

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

INSTRUMENTATION AUTOMATION SURVEILLANCE & COMMUNICATION
SECTOR SKILL COUNCIL B-12, Sector 1, NOIDA – 201301 (U.P.)

Name and address of submitting body:

INSTRUMENTATION AUTOMATION SURVEILLANCE & COMMUNICATION
SECTOR SKILL COUNCIL B-12, Sector 1, NOIDA – 201301 (U.P.)

Name and contact details of individual dealing with the submission

Name: Brajesh Kumar Poddar

Position in the Organisation: CEO

Address if different from above:

Tel number(s): 0120- 2424331-2424332, 959 928 4350

E-mail address: ceo@iascsectorskillcouncil.in

List of documents submitted in support of the Qualifications File

1. Summary
2. Criteria for Assessment of Trainees
3. Occupation Maps
4. List of Companies Validation
5. QPs

Model Curriculum to be added which will include the following:

- Indicative list of tools/equipment to conduct the training
- Trainers qualification
- Lesson Plan
- Distribution of training duration into theory/practical/OJT component

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022**SUMMARY**

1	Qualification Title	Building Automation Specialist
2	Qualification Code, if any	IAS/Q3006
3	NCO code and occupation	NCO-2015/2149.0100 & Product Engineering / System Design
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term)	Short-Term Training Up-skilling / Re-skilling of existing resource
5	Body/bodies which will award the qualification	IASC SSC
6	Body which will accredit providers to offer courses leading to the qualification	IASC SSC
7	Whether accreditation/affiliation norms are already in place or not , if applicable (if yes, attach a copy)	Yes
8	Occupation(s) to which the qualification gives access	Product Engineering / System Design
9	Job description of the occupation	Performs system design, wiring, integration, testing, installation & maintenance of automation systems in buildings involving HVAC, FAS, ACS & CCTV Systems.
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	Level 5
13	Anticipated volume of training/learning required to complete the qualification	570 Hrs.
14	Indicative list of training tools required to deliver this qualification	<ul style="list-style-type: none"> • Laptop, white board, marker, projector, Basic AC & DC Electrical & Electronics lab. • Motors, Generators, Starters, Tool sets, Meter sets, Wires, Cables, Terminals, Sockets. • Access Control System components and accessories, and ACS Software • CCTV System, Software • Ethernet LAN, HMI, Devices,

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

		<p>Sensors, Cables, Tools, Meters</p> <ul style="list-style-type: none">• Electrical safety accessories, Electrical switchgear, Conductivity meter, Earth pit and its components• Tool sets, Meter sets, Wires, Cables, Terminals, Sockets, Panels, Cable tray, Ferrules, Cable Glands, Supporting infrastructure• Meter sets, Wires, Cables, Terminals, Sockets, Supporting infrastructure• VFD Panel,• Fire Drill accessories, First Aid kit, Protective Gear, ESD accessories• AUTOCAD Software, MS Office / Open office software, email, Printer
15	Entry requirements and/or recommendations and minimum age	<p>10th + 3 Years Engineering Diploma in relevant field OR 10th + 2 years NTC or 2 years NAC + 1 year experience in relevant field OR Completed 1st Year or Pursuing 2nd Year of 3 Years Engineering Diploma in relevant field (after 12th or 2 years NTC after 10th) OR Completed 1st year or Pursuing 2nd year of BE/B-Tech in relevant field Minimum job entry age:21 years</p>
16	Progression from the qualification (Please show Professional and academic progression)	Building Automation Expert Level-6
17	Arrangements for the Recognition of Prior learning (RPL)	RPL will be based on the same approved Qualification Pack and Assessment Criteria mentioned in the Qualification Pack by Instrumentation Automation Surveillance & Communication Sector Skill Council
18	International comparability where known (research evidence to be provided)	Checked
19	Date of planned review of the qualification.	25/05/2025

NSQC QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

20	Formal structure of the qualification Mandatory components		
	Title of component and identification code/NOSs/Learning outcomes	Estimated size (learning hours)	NSQF Level
	IAS/N2100 Design, Install and Provide Technical Support for HVAC System	90	5
	IAS/N2101 Design, Install and Provide Technical Support for Fire Alarm Systems	90	
	IAS/N2102 Install and Provide Technical Support for Access Controls Systems	60	
	IAS/N2103 Install and Provide Technical Support for CCTV Surveillance Systems	90	
	IAS/N2104 Integrating and Controlling Building automation System	60	
	IAS/N9001 Work Effectively with Teams	30	
	IAS/N9002 Health and Safety in Workplace	30	
	DGT/VSQ/N0102 Employability Skills	60	
	OJT	60	
	Total	570 Hours.	

