Qualification Pack



Installation and Commissioning Technician (AM/FM Radio Station)

QP Code: IAS/Q0204

Version: 2.0

NSQF Level: 4

Contents

IAS/Q0204: Installation and Commissioning Technician (AM/FM Radio Station) 3
Brief Job Description 3
Applicable National Occupational Standards (NOS) 3
Compulsory NOS 3
Qualification Pack (QP) Parameters 3
IAS/N0216: Assist in testing of AM/FM radio broadcasting station 5
IAS/N0215: Install AM/FM radio broadcasting station 11
IAS/N9001: Work effectively with teams 20
IAS/N9002: Health and safety in workplace 27
DGT/VSQ/N0102: Employability Skills (60 Hours) 35
Assessment Guidelines and Weightage 42
Assessment Guidelines 42
Assessment Weightage 43
Acronyms 44
Glossary 45

IAS/Q0204: Installation and Commissioning Technician (AM/FM Radio Station)

Brief Job Description

The installation and commissioning technician is responsible for the installation of subsystems of AM/FM Radio Broadcasting Transmitters and Sound Recording Studios. The individual also assists the Installation & Commissioning Engineer in testing and commissioning.

Personal Attributes

This job requires discipline and attention to detail, interdisciplinary aptitude and ability to learn. The person should be willing to work for long hours to meet deadlines and be able to cope with pressure.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. IAS/N0216: Assist in testing of AM/FM radio broadcasting station
2. IAS/N0215: Install AM/FM radio broadcasting station
3. IAS/N9001: Work effectively with teams
4. IAS/N9002: Health and safety in workplace
5. DGT/VSQ/N0102: Employability Skills (60 Hours)

Qualification Pack (QP) Parameters

Sector	Instrumentation
Sub-Sector	Communication (Broadcast)
Occupation	Installation and Commissioning
Country	India
NSQF Level	4
Credits	14
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL

Minimum Educational Qualification & Experience	10th grade pass plus 1-year NTC/ NAC (in relevant field) OR 10th Class with 1 Year of experience In relevant field OR Completed 1st year of 3-year diploma (after 10th) and pursuing regular diploma (in relevant field) OR Previous relevant Qualification of NSQF Level (NSQF Level 3) with 1 Year of experience in relevant field
Minimum Level of Education for Training in School	Not Applicable
Pre-Requisite License or Training	NA
Minimum Job Entry Age	19 Years
Last Reviewed On	NA
Next Review Date	11/08/2025
NSQC Approval Date	11/08/2020
Version	2.0
Reference code on NQR	2022/EHW/IASC/06510
NQR Version	2

IAS/N0216: Assist in testing of AM/FM radio broadcasting station

Description

This unit is about supporting I&C Engineer in testing all subsystems of AM/FM Radio Transmitter and Studios and the integrated system for best performance

Scope

The scope covers the following :

- Prepare for testing
- Inspect electric power supply and air conditioning
- Test audio / IT equipment and RF equipment
- Prepare for commissioning and hands-on training

Elements and Performance Criteria

Prepare for testing

To be competent, the user/individual on the job must be able to:

PC1. identify the testing process of the entire setup based on the documents provided by the respective OEM and consultant

PC2. identify the operating conditions and functioning of each of the equipment

Inspect electric power supply and air conditioning

To be competent, the user/individual on the job must be able to:

PC3. inspect all electric, audio, RF and data connectivity

PC4. verify that polarity for the hot (positive/red), cold (negative/black) and ground (green) points for audio are connected as per the standard practice

PC5. test to ensure that power supply line, Neutral and Earth are connected as per the standard practice

PC6. monitor and log the power supply voltage and current drawn by all the major equipment using multimeter and clip-on ammeter

PC7. test and log the AC voltage between Neutral and Earth of incoming supply, distribution board and every point socket

PC8. examine earth connectivity in case AC voltage is more than 1 V

PC9. inspect the balancing of electric power loads on all the three phases

PC10. measure and log the air flow, outdoor and indoor temperatures and relative humidity to ascertain optimum working of air conditioning

Test audio / IT equipment and RF equipment

To be competent, the user/individual on the job must be able to:

PC11. assist the Radio Broadcast engineer test the condition and functionality of the equipment across all important parameters such as THD, SNR, response, insertion loss, etc.

PC12. assist the Radio Broadcast Engineer in the measurement and documentation (logging) of all vital parameters in the audio/RF equipment like return loss of the combined feeder cable/antenna during cold condition and forward/reflected power during the operating condition of the transmitter and transfer switch, etc.

PC13. prepare log of important parameters displayed by the transmitter's front panel for reference

Prepare for commissioning and hands-on training

To be competent, the user/individual on the job must be able to:

PC14. check the entire system visually to ensure its normal performance

PC15. arrange for listening tests of the chain and final broadcast

PC16. organise hands-on training for the station staff based on the operation and maintenance of the setup

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organisation’s hierarchy and reporting structure

KU2. organisation’s code of conduct

KU3. organisation’s culture

KU4. organisation’s documentation policy

KU5. organisation’s policy on quality and standards

KU6. organisation’s business, locations, products, services and clients

KU7. organisation’s partners and their products and services

KU8. organisation’s website, contact personnel and related details

KU9. organisation’s sales and after-sales policy

KU10. basics of electrical, electronics and electrical communication equipment

KU11. basics of computers and human machine interface (HMI)

KU12. normal electrical safety precautions and special safety procedure and precaution to be followed while working on RF equipment and high rise transmission towers

KU13. quality, standards and guidelines to be followed during the installation of high power broadcast communication equipment

KU14. basics of radio broadcast transmission chain consisting of audio input equipment, transmitter, change over equipment, antenna, dummy load, monitoring chain, etc.

