QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR MEDIA AND ENTERTAINMENT INDUSTRY

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What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Introduction

Qualifications Pack- Broadcast Operations Engineer

SECTOR: MEDIA AND ENTERTAINMENT

SUB-SECTOR: Television, Radio

OCCUPATION: Broadcast Operations/ Technology

REFERENCE ID: MES/ Q 0803

ALIGNED TO: NCO-2004/NIL

Broadcast Operations Engineer in the Media & Entertainment Industry is also known as a Technical Engineer

Brief Job Description: Individuals at this job are responsible for maintaining and repairing equipment used in broadcast operations

Personal Attributes: This job requires the individual to ensure that the channel/station is always available during broadcast hours. The individual is responsible for proactively identifying, diagnosing and resolving technical issues. The individual is responsible for repairing broadcast equipment and installing new equipment/upgrades where applicable.

Job Details

Qualifications Pack Code	**MES/ Q 0803**		
Job Role	**Broadcast Operations Engineer** This job role is applicable in both national and international scenarios		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Sector	**Media and Entertainment**	**Drafted on**	**18/09/13**
Sub-sector	**Television, Radio**	**Last reviewed on**	**25/03/15**
Occupation	**Broadcast Operations / Technology**	**Next review date**	**24/03/17**

Job Role	**Broadcast Operations Engineer**
Role Description	Maintain and repair equipment used in broadcast operations
NSQF level	5
Minimum Educational Qualifications	Graduate
Maximum Educational Qualifications	Post-Graduate in Engineering, Technology
Training (Suggested but not mandatory)	Broadcast engineering technology, Electrical and Telecommunications
Minimum Job Entry Age	18 years
Experience	3-5 years
Applicable National Occupational Standards (NOS)	**Compulsory:** 1. MES / N 0801 (Develop skills and knowledge in broadcast operations/engineering) 2. MES / N 0805 (Repair and maintain broadcast equipment) 3. MES / N 0809 (Operate broadcast systems) 4. MES / N 0104 (Maintain workplace health and safety) **Optional:** N.A.
Performance Criteria	As described in the relevant OS units

Definitions

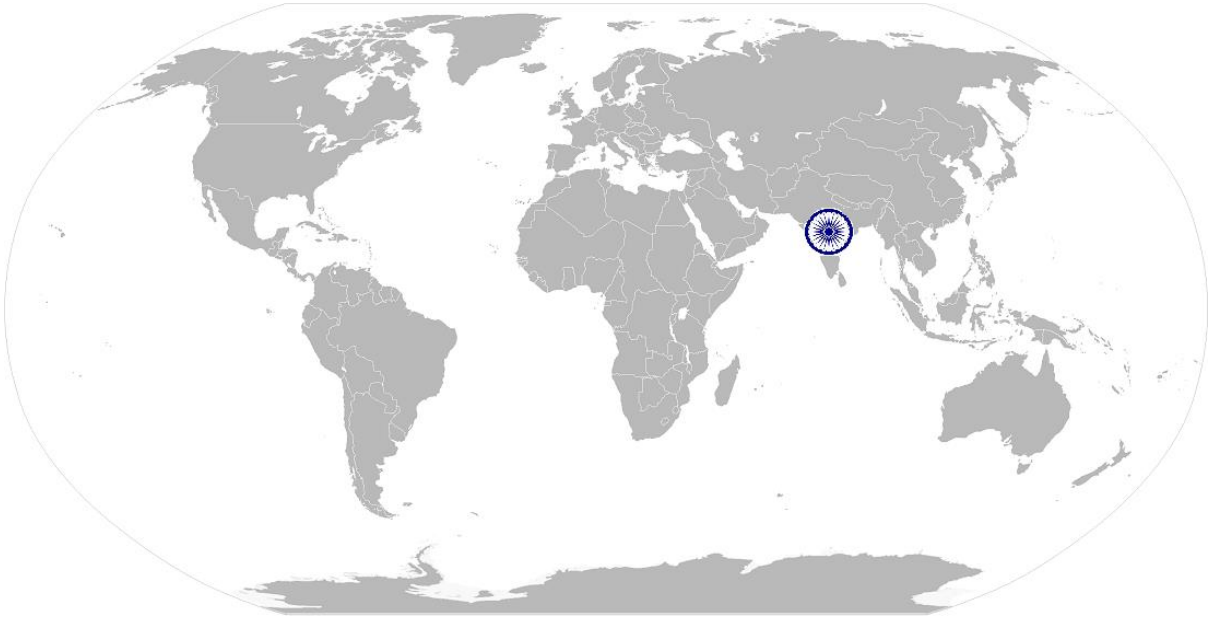
Keywords /Terms	Description
Archive	A repository where content produced is stored for further use
Ingest	Process of importing data into a digital storage system for future use
Leased Lines	A fiber connection used to connect, transfer and transmit data
Master Control Room	Central room from where broadcasting takes place
Meta tagging	Keywords describing content that can be used to search/find information from a website/server
Play-out systems	Equipment that transmits channels from the broadcaster's head end to subscribers
Satellite	Communications equipment used to receive/transmit audio and video signals
Server	A centralised computer that provides access to resources over a network
Signal	Radio waves carrying audio/video content to be dispersed to an audience
Switcher	A device used to combine or select audio/video signals for playout
Uplinking	A transmission path through which audio/video signals are sent for broadcasting
Waveform monitoring	An equipment used to measure the level and voltage of video signals
Target Audience	Set of individuals with similar characteristics that are prospective customers of the advertisers' product/service
Target Market	The geographic area over which the advertising campaign is focused
Sector	Sector is a conglomeration of different business operations having similar businesses 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.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Sub-functions	Sub-functions are sub-activities essential to fulfill the achieving the objectives of the function.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
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 they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance Criteria 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 Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.

