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List of documents submitted in support of the Qualifications File

1. Model Curriculum of **Assistant House Wireman and Motor Winder** (Version 2.0)

NSQF QUALIFICATION FILE

SUMMARY

1	**Qualification Title:**	Assistant House Wireman and Motor Winder (Version 2.0)
2	**Qualification Code, if any -**	Old Code: STC -CON/NSQF -2017 /802 New Code: STC -CON/NSQF -2022 /0805
3	**NCO code and occupation -**	N.A.
4	**Nature and purpose of the qualification (Please specify whether qualification is short term or long term)**	Short Term Certificate Course. To train the trainees in 'Assistant House Wireman and Motor Winder' trade to become self-employed i.e. entrepreneurs or wage employed under electrical contractors & MSME
5	**Body/bodies which will award the qualification**	West Bengal State Council of Technical & Vocational Education and Skill Development.
6	**Body which will accredit providers to offer courses leading to the qualification**	Recognition Committee under the West Bengal State Council of Technical & Vocational Education and Skill Development.
7	**Whether accreditation /affiliation norms are already in place or not , if applicable (if yes, attach a copy)**	Board of assessment, examination and certification under the West Bengal State Council of Technical & Vocational Education and Skill Development.
8	**Occupation(s) to which the qualification gives access**	House Wiring & Motor Winding has a wide scope of employment ranging from self-employment, contractual employment to Industrial jobs. On successful completion of this course, the candidates shall be gainfully employed in the industries.
9	**Job description of the occupation**	Install, maintain and repair electrical wiring, and lighting systems. Read technical diagrams and blueprints. Perform general electrical maintenance. Also rewind and produce coils, replacing and preparing components, such as the stator core for winding.
10	**Licensing requirements**	Works Man Permit License from Directorate of Electricity, Govt. of West Bengal on completion two-year experience. (License to be obtained by trainee himself/herself)
11	**Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)**	N.A.
12	**Level of the qualification in the NSQF**	Level 3
13	**Anticipated volume of training/learning required to complete the qualification**	600 hours (including 150 hours of Apprenticeship training and 60 Hrs Employability Skill)
14	**Indicative list of training tools required to deliver this qualification**	As per Annexure - II
15	**Entry requirements and / or recommendations and minimum age**	Class 10 Pass OR Class 9 pass and pursuing continuous regular schooling, OR Class 8 Pass with 2 year experience, OR Class 8 Pass with NTC/NAC (2 years) in Eletrician / Wireman Trade

		OR previous relevant qualification of NSQF Level 2.5 with 1 yr experience

16	**Progression from the qualification (Please show Professional and academic progression)**	Assistant House Wireman & Motor Winder ➔ House Wireman & Motor Winder➔Senior House Wireman & Motor Winder
17	**Arrangements for the Recognition of Prior learning (RPL)**	RPL will consists of four stages: - Counselling – To inform advice and guide the candidates regarding RPL. - Pre-Assessment – To assess the current competencies of the candidates and identify the gap between the full qualification and current competencies. - Bridge Training – To train the candidates for bridging the gap. - Final Assessment & Certification – To assess the candidate for full qualification and certify.
18	**International comparability Where Known (Research Evidence to be provided)**	N.A.
19	**Date of planned review of the qualification.**	Every 3 years ((From date of NSQC approval)
20	**Formal structure of the qualification**	

Title of component and identification code.	**Mandatory / Optional**	**Estimated size (learning hours)**	**Level**
1. Apply safe working Practices	Mandatory	30 Hrs.(T-10+ P-20)	3
2. Make electrical wire joints & soldering	Mandatory	30 Hrs.(T-10+ P-20)	3
3. Analyse, demonstrate and test basic electrical connection	Mandatory	30 Hrs.(T-10+ P-20)	3
4. Plan and prepare Earthing installation	Mandatory	60 Hrs.(T-20+ P-40)	3
5. Assemble, install and test wiring system	Mandatory	60 Hrs.(T-10+ P-50)	3
6. Plan and execute electrical illumination system	Mandatory	60 Hrs.(T-20+ P-40)	3
7. Perform winding for armature of a ceiling fan / table fan	Mandatory	120 Hrs.(T-60+ P-60)	3
8. Work in real job situation with special emphasis on basic safety and hazards in this domain.	Mandatory	150 Hrs.(T-0+ P-150)	3
9.Employability Skills(60 Hrs)	Mandatory	60 Hrs.	3
		600 hours	

