 |
| **PC 4** – Understanding and self-evaluation of Achievement Motivation and ways and improve motivation (SRQ) | 6 | 2 | 4 |
| **PC 5** - Understanding and internalizing entrepreneurial competencies | 5 | 3 | 2 |
| **PC 6** - Understanding the Concept of Risk Taking and Ability to do Risk Assessment (Ring Toss Game) | 3 | 1 | 2 |
| **PC 7** - Understanding the importance of Systematic Planning and Efficiency Orientation (Boat Building) | 2 | 1 | 1 |
| **PC 8** - Being able to understand the importance of Quality Assurance and Improvement in Business | 3 | 1 | 1 |
| **PC 9** - Understanding the process of steps in Problem Solving  | 2 | 2 | 1 |
| **PC 10 –** Time Management – Understanding of Basic Concepts and ability to manage time | 3 | 2 | 1 |
| **PC 11 –** Effective Communication Skills – Understanding of Basic Concepts and ability | 2 | 1 | 1 |
| **PC 12** – Ability to assess market conditions and identify appropriate business opportunities | 3 | 3 | 0 |
| **PC 13** - Ability to Conduct Market Survey on a limited scale in a given area of Business | 7 | 3 | 4 |
| **PC 14** – Understanding of Banking & Insurance and how it can help a startup enterprise | 6 | 3 | 3 |
| **PC 15** – Ability to Prepare Business Plan based on data obtained from Market Survey | 16 | 6 | 10 |
| **PC 16** – Understanding licensing and regulatory aspects of launching an enterprise.  | 3 | 3 | 0 |
| **PC 17** – Ability to Maintain Books of Accounts and Develop Financial Statements for a Small Business | 8 | 6 | 2 |
| **PC 18** – Understanding and ability for Inventory and Materials Management | 5 | 3 | 2 |
| **PC 19** – Understanding and ability for Sales and Marketing | 7 | 4 | 3 |
| **PC 20** – Human Resource Management – Understanding of Concepts and ability to manage a team | 5 | 3 | 2 |
| **PC 21** - Understanding of Basic Laws relating to MSMEs | 5 | 5 | 0 |
| **PC 22** – Growth and Strategic Planning - Understanding of Concepts | 5 | 5 | 0 |
| **Total EDP** | **100** | **60** | **40** |

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| **Outcomes to be Assessed** | **Performance Criteria** | **Assessment Criteria** |
| **Total** | **Theory** | **Practical** |
| **TECHNICAL KNOWLEDGE**1. Knows about basic electronics and working knowledge
2. Knows on tools and precautions in using tools for servicing the Inverter and UPS
3. Knows on inverter UPS and its uses and working systems.
4. Knows the difference between Inverter and Generator
5. Knows on PCB components
6. Knows on PCB component assembling
7. Knows on PCB Wiring
8. Knows on Inverter wiring and soldering
9. Knows about soldering of PCB component
10. Understand about transformer, relay
11. Understand about inverter checking repairing and battery maintaining
12. Knows fault findings of Inverter.
13. Knows different types of battery
14. Understands the characteristics of battery
15. Knows Battery voltage, current ,capacity electricity storage ,density, energy efficiency, cycle life of battery and shelf life of battery
16. Knows on battery construction and its working
 | **After gaining professional knowledge the trainee will have:****PC1 –** Good level of interest in becoming an entrepreneur in Inverter, UPS servicing and repairing and making Battery.  | 5 | 5 | NIL |
| **PC2-** Understanding the basic electrical and electronic system in inverter and UPS. | 5 | 5 | NIL |
| **PC3 –** Understanding the use of different tools used in servicing and repairing of inverter and UPS. | 5 | 5 | NIL |
| **PC4 –** Understand series board connection, phase and earth. | 5 | 5 | NIL |
| **PC5 -** Knows the working system of Inverter and UPS | 5 | 35 | NIL |
| **PC6-** Knowledge of difference between inverter and Generator | 5 | 5 | NIL |
| **PC7** – Understands the PCB Components | 3 | 3 | NIL |
| **PC8** - Knowledge of PCB Wiring | 3 | 3 | NIL |
| **PC9** – Knowledge of PCB Soldering | 5 | 5 | NIL |
| **PC10** - Understand about transformer and relay | 5 | 5 | NIL |
| **PC11** – Understand how the inverter is to be checked | 3 | 3 | NIL |
| **PC12** - Understand how the battery is to be maintained | 3 | 3 | NIL |
| **PC13** - Understand the knowledge of diagnosing the fault in UPS | 5 | 5 | NIL |
| **PC14 –** Understand the knowledge of diagnosing the fault in Inverter. | 3 | 3 | NIL |
| **PC15** - Knows the different types of battery | 3 | 3 | NIL |
| **PC16** – Knows the different characteristics of battery | 3 | 3 | NIL |
| **PC17**- Knowledge of classification of battery | 3 | 3 | NIL |
| **PC18** - Understand the Understand the voltage current capacity energy efficiency of battery | 3 | 3 | NIL |
| **PC19** - Understand the working of Zinc in battery | 5 | 5 | NIL |
| **PC20-** Understand the Nickel metal hydride battery | 5 | 5 | NIL |
| **PC 21**- Knows the Latium Batteries | **3** | **3** | **nil** |
| **PC-22-**Understand the difference between conventional battery and fuel cell | **3** | **3** | **NIL** |
| **PC23** - Understand the advantages and disadvantages of fuel cell | **5** | **5** | **NIL** |
| **PC24** - Knowledge of construction of /making of battery | **3** | **3** | **NIL** |
| **PC25** - Knowledge of safety precautions while working in servicing of UPS and Inverter | **2** | **2** | **NIL** |
| **TOTAL** | **100** | **100** | **NIL** |