Qualifications Pack(QP)	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification 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 the 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 the quality of performance required.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
Organizational Context	Organizational Context includes the way the organization 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	Core Skills or Generic Skills are a group of skills that are key to learning and working 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.

Acronyms

Keywords /Terms	Description
NOS	National Occupational Standard(s)
QP	Qualifications Pack
NSQF	National Skill Qualifications Framework
NVEQF	National Vocational Education Qualifications Framework
NVQF	National Vocational Qualifications Framework
TCP	Transmission Control
IP	Internet protocol
DSNG	Digital satellite news gathering
DG	Diesel generator
OB	Outside Broadcast

National Occupational Standard



Overview

This unit is about maintaining and developing broadcast operations/ engineering expertise

National Occupational Standard

Unit Code	**MES/ N 0801**
Unit Title (Task)	**Develop skills & knowledge in broadcast operations/engineering**
Description	This OS unit is about maintaining and developing broadcast operations/engineering expertise
Scope	This unit/task covers the following: • Understand skills & knowledge required in broadcast operations / engineering • Develop skills & knowledge in broadcast operations / engineering

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Understand skills & knowledge required in broadcast operations/ engineering	To be competent, the user/individual on the job must be able to: PC1. Identify required broadcast operations/engineering activities PC2. Evaluate the contribution of new broadcast operations/engineering theories, methods, and procedures, especially in terms of IT solutions to own organization and in relation to their job profile PC3. Understand audience and customer feedback, and suggestions from colleagues in a positive way
Develop skills & knowledge in broadcast operations /engineering	PC4. Monitor developments within broadcast engineering PC5. Attend professional development programs to update skills and knowledge PC6. Maintain and update expertise and knowledge at appropriate intervals and in ways that are appropriate to own job role