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

SECTION 1 ASSESSMENT

21	Body/Bodies which will carry out assessment: IASC SSC will conduct assessment through its empaneled/aligned assessment agency and through certified assessors.
22	How will RPL assessment be managed and who will carry it out? The RPL assessment will be carried out through screening, identifying skills gaps through NOS level assessment issuing NOS level scores sheets providing ridge training to cover competency gaps and conduct final assessment of the candidates
23	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. The emphasis is on practical demonstration of skills and knowledge based on the performance criteria. The assessment papers are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Pack. The assessment papers are also checked for the various outcome-based parameters such as quality, time taken, precision, tools & equipment requirement etc. The assessment results are backed by evidence collected by assessors. <ol style="list-style-type: none">1. The assessor needs to collect 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 needs to verify the authenticity of the candidates 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 needs to be mentioned in the attendance sheet. In case of suspicion, the assessor should authenticate and cross verify trainee's credentials in the enrolment form.3. The assessor needs to punch the trainee's roll number on all the test pieces.4. The assessor can take a photograph of all the students along with the assessor standing in the middle and with the center name/banner at the back as evidence.5. The assessor also needs to carry a photo ID card. The assessment agencies are instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments.

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

ASSESSMENT EVIDENCE

24. Assessment evidences Title of Component: Building Automation Specialist

Please refer to document 'Model Curriculum Building Automation Specialist_V1.0.pdf' which provides the outcomes, assessment criteria, methods and tools for each component.

Outcomes to be assessed / NOSs to be assessed	Assessment criteria for the outcome
IAS/N2100: Design, Install and Provide Technical Support for HVAC System	PC1. Capturing work requirements of the client by site survey
	PC2. Developing BOQ according to the requirement of the client
	PC3. Creating 2D models using BAS Software
	PC4. Developing program on BAS Tools for HVAC
	PC5. Developing program on BAS Tools based on Logic gates
	PC6. Developing program related to Air Conditioning on BAS Tools
	PC7. Managing wiring of components in AC Drives and Soft Starters
	PC8. Suggesting appropriate HVAC components to the customer according to the site
	PC9. Assisting the customer in choosing different types of technologies and specifications used in HVAC Systems
	PC10. Taking approval from the customer PC11. Maintaining documentation of the components to be installed
	PC12. Collecting and checking of components at customer premises as per checklist
	PC13. Installing HVAC components including VFD at site as per the requirement
	PC14. Installing AHU (Air Handling Unit)
	PC15. Installing Chiller PC16. Installing Sensors
	PC17. Installing VAV (Variable Air Volume), TFA (Treated Fresh Air) etc.
	PC18. Wiring Power Supplies, Earthing & Grounding
	PC19. Wiring and connecting Shielded & Unshielded Cables, Cable Gauges & AWG sizes
	PC20. Wiring of HVAC hardware PC
	PC21. Testing of installed HVAC System
	PC22. Ensuring proper working of the installed HVAC System
	PC23. Assuring 100% satisfaction from the customer after installation
	PC24. Troubleshooting errors if the system is not working as per the requirements
	PC25. Calculating total number of HVAC controllers as per I/O summary
	PC26. Managing refrigeration process needed for the site by BAS controller
	PC27. Managing Wiring and drawings of Components used in