KU15. the process of installation of application software used for preparation of playlist, post production, commercial logging, etc.

KU16. the use of test and measuring equipment like Audio Analyser, RF Network Analyser, etc.

KU17. electrical panel components and wiring process

KU18. process and parameters involved in the testing of individual equipment and entire chain

KU19. relevant regulations, standards and codes of practice and their implications on the installation

KU20. the setup and operation of test and measurements used in the final testing and commissioning to help the Radio Broadcast Engineer

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. write e-mails, letters and other official documents
GS2. fill test reports in prescribed format
GS3. write or edit user training related material
GS4. read technical specifications, drawings, manuals, instructions
GS5. read standards and regulatory compliance documents
GS6. read schedules and timelines
GS7. interact with co-workers regarding work and schedule
GS8. co-ordinate with customers, vendors and partners about work progress
GS9. describe issues and problems to the supervisor / engineer
GS10. communicate with the supervisor / engineer about work progress
GS11. take decisions pertaining to the project while installing, testing and commissioning
GS12. take pragmatic decisions to keep the project on track when issues arise with the work done by partners or vendors, without compromising on the quality
GS13. co-ordinate with the team and management regarding necessary adjustments to be made in schedules and timelines
GS14. execute the plan for the installation and detail its activities so that it can be finished on time
GS15. allocate and supervise work of the team members
GS16. identify needs of the customer and suggest most appropriate solution
GS17. support customers when needed
GS18. evaluate the possible solution(s) to a problem and suggest an optimum solution
GS19. identify immediate solution(s) to avoid delays
GS20. use existing information to arrive at course of actions
GS21. use existing information for improving customer satisfaction
GS22. use existing information to optimise solution and company business
GS23. analyse problems, identify the causes and provide possible solutions
GS24. apply, analyse and evaluate the information gathered from observation, experience, reasoning, or communication as a guide for thought and action
GS25. analyse the operations of the existing facility layout and suggest economically feasible measures for optimisation

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prepare for testing	**5**	**5**	**-**	**2**
PC1. identify the testing process of the entire setup based on the documents provided by the respective OEM and consultant	3	3	-	1
PC2. identify the operating conditions and functioning of each of the equipment	2	2	-	1
Inspect electric power supply and air conditioning	**9**	**18**	**-**	**2**
PC3. inspect all electric, audio, RF and data connectivity	2	3	-	1
PC4. verify that polarity for the hot (positive/red), cold (negative/black) and ground (green) points for audio are connected as per the standard practice	1	2	-	-
PC5. test to ensure that power supply line, Neutral and Earth are connected as per the standard practice	1	2	-	-
PC6. monitor and log the power supply voltage and current drawn by all the major equipment using multimeter and clip-on ammeter	1	2	-	-
PC7. test and log the AC voltage between Neutral and Earth of incoming supply, distribution board and every point socket	1	2	-	-
PC8. examine earth connectivity in case AC voltage is more than 1 V	1	2	-	-
PC9. inspect the balancing of electric power loads on all the three phases	1	3	-	1
PC10. measure and log the air flow, outdoor and indoor temperatures and relative humidity to ascertain optimum working of air conditioning	1	2	-	-
Test audio / IT equipment and RF equipment	**16**	**14**	**-**	**3**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. assist the Radio Broadcast engineer test the condition and functionality of the equipment across all important parameters such as THD, SNR, response, insertion loss, etc.	5	5	-	1
PC12. assist the Radio Broadcast Engineer in the measurement and documentation (logging) of all vital parameters in the audio/RF equipment like return loss of the combined feeder cable/antenna during cold condition and forward/reflected power during the operating condition of the transmitter and transfer switch, etc.	8	5	-	1
PC13. prepare log of important parameters displayed by the transmitter's front panel for reference	3	4	-	1
Prepare for commissioning and hands-on training	**10**	**13**	**-**	**3**
PC14. check the entire system visually to ensure its normal performance	4	5	-	1
PC15. arrange for listening tests of the chain and final broadcast	3	3	-	1
PC16. organise hands-on training for the station staff based on the operation and maintenance of the setup	3	5	-	1
NOS Total	**40**	**50**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	IAS/N0216
NOS Name	Assist in testing of AM/FM radio broadcasting station
Sector	Instrumentation
Sub-Sector	Communication (Broadcast)
Occupation	Installation and Commissioning,
NSQF Level	4
Credits	4
Version	2.0
Last Reviewed Date	NA
Next Review Date	11/08/2025
NSQC Clearance Date	11/08/2020

IAS/N0215: Install AM/FM radio broadcasting station

Description

This unit is about installing various sub systems of AM/FM Transmitter and Sound Recording Studio, according to the design, BoQ and the material provided.