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| **TECHNICAL SKILL**1. Identify the tools and machines used for servicing and repairing of the Inverter and UPS.
2. Able to locate the difference between Inverter and Generator.
3. Identify the different parts of Inverter and UPS
4. Able to identify the PCB components
5. Assemble PCBs and do wiring of the PCB
6. Make the wiring and Fit the Inverter
7. Solder the PCB components.
8. Diagnose the fault of inverter.
9. Able to maintain the battery
10. Identify components of Battery like Anode, cathode, electrolyte, and separator.
11. Able to identify the different classification of Battery.
12. Check voltage ,current, capacity density cycle life
13. Construct different types of battery
 | **At the end of the training the trainee will be / able to**  | **Total** | **Theory** | **Practical** |
| **PC1** - Able to handle the tools and equipments for servicing inverter and UPS | 3 | NIL | 3 |
| **PC2** - Able to locate the difference between inverter and generator | 3 | NIL | 3 |
| **PC3** - Able to identify various parts of Inverter and UPS | 5 | NIL | 5 |
| **PC4** - Able to find the precautions to be taken in dissembling of inverter | 5 | NIL | 5 |
| **PC5** - Demonstrate the principle of operation of a range of inverter drive system | 5 | NIL | 5 |
| **PC6** - Able to assemble the PCBs | 5 | NIL | 5 |
| **PC7** - Configure operate and monitor drive systems | 5 | NIL | 5 |
| **PC8** - Ability of wiring the PCBs | 5 | NIL | 5 |
| **PC9** - Ability to solder the PCB Components. | 3 | NIL | 3 |
| **PC10** - Diagnose the fault based on the complaint | 3 | NIL | 3 |
| **PC11** - Disconnect the power source and open the cabinet doors of the equipment | 3 | NIL | 3 |
| **PC12** - Disconnect the battery and wait for electrolytic capacitor top discharge | 3 | NIL | 3 |
| **PC13** - Remove protective panels since the voltage present is potentially lethal | 5 | NIL | 5 |
| **PC14** - Check the air filter and monitor system parameters from the control panel | 3 | NIL | 3 |
| **PC15** - Carry out basic test such as power supply inspection, volt ampere test and earth teat power supply etc. | 5 | NIL | 5 |
| **PC16** - Separate and inspect every module of the unit if the fault is not identified through basic tests. | 3 | NIL | 3 |
| **PC17**- Replace the components | 3 | NIL | 3 |
| **PC18** - Replace the faulty module with a functional one | 3 | NIL | 3 |
| **PC19** - Re assemble the unit and Make all power and communication wiring | 3 | NIL | 3 |
| **PC20** - Switch on power supply and confirm that unit is functioning  | 3 | NIL | 3 |
| **PC21** - Check that all the modules of the unit work as per specification. | 3 | NIL | 3 |
| **PC22** -Rectify completely to avoid repeat fault in the equipment. | 3 | NIL | 3 |
| **PC23** - Ensure damage free handling of the unit. | 3 | NIL | 3 |
| **PC24** - Able to identify the components of battery | 3 | NIL | 3 |
| **PC25** - Able to check voltage , current capacity, density cycle life of battery | 3 | NIL | 3 |
| **PC26** - Able to construct Zinc air battery | 3 | NIL | 3 |
| **PC27** - Able to construct Nickel Metal Hydride Battery | 3 | NIL | 3 |
| **PC28** - Able to construct methanol oxygen fuel cell battery | 3 | NIL | 3 |
| **TOTAL** | 100 | NIL | 100 |