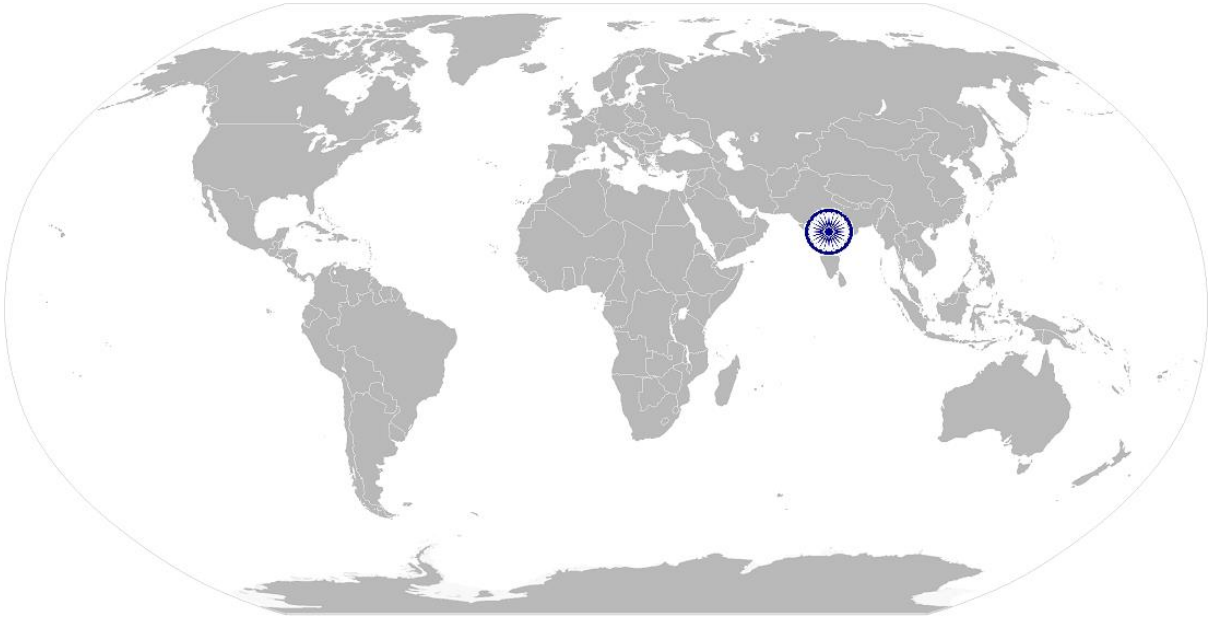
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. The broadcast objectives of the organization KA2. The broadcast equipment and applications being used by the organization, its use in broadcasting activities KA3. The roles and responsibilities of the production and operational departments, as relevant
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The type of expertise that is required for own broadcast engineering role KB2. The importance of keeping up-to-date with IT, practice and other broadcast operations/engineering developments KB3. The professional development programs that are available KB4. How to identify and obtain information on technological developments in broadcast systems, software and equipment, how they are used and what they can achieve KB5. The expertise of others in the profession KB6. The broadcast operations/engineering activities that could be used for different types of development objectives

Skills (S) (Optional)