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	Centralized Air-Conditioning
	PC28. Providing Technical Support for HVAC functions using BAS controller
	PC29. Calculating Heat Load
IAS/N2101: Design, Install and Provide Technical Support for Fire Alarm Systems	PC1. Capturing work requirements of the client by site survey
	PC2. Developing BOQ according to the requirement of the client
	PC3. Assisting customer about different types of technologies used in FAS according to the need of site
	PC4. Ensuring that Suggesting components matches to customers requirement
	PC5. Assisting the customers about the company policies towards services and warranty
	PC6. Managing proper documentation of site survey and customers requirements
	PC7. Suggesting appropriate FAS components to the customer according to the site
	PC8. Assisting the customers about Fire Alarm systems with their specifications
	PC9. Taking approval for installing FAS components from the customer
	PC10. Preparing and assembling FAS components as per the requirement
	PC11. Creating check list before going to the site for installation
	PC12. Maintaining complete documentation of the components to be installed
	PC13. Collecting and checking of components before moving to customer premises
	PC14. Assisting technicians for checking hardware components before FAS Installation
	PC15. Replacing FAS components if found malfunctioning
	PC16. Preparing Checklist and ensure the availability of every component before installation
	PC17. Installing FAS components at the customers site
	PC18. Installing fire Detection components as per site requirement
	PC19. Installing Heat/RoR Detectors, Smoke Detectors and Multi Criteria detectors as per requirement
	PC20. Wiring Power Supplies, Earthing & Grounding
	PC21. Wiring and connecting Shielded & Unshielded Cables, Cable Gauges, SWG & AWG sizes
	PC22. Ensuring adequate length of connecting cables as per the requirements
	PC23. Wiring of FAS hardware
	PC24. Using proper terminals as prescribed for joining cables
	PC25. Use power cable for connecting power supply with proper rating
	PC26. Testing installed FAS components at customer premises
	PC27. Ensuring proper working of every component
	PC28. Ensuring proper working of FAS systems before leaving the site and explaining the customer how to operate the system properly

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	PC29. Assuring 100% satisfaction from the customer after installation
	PC30. Troubleshooting the errors if the system is not working as per the requirements
	PC31. Providing Technical Support for Fire Detection & Alarm System as per Fire Life cycle and Class of Fire
	PC32. Providing Technical Support for intelligent Fire Panels & conventional Fire Panels installed
	PC33. Managing Detector & Device Wiring Schema
	PC34. Integrating Fireman's Telephony & Talkback system with fire alarm
	PC35. Selecting Fire Safety Strategies for prevention+A29:A65
IAS/N2102: Install and Provide Technical Support for Access Controls Systems	PC1. Capturing work requirements of the client by site survey
	PC2. Developing BOQ according to the requirement of the client
	PC3. Assisting customer about different types of technologies used in Access Control Systems according to the need of site
	PC4. Ensuring that Suggesting components matches to customers requirement
	PC5. Assisting the customers about the company policies towards services and warranty
	PC6. Managing proper documentation of site survey and customers requirements
	PC7. Suggesting appropriate Access Controls components to the customer according to the site
	PC8. Assisting the customers about technologies used in Access Control systems with their specifications
	PC9. Taking approval for installing Access Control Systems from the customer
	PC10. Preparing and assembling Access Control Systems components as per the requirement
	PC11. Creating check list before going to the site for installation
	PC12. Maintaining complete documentation of the components to be installed
	PC13. Collecting and checking of components before moving to customer premises
	PC14. Assisting technicians for checking hardware components before Installation
	PC15. Replacing components if found malfunctioning
	PC16. Preparing Checklist and ensure the availability of every component before installation
	PC17. Installing components at the customers site
	PC18. Installing hardware such as smart hub, RFID Card, Door control unit, card readers etc.
	PC19. Ensuring that components are matching with customers requirement and installed as per standard operating operation
	PC20. Determining the type of cable requirement for different types of network type such as USB, twisted pair, etc.
	PC21. Ensuring adequate length of cables are available for installation
	PC22. Wiring of Power Supplies, Earthing & Grounding.
	PC23. Checking voltage and resistance at all appropriate points of