Scope

The scope covers the following :

- Prepare for installation
- Perform laying of cable trays, cables, raceways and conduits
- Fix connectors and terminate cables
- Install equipment and software at studio
- Install equipment and software at transmission centre
- Install electric power supply

Elements and Performance Criteria

Prepare for installation

To be competent, the user/individual on the job must be able to:

PC1. identify the workflow of the entire broadcast chain and facility

PC2. analyse the floor plan of studio and transmitter station site

PC3. interpret the content of technical and installation manual of all equipment to be installed

PC4. select the best suitable area for placement of power supply equipment, systems and other equipment in studio and transmitter station site

PC5. mark the placement of ventilation and air conditioning equipment at the studio and transmitter centre

PC6. plan the placement of server rack, cable harness, etc. at the studio and transmitter centre

Perform laying of cable trays, cables, raceways and conduits

To be competent, the user/individual on the job must be able to:

PC7. mark the position for equipment and cable routing on the floor and wall at studio and transmitter station centre

PC8. install raceways, cable trays and conduiting work as per the drawing for electrical power wires/cables for both the centres

PC9. install conduits as per the drawing for routing the audio and networking cables for both the centre

PC10. install cable trays/raceways/wall support structure as per the drawing for laying the rigid lines, RF feeder cables etc. at the transmitter centre

PC11. perform laying and termination of all the cables with appropriate sized lugs, ferrules, etc. as per the installation manual at both the centres

Fix connectors and terminate cables

To be competent, the user/individual on the job must be able to:

PC12. prepare connection for power supply cables as per the installation manual

PC13. fix connectors and terminate microphone cables, audio cables, data cables and RF rigid lines / cables as per the installation manual

PC14. plan laying and routing of microphone cables for interconnecting the audio equipment

PC15. perform labelling of all microphone cables using standard notation and legends

PC16. verify polarity of audio connectors in conformity with standard notation

PC17. perform sealing of conduit ends using approved material/device

Install equipment and software at studio

To be competent, the user/individual on the job must be able to:

PC18. prepare a plan for installation of LT distribution kiosk, cabling, earthing and other LT power supply works

PC19. provide UPS back up power connection to all equipment as per the consultant's drawing

PC20. install and wire the audio equipment, computer, studio transmitter link equipment and network-enabled devices like mixers, telephone hybrid, etc.

PC21. follow appropriate procedure to securely connect earth wires with the equipment

PC22. install studio automation software for recording, postproduction, playlist creation, playback and archiving functions

Install equipment and software at transmission centre

To be competent, the user/individual on the job must be able to:

PC23. prepare a plan for installing LT distribution kiosk, cabling, earthing and doing other LT power supply works

PC24. provide UPS back up power connection to all equipment as per the OEM's recommendation

PC25. plan for positioning the transmitter, coaxial switch, RF rigid line feeders, UPS, LT switchgear, etc. on the floor as per the installation manual

PC26. install RF rigid line from transmitter/RF change over output to the outdoor coaxial feeder cable through a wall feed using an insulator at the FM transmitter site

PC27. install the transmission line (feeder line) from the wall through an insulator (transmitter) to the ATU at the AM transmitter site

PC28. install cable dehydrator and the associated plumbing for the outdoor coaxial feeder cable at FM transmitter site

PC29. install and wire the broadcast processor, the codec for the STL link, the transmitter (along with standby transmitter, if provided), the RF change over switch and dummy load

PC30. install and wire the AM/FM demodulator, remote monitoring equipment and monitoring equipment as per the installation manual

PC31. verify that the earth strips are securely connected to high power equipment viz. UPS and AM/FM transmitter

PC32. install the indoor RF rigid lines/transmission lines at the transmitter centre for interconnecting transmitter, combiner and feeder cable

Install electric power supply

To be competent, the user/individual on the job must be able to:

PC33. implement the plan of electrical installation for interconnecting ESCOM incoming supply, captive power source, main distribution board, UPS, switch boards for lighting, equipment and general purpose power points

PC34. install UPS system and power distribution as per recommended procedures and drawings

PC35. route electric wires in conduits for the luminaries over the false ceiling
PC36. label all cables as per the drawing for ease of identification
PC37. seal conduits with glass wool buds to prevent sound leakage and ingress of insects

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organisation's hierarchy and reporting structure
KU2. organisation's code of conduct
KU3. organisation's culture
KU4. organisation's documentation policy
KU5. organisation's policy on quality and standards
KU6. organisation's business, locations, products, services and clients
KU7. organisation's website, contact personnel and related details
KU8. purpose of the project, the workflow and the procedure involved
KU9. layout of the station and location of various facilities
KU10. site conditions and how these impact the installation works and the operational and maintenance activities
KU11. rules and regulations to be followed under normal and emergency conditions
KU12. type of equipment / installation material used and how these impact the site conditions
KU13. types of hand tools, accessories and their locations

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and write e-mails, letters and other official documents
GS2. read and use formats and checklist for site readiness planning and reports
GS3. read and prepare schedules and timelines
GS4. read organisation's policy related to site safety precaution
GS5. read and interpret instructions received from installation engineer
GS6. read all documents such as drawings, manuals, instructions, technical specifications, etc.
GS7. read standards and regulatory compliance documents
GS8. interact with co-workers regarding work and schedule
GS9. co-ordinate with customers, vendors and partners about work progress
GS10. describe issues and problems to the supervisor / engineer
GS11. communicate with the supervisor / engineer about work progress
GS12. take decisions pertaining to the installation
GS13. take pragmatic decisions to keep the project on track when issues arise in the work done by partners or vendors, without compromising on the quality
GS14. execute the plan for the installation and detail its activities so that it can be finished on time