NSQF QUALIFICATION FILE

Title of component and identification code.	Mandatory /Optional	Estimated size (learning hours)	Level
I. Theory (a) Theory component of the course is to develop relevant basic technical information & knowledge about fundamental of electricity, electrical tools and measuring instruments, earthing system, different protective devices and wiring materials, electrical house wiring and winding of small electrical motors and basic safety norms.	Mandatory	140	3
II. Practical (b) Institutional component of Practical training of the course is to impart relevant basic technical skills to perform house wiring and motor winding (small motors) by using wiring materials and fixing circuits, various tools & instruments maintaining basic safety.	Mandatory	250	3
(c) OJT component of Practical training of the course is to develop competency in the real job situation with special emphasis on basic safety and hazards in electrical domain.	Mandatory	150	3
III. Employability Skills(60 Hrs). Employability Skills component of the course is to impart Soft skills which include Communication Skills, Digital skill, and Legal literacy, Entrepreneurship etc.	Mandatory	60	3 4
Total (I+II+III)		**600**	

SECTION I

ASSESSMENT

21	**Body/Bodies which will carry out assessment:** Board of assessment, examination and certification under West Bengal State Council of Technical & Vocational Education & Skill Development constituted under the ACT XXVI of 2013 under Department of Technical Education, Training & Skill Development, Govt. of West Bengal.
22	**How will RPL assessment be managed and who will carry it out?** RPL arrangement will be for existing uncertified experienced workforce and will consist of four stages 1. Counseling- To inform, advise and guide the candidates regarding RPL 2. Pre-Assessment- To assess the current competencies of the candidates and identifying the gap between the full qualification and current competencies. 3. Bridge Training- To train the candidates for bridging the gap. 4. Final assessment & Certification- To assess the candidate for full qualification and certify. RPL assessment will be managed by WBSCT&VE&SD
23	**Describe the overall assessment strategy and specific arrangements s 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.** Assessment will be carried out by Board of assessment, examination and certification under West Bengal State Council of Technical & Vocational Education & Skill Development, under Department of Technical Education, Training & Skill Development, Govt. of West Bengal. The Council has all necessary infrastructure and pool of qualified Assessors/ Examiners to carry out such assessments. Presently the Council is conducting all examinations for all courses which include Diploma Courses, NQR enlisted Short Term Courses, NSQF complaint Short Term Courses, Vocational Courses under Higher Secondary (Vocational) level & all other Short term Courses in the state of West Bengal. Council also conducts all State Level Entrance tests like JEXPO for admission to Diploma Courses in Polytechnics, VOCLET for lateral entry to Diploma Courses in Polytechnics and CET (Common Entrance Test) for admission to NCVT courses in ITIs. This Council has been recognized as an assessing body for NSQF aligned courses by NCVET under MSDE, GOI. Council conducts Training of Assessors (TOA) for prospective Assessors for NSQF complaint courses through certified Master Trainers / experts.

NSQF QUALIFICATION FILE

24. ASSESSMENT EVIDENCE

Title of Component:

Outcomes to be assessed	Assessment criteria for the outcome
1. Apply safe working Practices	(1.1) Maintain the proceduresto achieve a safe working environment in line with occupational health and safety regulations and requirements according to site policy. (1.2) Recognize any unsafe situations according to site policy, and assess his report accordingly. (1.3) Identify and take necessary precautions on fire and safety hazards and report accordingto site policy and procedures. (1.4) Demonstrate safety alarms accurately. (1.5) Prepare the report/record to supervisor/ Competent of authority in the event of accident or sickness of any staff, including accident details according to site accident/injury procedures (1.6) Demonstrate Personal Productive Equipment (PPE) and use the same as per related working environment. (1.7) Demonstrate basic first aid & CPR and use them under different circumstances. (1.8) Identify different fire extinguishers and to use the same as per requirement in a mock drill.
2. Make electrical wire joints & soldering	(2.1) Make simple straight twist and rat-tail joints in single strand conductors / married and 'T' (Tee) joint in stranded conductors. (2.2) Solder and de-solder the finished copper conductor joints with precaution. (2.3) Follow the safety / precaution during joints & soldering.
3. Analyse, demonstrate and test basic electrical connection	(3.1) Identify types of wires, cables and verifytheir specifications. (3.2) Verify thecharacteristics of series, parallel and its combination circuit. (3.3) Measure current voltage and Resistance in a single phase supply / load. (3.4) Identify the phase, neutral and earth in single phase supply.
4. Plan and prepare Earthing installation	(4.1) Install thepipe earthing / plate earthing and test it. (4.2) Demonstrate how earth resistance can improve.