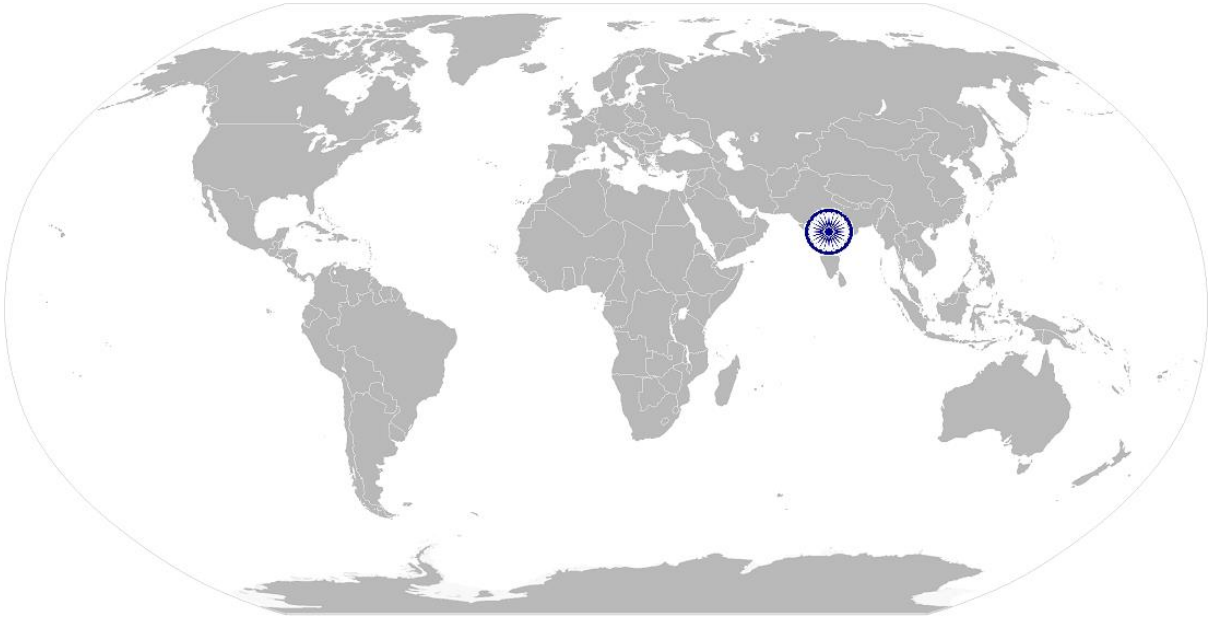
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/individual on the job needs to know and understand how to: SA1. Take notes to enhance learning of broadcast operations/engineering, where appropriate
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. Read and interpret information on technological developments in broadcast systems, software and equipment, how they are used and what they can achieve
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA3. Receive and understand feedback from customers, supervisors and peers positively
B. Professional Skills	**Plan and Organize**
	The user/individual on the job needs to know and understand how to: SB1. Manage schedule to ensure time is set aside for learning and skill development
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB2. Critically evaluate own skills & knowledge, and identify gaps/deficiencies therein
	Decision Making
	The user/individual on the job needs to know and understand how to: SB3. review and extract dimensional or statistical information from technical drawings
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB4. Select, use and apply diagnostic techniques, tools and aids to locate faults
	Customer Centricity
	The user/individual on the job needs to know and understand how to: NA

NOS Version Control

NOS Code	MES / N 0801		
Credits(NSQF)	TBD	Version number	1.0
Sector	Media and Entertainment	Drafted on	18/09/13
Sub-sector	Television, Radio	Last reviewed on	25/03/15
Occupation	Broadcast Operations / Technology	Next review date	24/03/17



National Occupational Standard



Overview

This unit is about maintaining, troubleshooting and repairing broadcast equipment and technologies to reduce/ minimize broadcast downtime