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	the system
	PC24. Correcting alignment and operation of access point hardware
	PC25. Verifying access levels PC26. Checking correct operation of each reader
	PC27. Testing Release time for each lock using software
	PC28. Checking the signals if doors are held open and signaling is required
	PC29. Checking all the data for correct entry in the ACS software
	PC30. Checking alarms to display correctly
	PC31. Defining level of particular object in the software
	PC32. Identifying the operating system and software requirement for the access control system
	PC33. Providing Technical Support for Access controls devices at the customer premises
	PC34. Commissioning Access Controls Systems performance as per customer requirements
	PC35. Achieving zero errors in commissioning as per company policy
	PC36. Identifying problems and alert on time
	PC37. Fixing for any errors (if any) identified
	PC38. Verifying software implementation checks of input/output I/O points (AI, AO, DI,DO)
	PC39. Verifying sensor calibration, control sequence logic, graphics and alarm code
	PC40. Performing software functionality test
	PC41. Achieving 100% work schedule as planned for the week
	PC42. Meeting 100% daily or monthly target
	PC43. Achieving zero component damage
	PC44. Keeping work area clean and organized
	PC45. Identifying problems and alert in time
	PC46. Achieving 100% compliance with health and safety guidelines and rules
IAS/N2103: Install and Provide Technical Support for CCTV Surveillance Systems	PC1. Capturing work requirements of the client by site survey
	PC2. Developing BOQ according to the requirement of the client
	PC3. Assisting customer about different types of technologies used in CCTV Surveillance Systems according to the need of site
	PC4. Ensuring that Suggesting components matches to customers requirement
	PC5. Assisting the customers about the company policies towards services and warranty
	PC6. Managing proper documentation of site survey and customer requirements
	PC7. Suggesting appropriate CCTV components to the customer according to the site
	PC8. Assisting the customers about technologies used in CCTV systems with their specifications
	PC9. Taking approval for installing CCTV Systems from the customer
	PC10. Preparing and assembling CCTV Systems components as per

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

the requirement
PC11. Creating check list before going to the site for installation
PC12. Maintaining complete documentation of the components to be installed
PC13. Assisting procurement of hardware required for CCTV system installation
PC14. Collecting and checking of components before going to customer premises
PC15. Assisting technicians for checking hardware components before Installation
PC16. Replacing components if found malfunctioning
PC17. Preparing Checklist and ensure the availability of every component before installation
PC18. Installing CCTV components at the customers site
PC19. Mounting the CCTV camera so as to cover maximum area
PC20. Deciding on the height of camera installation according to the end purpose
PC21. Setting up the camera such as pan, tilt, zoom unit as per customer requirements
PC22. Set camera controls
PC23. Connecting the power and video output cable to the camera
PC24. Ensuring that all the hardware matches the customer requirement, agreed features and specifications
PC25. Determining the type of cable requirement for different types of network type such as USB, twisted pair, etc.
PC26. Ensuring adequate length of cables are available for installation
PC27. Wiring Power Supplies, Earthing & Grounding.
PC28. Laying the cables in the building or site to connect the camera and system
PC29. Using BNC connectors for joining cables and crimping them
PC30. Using power cable of specified thickness to connect CCTV system with power supply
PC31. Connecting all the cables from multiple cameras to the CCTV system area
PC32. Checking voltage and resistance at all appropriate points of the system
PC33. Correcting alignment and operation of CCTV hardware
PC34. Checking correct operation of each component. Ensure that there are no malfunctioning, if yes than replace the component
PC35. Checking the signals of CCTV components
PC36. Checking all the data received by CCTV as per the requirement
PC37. Ensuring that there are no cable joins, sharp bends during cabling
PC38. Ensure 100% satisfaction from customers for all the installed components
PC39. Providing Technical Support for CCTV devices at the customer premises
PC40. Commissioning CCTV Systems performance as per customer