5. Assemble, install and test wiring system	(5.1) Perform the wiring with the safety rules. (5.2) Prepare and mount the energy meterboard. (5.3) Draw and wire up the consumers mainboard with ICDP switch and distribution fuse box in a house/building. (5.4) Demonstrate thetypes of fuses, their ratings and applications and identify theparts of a MCB, ELCB and RCCB. (5.5) Estimate the requirement for metal conduit wiring and wire up. (5.6) Estimate the materials and wire up the lighting circuit for a PVC conduit wiring (5.7) Estimate the materials and wire up a lighting circuit for a corridor in metal / PVC conduit. (5.8) Test a domestic wiring installation by using Megger.
6. Plan and execute electrical illumination system	(7.1) Assemble and connect a single twin tubeF.L. (7.2) Connect the neon sign with the accessories and test it.
7. Perform winding for armature of a ceiling fan / table fan	(8.1) Identify different parts of a table fan and ceiling fan. (8.2) Draw winding diagram of a single-phase split type A.C. motor (Concentric coil winding). (8.3) Test and identify a faulted armature coil of a ceiling fan / table fan. (8.4) Strip old winding in a fan armature byusing appropriate methods (8.5) Use insulating paper and wooden/insulating stick as per slot of the core (8.6) Prepare the winding coil as per size, no. ofturns and coil pitch. (8.7) Insert the coil and mark start/end point,including connection of the coil (8.8) Test the continuityand winding insulation (8.9) Assemble a motor and run the same
8. work in real job situation with special emphasis on basic safety and hazards in this domain.	(9.1) Assessor will check report prepared for this component of training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for 150 Hours.)
9. Employability Skills (60 Hrs)	As per NCVET guided course module for 60 Hrs

Means of assessment

i) Theory component 200 marks
ii) Practical Test & Viva voce for Practical Component 800 marks

Pass/Fail

Passing criteria is based on marks obtained in Formative and Summative Assessment taken together

i) Minimum Marks to pass Theory component– 60%
ii) Minimum Marks to pass practical component– 70%
iii) Minimum attendance required to appear in the final examination- 75%

SECTION 2
EVIDENCE OF LEVEL

Title/Name of qualification/component: Asst. House Wireman and Motor Winder			
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relates to the NSQF leveldescriptors**	**NSQF Level**
Process	Job holder will be able to install or repair basic household electrical circuits (single phase) and engage in winding of single phase AC motors while maintaining occupational health & safety parameters.	Job holder will understand and comply with safety practices while undertaking works in basic electrical wiring circuits (including testing and jointing/soldering) and winding of single-phase AC motors. The nature of work involved is repetitive and routine.	Level 3
Professiona lknowledge	Job holder will be able to • Understand fundamental electrical theories, signs & symbols,wiring diagram and connections and earthing principles • Use different tools & equipments • Understand basic principles for setting and maintaining temporary lighting and other related electrical systems under LV connection • Understand armature winding & insulation of fan motor and of motor (upto 1 H.P.)	Job holder will understand the basic concepts, facts, principles and processes in relation with connection of basic house wiring circuits (both AC & DC). It is also expected that the job holder will be able to comprehend winding principles of AC motors.	Level 3
Professiona lskill	The user/individual will know and understand how to: • assess and decide whether safety tools/ gears (if any) areinstalled properly, check condition of materials and earthing • decide location to keep DBs and temporary panels, and initiate temporary shut down on malfunctioning of circuits/motors • decide whether workplace is safe for working and also relevanttask is not creating hazardous condition • engage in making armature winding and insulation of fan motor and of motor (upto 1 H.P.)	The job holder will demonstrate use of various tools and materials, different types of wiring circuits, DBs, etc. and also ensure proper earthing. He/ she will be also able to demonstrate proper winding practices for single phase AC motors. The range of application of practical skill is narrow and repetitive.	Level 3