# SECTION 2- EVIDENCE OF LEVEL

Option B: Key Requirements of the Job Role

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| **Title of the Qualification: UPS AND BATTERY MAKING & SERVICING** |
| **NSQF LEVEL: 4** |
| **Process Required** | **Professional Knowledge** | **Professional Skills** | **Core Skills** | **Responsibility** |
| **Work in familiar predictable, routine, situation of clear choice** | **Factual knowledge of field of knowledge or study.** | **Recall and demonstrate practical skill, routine and repetitive in narrow range of application using appropriate rule and tool, using quality concepts.** | **Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment** | **Responsibility for own work and learning** |
| Since the qualification is devised for attending the services and repairing of inverter and UPS and Battery making knowledge about which has been imparted the nature of work is routine and predictable with fair degree of choice/decisions to be made. | Factual knowledge of equipment and process of servicing of inverter and UPS and making battery  | Ability to service the inverter and UPS system and making of battery with clearly identified quality standards. | Enterprise launching and business management skills to a limited scale. This can be imparted through training.  | Since this training leads to entrepreneurial outcome responsibility for own work and learning is to be present and demonstrated. |

# SECTION 3: EVIDENCE OF NEED

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| **What evidence is there that the qualification is needed?** Entrepreneurship has been embedded in the Indian genius and is a part of its tradition. India traditionally has been an entrepreneurial society. Traditionally, the entrepreneurship of many communities has been facilitated principally by the successful use of informal ‘entrepreneurial ecosystems’ and interdependent business networks. Further, there is also a rich tradition within the Indian Diaspora, spanning the past several hundred years, whose spirit of enterprise is legion. Entrepreneurship in India occurs in ‘far more encompassing and far reaching ways than in developed countries’, and could therefore be far more complex, for there is so much more that needs to be done. Commentators today celebrate the ubiquitous Indian attitude of ‘*Jugaad’* (a Hindi word roughly translated as ‘creative improvisation) tool to somehow find a solution based on a refusal to accept defeat, and calling on initiative, quick thinking, cunning and resolve to quickly fulfill market demands at the lowest possible prices) as an entrepreneurial trait that has been as much a part of everyday Indian living as its rich tradition of philosophy and speculation. The development and impact of entrepreneurship in India has intensified in recent times, particularly with the rise in knowledge-intensive services. New entrepreneurs who do not belong to traditional business communities have begun to emerge in large numbers. Entrepreneurship has grown rapidly, visibly so, creating wealth and generating employment, especially in the past twenty years. Crucial efforts initiated after economic liberalization – including systematic attempts to reduce the ‘license raj’, greater efforts to make finance more easily accessible to entrepreneurs and other institutional support to ‘technopreneurs’ – have helped improve the climate for Entrepreneurship. Thus, the opportunities created by today’s global knowledge economy coupled with the ‘unshackling of indigenous enterprise’, have continued to making India a ‘fertile ground’ for Entrepreneurship. Recent surveys, such as those undertaken by Goldman Sachs and Price waterhouse Coopers, have estimated that India has the potential to be among the world’s leading economies by 2050. Further India’s economy can potentially gain significantly from the country’s characteristic features – a democratic open society, a strong technology base (with capacity for leapfrogging), unparalleled diversity, vibrant capital markets (including growing private equity and venture capital markets), an increasingly youthful population (50% of India is 25 years and younger), a sizeable market of a large number of customer with vast unmet needs as well as an environment of full and free competition in the private sector.In order to give impetus to this growing demand of first generation entrepreneurs to gain formal training in entrepreneurship knowledge and skills RSETIs have been established by various Banks. Ministry of Rural Development gives part funding of the training. The RSETIs have been established on the RUDSETI models which have been proved very effective in eradicating the problems of unemployed youth. The trainings by these Institutes are unique in the sense they are demand based. The Institutes have got the experience of conducting these Programmes over the years.  |
| India being a power deficit nation has a large market for power backup products. There has been a growing trend in recognizing UPS systems as an essential power backup device as nearly every organization today uses computers to smoothen their workflows. E Commerce, data centres, servers, and electronic & medical equipments need high level of uninterrupted power supply and thus generating significant demand for high power range of UPS systems in India. Therefore, Indian UPS market expected to witness double-digit growth in the coming years. In the latest research study, “India UPS Market Outlook 2018”, RNCOS analysts identified that UPS market is witnessing tremendous growth with growing demand for power back-up systems in the country. In 2013, the Indian UPS market revenue grew by 10.9% compared to the previous year. Another big customer for UPS industry is Indian pharmaceutical industry, ranked third in the world in terms of production volume and 14th in terms of domestic consumption value. The sector requires uninterrupted energy flow in the manufacturing units. Manufacturing processes are energy intensive and the requirement of thermal and electrical energy varies depending on the product. The major factor drives the usage of UPS industry is the sever power cuts all across the country. Government of India has not sufficient power grids to meet our domestic & industrial usage. Because of which, people has to go for power back-up equipments UPS & Inverters **In order to give impetus to this growing demand of first generation entrepreneurs to gain formal training in entrepreneurship knowledge and skills RSETIs have been established by various Banks. Ministry of Rural Development gives part funding of the training. The RSETIs have been established on the RUDSETI models which have been proved very effective in eradicating the problems of unemployed youth. The trainings by these Institutes are unique in the sense they are demand based. The Institutes have got the experience of conducting these Programmes over the years.**  **In order to identify the potential programmes as per the needs of the unemployed youth, a Committee of General Managers of top 5 RSETI sponsoring Banks has been constituted. The General Managers of State Bank of India, Punjab National Bank, Bank of Baroda, Central Bank of India and Bank of India are the members of this Committee. In addition, Executive Director, RUDSETI, National Director for RSETIs and Director General, National Academy of RUDSETI who got rich field experience also joined this Committee. The above Committee met at Mumbai on 7th November 2016. After thorough discussions and based on the past experience the Committee short listed potential /need based courses for training rural unemployed youth in the RSETIs. The training on Entrepreneurship in ‘UPS and “Battery Making & Servicing” is one such shortlisted need based training.** |