GS15. help the I&C engineer in preparing the installation plan

GS16. identify needs of the customer and suggest most appropriate solution

GS17. support customers when needed

GS18. evaluate the possible solution(s) to a problem and suggest an optimum solution

GS19. identify immediate solution(s) to avoid delays

GS20. use existing information to arrive at course of actions

GS21. use existing information for improving customer satisfaction

GS22. use existing information to optimise solution and company business

GS23. analyse problems, identify the causes and provide possible solutions

GS24. apply, analyse and evaluate the information gathered from observation, experience, reasoning, or communication as a guide for thought and action

GS25. analyse the operations of the existing facility layout and suggest economically feasible measures for optimisation

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prepare for installation	**8**	**22**	**-**	**2**
PC1. identify the workflow of the entire broadcast chain and facility	1	3	-	1
PC2. analyse the floor plan of studio and transmitter station site	2	4	-	-
PC3. interpret the content of technical and installation manual of all equipment to be installed	1	4	-	-
PC4. select the best suitable area for placement of power supply equipment, systems and other equipment in studio and transmitter station site	1	4	-	-
PC5. mark the placement of ventilation and air conditioning equipment at the studio and transmitter centre	1	4	-	-
PC6. plan the placement of server rack, cable harness, etc. at the studio and transmitter centre	2	3	-	1
Perform laying of cable trays, cables, raceways and conduits	**11**	**23**	**-**	**2**
PC7. mark the position for equipment and cable routing on the floor and wall at studio and transmitter station centre	2	4	-	1
PC8. install raceways, cable trays and conduiting work as per the drawing for electrical power wires/cables for both the centres	2	4	-	1
PC9. install conduits as per the drawing for routing the audio and networking cables for both the centre	2	5	-	-
PC10. install cable trays/raceways/wall support structure as per the drawing for laying the rigid lines, RF feeder cables etc. at the transmitter centre	2	5	-	-
PC11. perform laying and termination of all the cables with appropriate sized lugs, ferrules, etc. as per the installation manual at both the centres	3	5	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Fix connectors and terminate cables	**13**	**15**	**-**	**2**
PC12. prepare connection for power supply cables as per the installation manual	3	3	-	1
PC13. fix connectors and terminate microphone cables, audio cables, data cables and RF rigid lines / cables as per the installation manual	3	3	-	1
PC14. plan laying and routing of microphone cables for interconnecting the audio equipment	2	3	-	-
PC15. perform labelling of all microphone cables using standard notation and legends	2	2	-	-
PC16. verify polarity of audio connectors in conformity with standard notation	1	2	-	-
PC17. perform sealing of conduit ends using approved material/device	2	2	-	-
Install equipment and software at studio	**12**	**15**	**-**	**1**
PC18. prepare a plan for installation of LT distribution kiosk, cabling, earthing and other LT power supply works	1	2	-	-
PC19. provide UPS back up power connection to all equipment as per the consultant’s drawing	2	3	-	-
PC20. install and wire the audio equipment, computer, studio transmitter link equipment and network-enabled devices like mixers, telephone hybrid, etc.	5	4	-	1
PC21. follow appropriate procedure to securely connect earth wires with the equipment	2	3	-	-
PC22. install studio automation software for recording, postproduction, playlist creation, playback and archiving functions	2	3	-	-
Install equipment and software at transmission centre	**21**	**30**	**-**	**3**
PC23. prepare a plan for installing LT distribution kiosk, cabling, earthing and doing other LT power supply works	2	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. provide UPS back up power connection to all equipment as per the OEM's recommendation	2	2	-	-
PC25. plan for positioning the transmitter, coaxial switch, RF rigid line feeders, UPS, LT switchgear, etc. on the floor as per the installation manual	2	2	-	-
PC26. install RF rigid line from transmitter/RF change over output to the outdoor coaxial feeder cable through a wall feed using an insulator at the FM transmitter site	2	5	-	-
PC27. install the transmission line (feeder line) from the wall through an insulator (transmitter) to the ATU at the AM transmitter site	2	4	-	-
PC28. install cable dehydrator and the associated plumbing for the outdoor coaxial feeder cable at FM transmitter site	2	4	-	1
PC29. install and wire the broadcast processor, the codec for the STL link, the transmitter (along with standby transmitter, if provided), the RF change over switch and dummy load	3	4	-	1
PC30. install and wire the AM/FM demodulator, remote monitoring equipment and monitoring equipment as per the installation manual	2	3	-	-
PC31. verify that the earth strips are securely connected to high power equipment viz. UPS and AM/FM transmitter	2	2	-	-
PC32. install the indoor RF rigid lines/transmission lines at the transmitter centre for interconnecting transmitter, combiner and feeder cable	2	2	-	1
Install electric power supply	**10**	**10**	**-**	**-**
PC33. implement the plan of electrical installation for interconnecting ESCOM incoming supply, captive power source, main distribution board, UPS, switch boards for lighting, equipment and general purpose power points	3	2	-	-
PC34. install UPS system and power distribution as per recommended procedures and drawings	2	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC35. route electric wires in conduits for the luminaries over the false ceiling	2	2	-	-
PC36. label all cables as per the drawing for ease of identification	1	2	-	-
PC37. seal conduits with glass wool buds to prevent sound leakage and ingress of insects	2	2	-	-
NOS Total	**75**	**115**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	IAS/N0215
NOS Name	Install AM/FM radio broadcasting station
Sector	Instrumentation
Sub-Sector	Communication (Broadcast)
Occupation	Installation and Commissioning,
NSQF Level	4
Credits	3
Version	2.0
Last Reviewed Date	NA
Next Review Date	11/08/2025
NSQC Clearance Date	11/08/2020