Core skill	The job holder will be able to • read at least two languages, preferably in the local language ofthe site and basic English • read and interpret safety sign boards, signage, tags etc. provided at workplace • speak in at least one language, preferably in one of the locallanguages of the site • listen and interpret instructions / communication by co-workers • listen and follow instructions given by supervisor • orally and effectively communicate with team members • engage in basic financial and banking transactions • Understand principles of t	The job holder will be able to communicate clearly, both in writing and orally, with co-workers, supervisors and customers. He will be able to use basic arithmetic calculations for his work and use basic banking services both on professional and personal level.	Level 3
Responsibility	The job holder will work under the close supervision of supervisor and he will be responsible for • Understanding safety compliance while engaging in fixing ofwiring circuits and armature windings • Preventing fire hazards and loss of human life by use of appropriate fire extinguishers / alarms • Distinguishing between series, parallel and combinationcircuits and taking action thereafter • Distinguishing between circuits for lighting load and powerload • Identifying different types of motor winding.	Job holder is required to carry out functions such as wiring, winding of motors, earthing, etc. In these activities job holder is doing the tasks independently, with supervision in certain risky jobs.	Level 3

SECTION 3
EVIDENCE OF NEED

26. What evidence is there that the qualification is needed?

In line with the high economic growth rates, the demand for primary energy consumption as well as power has been growing in India post liberalisation. As per UN statistics the per capita electricity consumption stood at 704.2 kWh for 2008 and the per capita electricity consumption stood at 1000 kWh for 2012.
The total manpower in the power sector at the end of 11th plan was approximately 12.2 lakhs. The additional man power requirement during 12th Plan period is estimated to be 2.26 as per the Planning Commission's Working Group on Power

Thus there is a dearth of skilled man power in the sector. A large chunk is required for domestic house wiring and minor repair of appliances. Several Industries/ Employers/ Associations both in Govt. and Private sectors (CESC, WBSEDCL, PWD (Electrical), Large contractors firms) have also indicated that there is a requirement for persons having basic skills in House wiring and house hold motor winding like fans, water pump(single phase) motors etc. Further in the rural area and small urban town there is a huge opportunity for self-employment of the skilled persons in this sector.

Industry Relevance - West Bengal State Council of Technical & Vocational Education and Skill Development has proposed this course after receiving multiple feedback from industries regarding need of the qualification.

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

The estimated uptake of the qualification in the state of West Bengal as on date is 15000. This estimate is based on the data received from user industries viz. CESC, WBSEDCL, PWD (Electrical), Large contractors' firms etc.
Industries, Employers, Associations have validated need and estimated requirement of the qualification in meetings organised by the Council.

28. What steps were taken to ensure that the qualification does not duplicate already existing or plannedqualifications in the NSQF?

This qualification is being conducted under the West Bengal State Council of Technical & Vocational Education & Skill Development under Department of Technical Education, Training and Skill Development since the academic year 2005 in Vocational Training Centres spread all over West Bengal for dropout youths. In the state of West Bengal the Council is affiliating and awarding body for this qualification. Thus there is no other existing or planned qualification (Short term courses) in the state aligned with NSQF.

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

The council has three well defined sub-committees namely Board of Studies and Skilling, Board of Examination and Recognition Committee. These committees monitor and review the progress of all qualifications under its purview on a regular basis.

This qualification will be reviewed and revised at an interval of three years on the basis of the outcome of the trainees, placement and self-employment data and feedback from concerned industries/employers.

30. 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 trainee on completion of the course does not immediately qualify to work as an independent authority. The trainee has to gain at least 2 years of field experience, should be of 21 years of age or older and should necessarily an Indian citizen, when he will become eligible to apply for Works Man permit from Directorate of Electricity, Government of West Bengal. Thereafter, he becomes eligible to work as an independent Asst. House Wireman and Motor Winder. From there, he can become either an employee of an organization or become self-employed. In case of employment under an employer, he can progress to various level-wise designations, based on either experience or on obtaining subsequent qualifications.