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	requirements
	PC41. Achieving zero errors in commissioning as per company policy
	PC42. Identifying problems and alert on time
	PC43. Fixing for any errors (if any) identified
	PC44. Verifying software implementation checks;(AI, AO, DI,DO) I/O points
	PC45. Ensuring zero-material damage while handling the equipment during installation process
	PC46. Performing software functionality test
	PC47. Achieving 100% work schedule as planned for the week
	PC48. Following standard operating procedure of tools and equipment and avoid any hazard
	PC49. Achieving zero component damage
	PC50. Keeping work area clean and organized
	PC51. Achieving 100% compliance with health and safety guidelines and rules
	PC52. Ensuring installed components as per company norms and standards
IAS/N2104: Integrating and Controlling Building automation System	PC1. Installing and Controlling HVAC Components using DDC Controllers
	PC2. Graphically monitor, control, alarm and diagnose Building Equipment remotely
	PC3. Creating communication between DDC Controllers using data Bus
	PC4. Using BACnet, LON(Echelon) and MODBUS to communicate on data Bus
	PC5. Integrating installed HVAC Components with other Building Automation Systems using Software and programming on Single Control Panel
	PC6. Integrating different detectors such as Heat, Smoke, Flame Ionization Detectors, Beam Detectors etc. with control panel
	PC7. Using Conventional Systems and analogue addressable systems for fire panels
	PC8. Creating and testing communication between control panel and detectors
	PC9. Using Intelligent addressable systems as per the requirement
	PC10. Integrating Fire Alarm Components with central fire alarm system
	PC11. Integrating Fire alarm system with centralized control panel
	PC12. Inter facing between different networks used in Access Controls systems
	PC13. Integrating tailgate detectors to remove unauthorized access
	PC14. Controlling and monitoring multiple doors using reader controllers
	PC15. Creating communication between control panel and access control servers
	PC16. Integrating DIU (Door interface Units)
	PC17. Integrating access control and intrusion detection
	PC18. Installing Biometric systems on application device

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	PC19. Installing and creating communication between magnetic locks and doors
	PC20. Managing Smart card management systems
	PC21. Integrating Access Control System with Time/Attendance payroll system
	PC22. Managing Weigand Communication for specific interface between card and readers.
	PC23. Integrating Access Control devices with BAS control Panel
	PC24. Managing Iris and Auto Iris functionality of installed CCTV System
	PC25. Managing Automatic Shutter Speed
	PC26. Creating communication between CCTV Camera and DVR or NVR
	PC27. Managing Automatic Gain Control
	PC28. Managing Synchronization between installed CCTV Camera
	PC29. Creating communication between IP cameras and network
	PC30. Managing NVR and NVR Software
	PC31. Installing and managing Facial and number plate recognition system
	PC32. Integrating CCTV Surveillance System with Security system to provide centralized management of access control
	PC33. Integrating centralized Access Control System with Building Automation System Control Panel
	PC34. Testing of overall integrated Building Automation System through control panel
	PC35. Ensuring proper working and controlling of every installed device using control panel
	PC36. Assuring 100% satisfaction from the customer after installation of BAS
	PC37. Troubleshooting errors if the system is not working as per the requirements
IAS/N2105: Work Effectively with Teams	PC1. Know and understand the team objectives and goals
	PC2. Know team members by name. Greet them appropriately and respond to their greetings.
	PC3. Know the roles and responsibilities of team members. Ensure others know about you and your role in the team
	PC4. Learn about the culture and preferences of team members especially if they belong to other organizations or nationalities
	PC5. Follow organizations policies and procedures for working with team members within and outside the organization especially relating to privacy, confidentiality and security.
	PC6. Create an environment of trust and mutual respect
	PC7. Use appropriate mode of communication verbal, written, mail, phone or text and clearly articulate your message to ensure that the recipient understands the message
	PC8. Listen to team members and try to understand what they are wanting to say. Seek or provide clarifications if you see any gap in understanding
	PC9. Communicate professionally and follow organization protocols. Do not overload the team members with unnecessary and unsolicited information