IAS/N9001: Work effectively with teams

Description

This NOS unit is about building relationships and working with people and groups inside and outside the organization, using skills and habits, to achieve the team goals and objectives.

Scope

The scope covers the following :

- Work as per organisational team environment
- Communicate effectively
- Co-operate with team members and superiors
- Respect customes / preferences and gender / ability differences "

Elements and Performance Criteria

Work as per the organisational team environment

To be competent, the user/individual on the job must be able to:

PC1. identify team objectives and goals, team members by name, their role and responsibilities, greet them appropriately and respond to their greetings

PC2. comply with organisation’s policies and procedures for working with team members within and outside the organisation—especially related to privacy, confidentiality and security

PC3. work as per the environment to build trust and mutual respect

PC4. participate in decision making by providing facts and figures, give / accept constructive suggestions, take initiatives to help team members arrive at workable decisions and meet the goals

PC5. accept decisions professionally and support even if they do not match suggestions and personal views

Communicate effectively

To be competent, the user/individual on the job must be able to:

PC6. communicate professionally as per organisation's protocols, using appropriate mode of communication—verbal, written, mail, phone or text—and clearly articulate the message to ensure that the receiver understands the message

PC7. listen to team members attentively, respond promptly, seek / provide clarifications if required

PC8. share important information with the team timely and refrain from overloading them with unnecessary and unsolicited information

Co-operate with team members and superiors

To be competent, the user/individual on the job must be able to:

PC9. perform own role, receive inputs from others and make adjustments within permissible rules as per requirement, to produce output in time for other team members to follow

PC10. help team members to perform their role effectively and provide any clarifications/support they need, including tools /equipment / common resources as well as resolve any contentious issues amicably, involving the team lead or the supervisor if needed

PC11. let team members know in good time if commitments cannot be carried out, explaining the reasons, and provide alternate solutions, if any; let the team lead know about this

PC12. act in the interest of the team and the organisation, take initiative to correct the wrong, seek help or escalate if needed to ensure that things do not 'fall through the gap' and team goals are achieved

Respect customs / preferences and gender / ability differences

To be competent, the user/individual on the job must be able to:

PC13. follow organisation's policies and statutory guidelines w.r.t seeking information about others' customs / preferences, making references or comments on social customs / preferences, and refrain from hurting sentiments

PC14. accommodate team members' preferences to the extent feasible, and in case they come in the way of fulfilling team goals, discuss with the supervisor/ team leader

PC15. ensure personal behaviour, conduct and communication styles, taking gender and disability of the person into consideration

PC16. list the different types of disabilities with their respective issues and ways to help them overcome challenges

PC17. use inclusive language, verbal as well as non-verbal, irrespective of the disability and the gender of the person

PC18. ensure equal treatment for all clients, colleagues and co-workers while respecting their personal space

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Organisation's policies on dress code , workplace behaviour , performance management,incentives,delivery standards,information security,etc.

KU2. Organisation's hierarchy and escalation matrix

KU3. importance of the individual's role in the workflow

KU4. work area inspection procedures and practices

KU5. different types of information that colleagues might need and the importance of providing this information when it is required

KU6. deeper understanding of actions and consequences of gender based behaviour

KU7. knowledge of gender based concepts, issues and legislation

KU8. organisation standards and guidelines to be followed for PwD and knowledge about laws, acts and provisions defined for PwD by the statutory bodies and the right way to use them including various medical conditions associated with PwD

KU9. health and safety requirements at workplace for PwD and information about various institutes working for PwD to enable in providing livelihood opportunities for PwD

KU10. rights and duties at workplace with respect to PwD and various government / private schemes and benefits available for PwD

KU11. process of recruiting people for a particular job profile w.r.t PwD and gender including rights and duties at workplace with respect to gender sensitivity

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. complete forms such as work orders, invoices and maintenance records

GS2. fill up appropriate forms,activity logs and attendance sheets as per the organisation's format in English and/or local language

GS3. write basic accident or incident report as witnessed in an appropriate format to the relevant authority

GS4. read warnings, instructions and other text material on product labels, components, etc.