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| **What is the estimated uptake of this qualification and what is the basis of this estimate?**Presently there are 585+ Rural Self Employment Training Institutes (RSETIs) across the country sponsored by various Banks. National Academy of RUDSETI is the anchoring Institution which designs and approves the training programmes being conducted by these RSETIs. The Training Modules are demand driven and are vetted by National Academy of RUDSETI, having experience of running similar programmes by the RUDSETIs since over three decades. Inverter and UPS servicing and repairing and Battery making is one of the most popular need based training programmes conducted by these Institutes. These programmes are having very good settlement rate. The number of trainees under this qualification during the past three years is as under:

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| **FY** | **No. of Training Programmes** | **Number of Candidates** |
| 2013-14 | 37 | 867 |
| 2014-15 | 31 | 786 |
| 2015-16 | 26 | 614 |

Cumulative settlement rate for the above training is 60% and observing the above trend, the candidates trained under the above qualification file, the number of candidates to be trained in the next 3 years is estimated at more than 3,000 candidates. |

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| **What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?**The qualification is unique because it develops the capabilities of a youth to own, operate a Refrigeration and Air conditioning (shop) by developing both entrepreneurial and technical knowledge and skills. Such a qualification is currently not offered by NCVT or any of Sector Skill Council. Hence, the activities are unique and the Qualification does not get duplicated.  |

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| **What Arrangements are in place to monitor and review the qualification (s)? What data will be used and at point will the qualification (s) be revised or updated?**National Academy of RUDSETI has put in place a robust MIS for RSETIs. Comprehensive data (Course wise/Bank Wise/State Wise) for all RSETIs is maintained by NAR in the said MIS. Entry level data include the photograph of the candidate other basic details. Course modules are made available in the MIS and the website of NAR. Training logs and Post Programme Reports with action photographs of the training are also made available in the MIS. Details of Settlement and credit linkages are uploaded in the MIS with action photos and documentary proofs. The State Directors of RSETIs are also visiting the RSETIs every quarter for reviewing the quality of training / settlement. Officials from the controlling offices of the Banks and NAR are also making periodic visits to the RSETIs for reviewing the activities. MIS reports are used for viewing the settlement of the trained candidates, their level of income and employment generation by them. Feedback obtained from the trained candidates, RSETI sponsoring bank and other stake holders are used to review/update the course. |

# SECTION 4: EVIDENCE OF RECOGNITION AND 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?**

The candidates who are trained “UPS and battery making & servicing” may attend skill up gradation Programme where in specialized inputs will be given for enabling the candidates to go in for technology up gradation especially in advanced inverter and UPS services. The candidates are also eligible for attending the growth Programmes in RSETIs which will help them draw a growth plan for their business and go in for expansion and diversification in the related field of activity.