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	PC10. Share important information with the team timely.
	PC11. Respond to communications promptly.
	PC12. Perform own role and produce output in time for other team members to consume
	PC13. Receive inputs from others and work upon it per role requirement
	PC14. Adjust within the permissible rules so that work flows smoothly.
	PC15. Help team members to perform their role effectively and provide any clarifications and support they need
	PC16. Share tools and common resources fairly, taking cognizance of others needs and schedules
	PC17. Resolve any contentious issues amicably, involving the team lead or the supervisor if needed
	PC18. Let team members know in good time if you cannot carry out your commitments, explaining the reasons and alternate solutions, if any. Let the team lead know about this.
	PC19. Think positively and make constructive suggestions to meet the goals
	PC20. Accept and give suggestions with open mind
	PC21. Take initiatives and volunteer to contribute
	PC22. Help team members with facts and figures to arrive at workable decisions
	PC23. Accept decisions professionally and support these, even if these do not match your suggestions and personal views
	PC24. Act in the interest of the team and the organization to ensure that things do not fall through the gap and team goals are achieved.
	PC25. Take initiative to correct the situation if something seems to be going wrong. PC26. Seek help or escalate if the situation demands
	PC27. Follow organizations and statutory guidelines about making references or comments to social customs or preferences
	PC28. Refrain from making any comments to hurt sentiments
	PC29. Accommodate team members preferences to the extent feasible. If these come in the way of fulfilling team goals, discuss with the supervisor/ team leader.
	PC30. Seek information and clarifications from others if you do not understand any customs.
IAS/N2003: Health and Safety in Workplace	PC1. Comply with general and special safety procedures followed in the company
	PC2. Follow specified safety procedures while handling an equipment, hazardous material or tool
	PC3. Remove ties, finger rings, or any other metal objects which may interfere with the work
	PC4. Use safety materials such as goggles, gloves, ear plugs, caps, ESD pins, covers, shoes, etc.
	PC5. Escalate about any hazardous materials or things found in the premises
	PC6. Report about any breach of safety procedure in the company
	PC7. Ensure zero accidents at work
	PC8. Avoid damage of components due to negligence in ESD

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	procedures
	PC9. Regularly participate in fire drills or other safety related workshops organized by the company
	PC10. Ensure no loss for company due to safety negligence
	PC11. Maintain appropriate posture, especially in long hours of sitting or standing position and in handling heavy materials
	PC12. Participate in company organized health sessions such as yoga, physiotherapy or games
	PC13. Handle heavy and hazardous materials with care and using appropriate tools and handling equipment such as trolleys, jacks and ladders
Employability Skills	PC1. identify employability skills required for jobs in various industries
	PC2. identify and explore learning and employability portals
	PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
	PC4. follow environmentally sustainable practices
	PC5. recognize the significance of 21st Century Skills for employment
	PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life
	PC7. use basic English for everyday conversation in different contexts, in person and over the telephone
	PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English
	PC9. write short messages, notes, letters, e-mails etc. in English
	PC10. understand the difference between job and career
	PC11. prepare a career development plan with short- and long-term goals, based on aptitude
	PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings
	PC13. work collaboratively with others in a team
	PC14. communicate and behave appropriately with all genders and PwD
	PC15. escalate any issues related to sexual harassment at workplace according to POSH Act
	PC16. select financial institutions, products and services as per requirement
	PC17. carry out offline and online financial transactions, safely and securely
	PC18. identify common components of salary and compute income, expenses, taxes, investments etc
	PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation
	PC20. operate digital devices and carry out basic internet operations

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

securely and safely
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively
PC22. use basic features of word processor, spreadsheets, and presentations
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity
PC26. identify different types of customers
PC27. identify and respond to customer requests and needs in a professional manner.
PC28. follow appropriate hygiene and grooming standards
PC29. create a professional Curriculum vitae (Résumé)
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively
PC31. apply to identified job openings using offline /online methods as per requirement
PC32. answer questions politely, with clarity and confidence, during recruitment and selection
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Means of assessment 1	<ol style="list-style-type: none">1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below.)4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on these criteria.
Means of assessment 2 Add boxes as required.	
Pass/Fail	<ol style="list-style-type: none">1. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS.2. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022**SECTION 2****25. EVIDENCE OF LEVEL**