GS5. read relevant signage, warnings, labels or descriptions on equipment, etc. while carrying out work activities

GS6. listen effectively and orally communicate information

GS7. ask for clarification and advice from the concerned person

GS8. make decisions on a suitable course of action or response keeping in view resource utilisation while meeting

GS9. plan and organise work to achieve targets and deadlines

GS10. understand needs of the customer, suggest most appropriate solution and support them whenever needed

GS11. match symptoms of the fault noticed to the cause of the problem

GS12. anticipate and avoid hazards that may occur during repairs because of tools, materials used or repair processes

GS13. spot process disruptions and delays

GS14. practice and acceptance of gender and its concepts

GS15. develop empathy across genders and towards PwD

GS16. reflect on own gender identity, gender roles and PwD issues

GS17. engage and participate in discussions to end gender and disability discrimination

GS18. improve and modify work practices

GS19. maintain positive and effective relationships with colleagues and customers

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Work as per the organisational team environment	**15**	**8**	**-**	**5**
PC1. identify team objectives and goals, team members by name, their role and responsibilities, greet them appropriately and respond to their greetings	4	4	-	-
PC2. comply with organisation's policies and procedures for working with team members within and outside the organisation—especially related to privacy, confidentiality and security	4	-	-	2
PC3. work as per the environment to build trust and mutual respect	2	-	-	1
PC4. participate in decision making by providing facts and figures, give / accept constructive suggestions, take initiatives to help team members arrive at workable decisions and meet the goals	4	4	-	1
PC5. accept decisions professionally and support even if they do not match suggestions and personal views	1	-	-	1
Communicate effectively	**6**	**10**	**-**	**1**
PC6. communicate professionally as per organisation's protocols, using appropriate mode of communication—verbal, written, mail, phone or text—and clearly articulate the message to ensure that the receiver understands the message	2	6	-	1
PC7. listen to team members attentively, respond promptly, seek / provide clarifications if required	2	-	-	-
PC8. share important information with the team timely and refrain from overloading them with unnecessary and unsolicited information	2	4	-	-
Co-operate with team members and superiors	**8**	**18**	**-**	**1**
PC9. perform own role, receive inputs from others and make adjustments within permissible rules as per requirement, to produce output in time for other team members to follow	2	6	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. help team members to perform their role effectively and provide any clarifications/support they need, including tools /equipment / common resources as well as resolve any contentious issues amicably, involving the team lead or the supervisor if needed	-	6	-	1
PC11. let team members know in good time if commitments cannot be carried out, explaining the reasons, and provide alternate solutions, if any; let the team lead know about this	2	-	-	-
PC12. act in the interest of the team and the organisation, take initiative to correct the wrong, seek help or escalate if needed to ensure that things do not 'fall through the gap' and team goals are achieved	4	6	-	-
Respect customs / preferences and gender / ability differences	**11**	**14**	**-**	**3**
PC13. follow organisation's policies and statutory guidelines w.r.t seeking information about others' customs / preferences, making references or comments on social customs / preferences, and refrain from hurting sentiments	2	4	-	-
PC14. accommodate team members' preferences to the extent feasible, and in case they come in the way of fulfilling team goals, discuss with the supervisor/ team leader	2	-	-	1
PC15. ensure personal behaviour, conduct and communication styles, taking gender and disability of the person into consideration	2	6	-	1
PC16. list the different types of disabilities with their respective issues and ways to help them overcome challenges	1	-	-	1
PC17. use inclusive language, verbal as well as non-verbal, irrespective of the disability and the gender of the person	2	4	-	-
PC18. ensure equal treatment for all clients, colleagues and co-workers while respecting their personal space	2	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	**40**	**50**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	IAS/N9001
NOS Name	Work effectively with teams
Sector	Instrumentation
Sub-Sector	Instrumentation & Automation
Occupation	Generic
NSQF Level	4
Credits	1
Version	4.0
Last Reviewed Date	NA
Next Review Date	26/05/2025
NSQC Clearance Date	26/05/2022

IAS/N9002: Health and safety in workplace

Description

This OS unit is about following adequate safety procedures to make work environment safe

Scope

The scope covers the following :

- Adhere to standard safety procedures of the company
- Maintain good health and posture
- Effective waste management/recycling practices
- Adopt learning and self-direction
- Develop system thinking in problem solving
- Material/Resources conservation practices

Elements and Performance Criteria

Adhere to standard safety procedures of the company

To be competent, the user/individual on the job must be able to:

PC1. comply with general safety procedures and those for handling an equipment, hazardous material or tool, followed in the company

PC2. remove finger rings or any other metal objects likely to interfere with the work before working on the unit

PC3. use of safety materials such as goggles, gloves, ear plugs, caps, ESD pins, covers, shoes, etc.

PC4. escalate the issue about hazardous materials or things found in the premises or any breach of safety procedure in the company

PC5. ensure zero accidents at work

PC6. avoid damage of components due to negligence in ESD procedures or any other loss due to safety negligence

PC7. participate regularly in fire drills or other safety related workshops organised by the company

Maintain good health and posture

To be competent, the user/individual on the job must be able to:

PC8. maintain appropriate posture, especially in long hours of sitting or standing position and in handling heavy materials

PC9. participate in company organised health sessions such as yoga, physiotherapy or games

PC10. handle heavy and hazardous materials with care, while maintaining appropriate posture, using suitable tools and handling equipment such as trolleys, jacks and ladders

Effective waste management/recycling practices

To be competent, the user/individual on the job must be able to:

PC11. identify recyclable and non-recyclable, and hazardous waste generated to be segregated accordingly

PC12. dispose non-recyclable waste and hazardous waste as per recommended processes

PC13. deposit recyclable and reusable material at identified location

Adopt learning and self-direction

To be competent, the user/individual on the job must be able to:

PC14. understand importance of skill advancement and develop mastery

PC15. adapt product / service to meet success criteria

PC16. understand accountability for timely completion of tasks

PC17. manage to express emotions in appropriate ways at workplace and understand the cause for the emotions

Develop system thinking in problem solving

To be competent, the user/individual on the job must be able to:

PC18. analyse the problem accurately and communicate different possible solutions to the problem

PC19. manage to estimate the cause of the problem and validate

Material/Resources conservation practices

To be competent, the user/individual on the job must be able to:

PC20. identify ways to optimize usage of material including water and electricity / energy in various tasks/activities/processes

PC21. check for spills/leakages in various tasks/activities/processes and plug them or escalate to appropriate authority

PC22. carry out routine cleaning of tools, machines and equipment

PC23. check if the equipment/machine is functioning normally before commencing work and rectify wherever required and report malfunctioning (fumes/sparks/emission/vibration/noise) or any lapse in maintenance of equipment

PC24. ensure electrical equipment and appliances are properly connected and turned off when not in use

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. company's policies on incentives,delivery standards, and personnel management

KU2. company occupational safety and health policy

KU3. company emergency evacuation procedure

KU4. Company's medical policy

KU5. how to maintain the work area safe and secure

KU6. how to handle hazardous materials, tools and equipment

KU7. procedures to be followed during emergencies such as fire accidents, electrocution, etc.

KU8. long term value of good posture and use of appropriate handling equipment

KU9. electrical grounding practices

KU10. safety regulations and standards and how to apply these

KU11. common sources of pollution and ways to minimize it

KU12. categorisation of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics

KU13. usage of different colours of dustbins
KU14. waste management and methods of waste disposal
KU15. organisation's procedures for minimizing mistakes
KU16. strategies pertinent to their field (such as internet searches, asking peers and managers, enrolling for courses and certifications, etc.) that can be used to pursue an advancement in their skills
KU17. one should be able to identify the key performance indicators for the new tasks
KU18. seek feedback from supervisor and deal in constructive manner
KU19. understand that emotions are accompained by a physical state, thought and feeling
KU20. one should be able to interpret timelines and goals set by the manager and break them into sub-goals and tasks
KU21. importance of quality and timely delivery of the product/service
KU22. potential hazards, risks and threats based on the nature of work
KU23. ways of efficiently managing material and water in the process
KU24. layout of the workstation and electrical and thermal equipment used
KU25. efficient and inefficient utilization of material and water
KU26. basics of electricity and prevalent energy efficient devices
KU27. ways to recognize common electrical problems
KU28. common practices of conserving electricity

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. fill up appropriate forms, activity logs and attendance sheets as per organisation's format in English and/or local language
GS2. write basic accident or incident report as witnessed in appropriate format to relevant authority
GS3. read/listen and interpret information correctly from relevant instruction documents, manuals, health and safety instructions, memos, etc. applicable to the job, in English and/or local language
GS4. read relevant signage, warnings, labels or descriptions on equipment, etc. while carrying out work activities
GS5. question co-workers in order to understand the safety and health issues
GS6. inform co-workers about safety and health issues
GS7. report issues and problems relating to safety and health to managers in clear terms
GS8. make decisions pertaining to safety and health issues at workplace
GS9. plan and organise work conforming to the safety and health norms of the company
GS10. make decisions about escalating safety and health issues at workplace to managers
GS11. discuss problems related to safety and health, evaluate the possible solution(s) and arrive at optimum /best possible solution(s) in consultation with concerned people
GS12. use the existing information to arrive at actionable decision points
GS13. use the existing information for improving customer satisfaction

GS14. use the existing information to optimise solution and company business

GS15. analyse problems and identify causes and possible solutions

GS16. apply, analyse and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action

GS17. anticipate problems, risks and opportunities and utilise these for mitigation and business optimisation

GS18. communicate with colleagues on the significance of greening of jobs

GS19. identify cause and effect of greening of jobs

GS20. record data on waste disposal at workplace

GS21. demonstrate commitment towards self, and initiative to advance skills levels by exploring various pathways to expand one's own learning

GS22. incorporate feedback into one's mental model of task, and bring it into practice

GS23. be punctual, utilize time and manage workload efficiently

GS24. evaluate strategies to maintain, enhance or reduce the intensity of heightened emotional response

GS25. test a hypothesis about the cause of the problem

GS26. identify and ask significant questions to clarify the various points of view on the problem to better understand the problem