Title/Name of qualification/component: Building Automation Specialist Level: 5			
NSQF Domain	Outcomes of the Qualification/component	How the outcomes relate to the NSQF level descriptors	NSQF Level
Process	Performs system design, wiring, integration, testing, installation & maintenance of automation systems in buildings involving HVAC, FAS, ACS & CCTV Systems.	Theoretical and practical skills of the individual is applied to work in predictable and familiar context. The evolving nature of the business and technology environment demands dealing with new scenarios and adapting solutions in the context of the target industry quickly which makes the process adaptive and non-routine.	5
Professional knowledge	Knowledge facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.	The individual applies knowledge learnt through formal education to accomplish the defined objectives and continuously updates his/her knowledge and acquires new relevant information through multiple channels and assimilates these.	5
Professional skill	Decision Making, Plan and Organize, Customer Centricity, Problem Solving, Analytical Thinking, Critical Thinking	The individual is called upon to understand the business context, the technology environment, the defined vision/mission/goals of the company and implement the defined solutions Building Automation Specialist required extensive interaction with all stakeholders – including customer, vendors and own organization. He/she needs to do out-of-the-box thinking, do critical analysis and apply information.	5
Core skill	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills	Deeps skills in understanding concepts, problems and documents of varied nature, assimilating and communicating globally across the organization boundaries to achieve desired results. Collaboration is a key need.	5

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.		
Responsibility	Completely responsible for the output. Effective teamwork and safety of self and colleagues. Responsible for self-learning goals	The individual understands the responsibilities of the role and fully owns it. He/she continuously learns on the job and, taking guidance where needed and guiding the team and coaching to achieve the outcomes.	5

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022**SECTION 3 EVIDENCE OF NEED**

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 SSC	In case of other Awarding Bodies (Institutes under Central Ministries and states departments)
	Need of the qualification	The IASC SSC carried out baseline survey with industry stakeholders and identify the skill requirement across the sector. IASC Sector is growing at a very significant rate and to cater the demand of the industry we need to skill our youth. As per the report its evident that the qualification is needed. The IASC can produce the data from primary or authorized secondary sources as well.	
	Industry Relevance	The IASC SSC has undertaken validation of the job roles with actual end-user industry where such employment are going to be generated and absorbed instead of generic validation of industry. The IASC SSC has submitted the endorsements from users / intended users of the qualification clearly supporting or otherwise the need for trained people against specific job role.(The industry validation format to be used)	
	Usage of the qualification	The IASC SSC, based on the base line survey and demand from industry only the Qualification is created. It has found that there are huge requirement of human resource and trainings are to be provided to youth to make them employment.	

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

	Estimated uptake	The IASC SSC prepared the estimated uptake analysis of the qualification. It has strong industry connect and plans to fulfil the need of skilled resource to be deployed in the industry. The training entity has also require such qualification to train the new inductees to make them employable similarly engineering / diploma institutions will undertake training through this qualification to generate poll of professional.	
--	------------------	--	--

27	Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences Endorsement from line ministry that DHI (MHI) is received.
28	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 Carried out functional mapping for the job roles across available websites, ensuring there is no duplications in the in the planned qualifications in NSQF through vertical career progression and horizontal multiskilling
29	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 <ul style="list-style-type: none">● Feedback from the Industry and Industry Association.● Recommendation and suggestions from the Industry Player and Industry Association.

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.

NSQF QUALIFICATION FILE

Approved in 19th NSQC Meeting-NCVET-26th May 2022

Rationalized in 24th NSQC Meeting – NCVET – Dated 17.11.2022

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?</p> <p><i>Show the career map here to reflect the clear progression</i></p> <ol style="list-style-type: none">1. Endorsed and accepted by the industry players2. Formal recognition from the Industry Players3. Horizontal & Vertical mobility options are available								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="text-align: left; padding: 5px;">NSQF Level</th><th style="text-align: left; padding: 5px;">Path of progress</th></tr></thead><tbody><tr><td style="padding: 5px;">NSQF Level 6</td><td style="padding: 5px;">Building Automation Expert</td></tr><tr><td style="padding: 5px;">NSQF Level 5</td><td style="padding: 5px;">Industrial Automation Specialist</td></tr><tr><td style="padding: 5px;">NSQF Level 4</td><td style="padding: 5px;">Instrumentation Technician (Pressure/Level/Flow)</td></tr></tbody></table>		NSQF Level	Path of progress	NSQF Level 6	Building Automation Expert	NSQF Level 5	Industrial Automation Specialist	NSQF Level 4	Instrumentation Technician (Pressure/Level/Flow)
NSQF Level	Path of progress								
NSQF Level 6	Building Automation Expert								
NSQF Level 5	Industrial Automation Specialist								
NSQF Level 4	Instrumentation Technician (Pressure/Level/Flow)								