GS27. record data on waste disposal at workplace

GS28. make timely decisions for efficient utilization of resources

GS29. complete statutory documents relevant to safety and hygiene

GS30. read Standard Operating Practices (SOP) documents

GS31. communicate with colleagues on the significance of greening of jobs

GS32. complete tasks efficiently and accurately within stipulated time

GS33. work with supervisors/team members to carry out work related tasks

GS34. identify cause and effect of greening of jobs

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Adhere to standard safety procedures of the company	**13**	**12**	**-**	**5**
PC1. comply with general safety procedures and those for handling an equipment, hazardous material or tool, followed in the company	2	2	-	1
PC2. remove finger rings or any other metal objects likely to interfere with the work before working on the unit	2	4	-	-
PC3. use of safety materials such as goggles, gloves, ear plugs, caps, ESD pins, covers, shoes, etc.	4	2	-	1
PC4. escalate the issue about hazardous materials or things found in the premises or any breach of safety procedure in the company	1	1	-	-
PC5. ensure zero accidents at work	1	1	-	1
PC6. avoid damage of components due to negligence in ESD procedures or any other loss due to safety negligence	1	1	-	1
PC7. participate regularly in fire drills or other safety related workshops organised by the company	2	1	-	1
Maintain good health and posture	**6**	**8**	**-**	**1**
PC8. maintain appropriate posture, especially in long hours of sitting or standing position and in handling heavy materials	2	3	-	1
PC9. participate in company organised health sessions such as yoga, physiotherapy or games	2	1	-	-
PC10. handle heavy and hazardous materials with care, while maintaining appropriate posture, using suitable tools and handling equipment such as trolleys, jacks and ladders	2	4	-	-
Effective waste management/recycling practices	**4**	**5**	**-**	**1**
PC11. identify recyclable and non-recyclable, and hazardous waste generated to be segregated accordingly	2	1	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. dispose non-recyclable waste and hazardous waste as per recommended processes	1	3	-	-
PC13. deposit recyclable and reusable material at identified location	1	1	-	-
Adopt learning and self-direction	**4**	**5**	**-**	**1**
PC14. understand importance of skill advancement and develop mastery	1	1	-	1
PC15. adapt product / service to meet success criteria	1	2	-	-
PC16. understand accountability for timely completion of tasks	1	1	-	-
PC17. manage to express emotions in appropriate ways at workplace and understand the cause for the emotions	1	1	-	-
Develop system thinking in problem solving	**2**	**2**	**-**	**1**
PC18. analyse the problem accurately and communicate different possible solutions to the problem	1	1	-	-
PC19. manage to estimate the cause of the problem and validate	1	1	-	1
Material/Resources conservation practices	**11**	**18**	**-**	**1**
PC20. identify ways to optimize usage of material including water and electricity / energy in various tasks/activities/processes	2	2	-	-
PC21. check for spills/leakages in various tasks/activities/processes and plug them or escalate to appropriate authority	1	2	-	-
PC22. carry out routine cleaning of tools, machines and equipment	3	6	-	-
PC23. check if the equipment/machine is functioning normally before commencing work and rectify wherever required and report malfunctioning (fumes/sparks/emission/vibration/noise) or any lapse in maintenance of equipment	3	4	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. ensure electrical equipment and appliances are properly connected and turned off when not in use	2	4	-	1
NOS Total	**40**	**50**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	IAS/N9002
NOS Name	Health and safety in workplace
Sector	Instrumentation
Sub-Sector	Instrumentation & Automation
Occupation	Generic
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	11/08/2025
NSQC Clearance Date	11/08/2020

DGT/VSQ/N0102: Employability Skills (60 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

PC1. identify employability skills required for jobs in various industries

PC2. identify and explore learning and employability portals

Constitutional values – Citizenship

To be competent, the user/individual on the job must be able to:

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

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

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

Basic English Skills

To be competent, the user/individual on the job must be able to:

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

Career Development & Goal Setting

To be competent, the user/individual on the job must be able to:

PC10. understand the difference between job and career

PC11. prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

To be competent, the user/individual on the job must be able to:

PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings

PC13. work collaboratively with others in a team

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

PC14. communicate and behave appropriately with all genders and PwD

PC15. escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

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

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

PC20. operate digital devices and carry out basic internet operations 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

Entrepreneurship

To be competent, the user/individual on the job must be able to:

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

Customer Service

To be competent, the user/individual on the job must be able to:

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

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings

GS3. behave politely and appropriately with all
GS4. how to work in a virtual mode
GS5. perform calculations efficiently
GS6. solve problems effectively
GS7. pay attention to details
GS8. manage time efficiently
GS9. maintain hygiene and sanitization to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	**1**	**1**	**-**	**-**
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
Constitutional values – Citizenship	**1**	**1**	**-**	**-**
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	-	-	-	-
Becoming a Professional in the 21st Century	**2**	**4**	**-**	**-**
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	-	-	-	-
Basic English Skills	**2**	**3**	**-**	**-**
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	-	-	-	-
Career Development & Goal Setting	**1**	**2**	**-**	**-**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
Communication Skills	**2**	**2**	**-**	**-**
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion	**1**	**2**	**-**	**-**
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy	**2**	**3**	**-**	**-**
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	-	-	-	-
Essential Digital Skills	**3**	**4**	**-**	**-**
PC20. operate digital devices and carry out basic internet operations 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	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Entrepreneurship	**2**	**3**	**-**	**-**
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	-	-	-	-
Customer Service	**1**	**2**	**-**	**-**
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	-	-	-	-
Getting ready for apprenticeship & Jobs	**2**	**3**	**-**	**-**
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	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. 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. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below).

5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criterion.

6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.

7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

(**Please note**: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
IAS/N0216.Assist in testing of AM/FM radio broadcasting station	40	50	0	10	100	30
IAS/N0215.Install AM/FM radio broadcasting station	75	115	0	10	200	30
IAS/N9001.Work effectively with teams	40	50	-	10	100	15
IAS/N9002.Health and safety in workplace	40	50	-	10	100	10
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	0	0	50	15
Total	**215**	**295**	**0**	**0**	**550**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	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 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.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.