National Occupational Standard

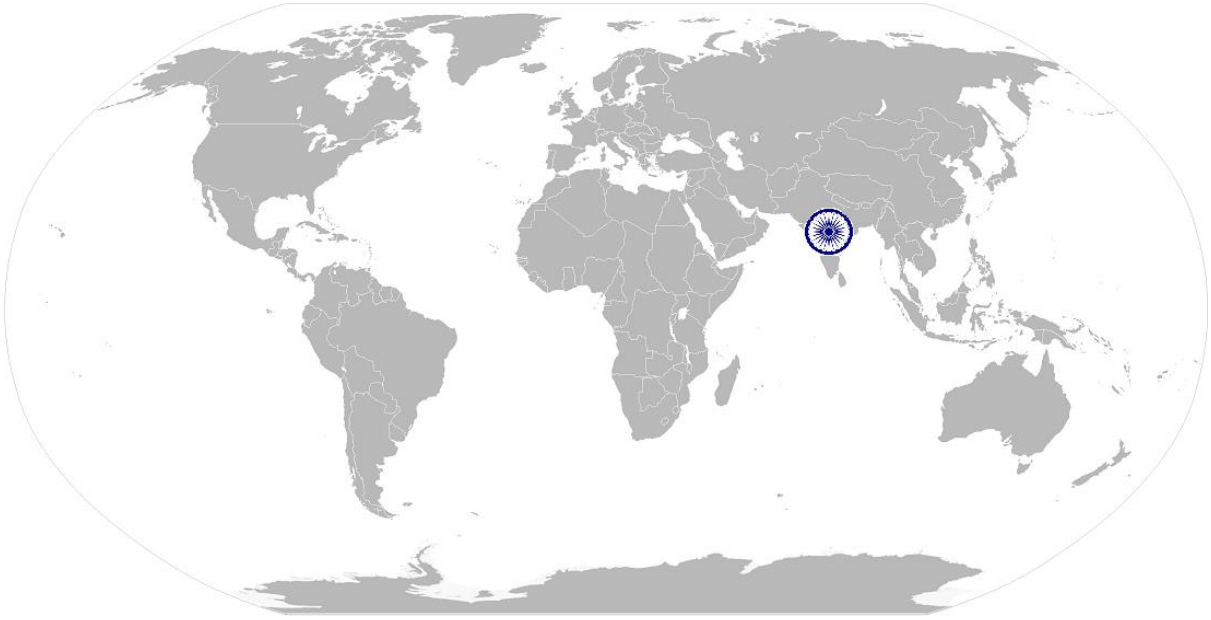
Unit Code	MES/ N 0805
Unit Title (Task)	**Maintain and repair broadcast equipment**
Description	This OS unit is about maintaining, troubleshooting and repairing broadcast equipment and technologies to reduce/minimize broadcast downtime
Scope	This unit/task covers the following: • Maintaining and repairing broadcast equipment and technologies • Ensuring that the channel/station is always available across broadcast hours and providing technical support • Carrying out equipment repairs in-house or on field
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Maintaining and repairing broadcast equipment and technologies	To be competent, the user/individual on the job must be able to: PC1. Maintain and repair broadcast equipment, technology and manage RF requipment a. Broadcast equipment (including broadcast cameras, switchers, measurement systems, compression devices, networking, editing systems etc.) b. Technology (including storage (SAN server /tapes / digital archives), compression (MPEG, DVB etc.), System networking, playout technologies, automation, networking etc.) c. RF equipment (including transmission, uplinking and downlinking equipment including satellites, antennas, decoders, lease lines, towers, flyways, digital modulators etc.)
Ensuring that the channel/station is always available across broadcast hours and providing technical support	PC2. Reduce/ maintain broadcast downtime by proactively interpreting, diagnosing and resolving technical problems PC3. Resolve technical issues and problems that may occur during programming and operational activities (e.g. with editing systems, servers, switchers etc.) either on-site or from a remote location
Carrying out equipment repairs in-house or on field	PC4. Repair broadcast equipment (e.g. cameras, cables, systems, servers, satellite dishes, back-ups etc.) in the production facilities, control rooms, studios etc. PC5. Install new equipment/systems and install upgrades, where required PC6. Maintain all electrical equipment (UPS, AC's etc.) and resolve all network related issues
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. The broadcast hours and objectives of the organization e.g. 24 hours, 0% downtime etc. KA2. The broadcast equipment and applications being used by the organization, and its use in broadcasting activities KA3. The roles and responsibilities of the production and operational departments KA4. The teams in charge of maintaining technical spare parts

B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The fundamentals of broadcasting and technology used for broadcast KB2. The principles of audio, video, radio frequency (rf) and digital signals KB3. The technical equipment and infrastructure used in broadcasting such as personal computers, cables, switchers, converters, routers, systems, servers, WAN, LAN, MPLS lease lines, recovery systems and networks KB4. The database of spots and music KB5. How to test broadcast signals and use testing equipment KB6. How to troubleshoot and maintain satellite, lease line, broadband links, automation software KB7. How to operate generators, system back-ups, UPS equipment, LT/HT Panel, cooling systems AMF panels, isolation transformers and surge suppressor to ensure equipment is kept in good working order KB8. The types of audio cables and various connectors KB9. Types of compression such as PCM, WAVE, MPEG,MPEG,-2 and MPEG 3 KB10. The vendors from whom equipment spare parts can be sourced/ to whom complex repairs can be outsourced KB11. Relevant health and safety guidelines KB12. Applicable legal and regulatory guidelines and procedures
Skills (S) (Optional)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/individual on the job needs to know and understand how to: SA1. Maintain a database of all the broadcast equipment maintained in-house with details on their date of purchase, condition, repair logs etc. SA2. Create status reports on routine and emergency maintenance activities and repairs undertaken
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA3. Read and interpret systems configurations, documentation and logs SA4. Read standard operating procedures and technical training manuals to understand broadcast operations SA5. Read manufacturers manuals to understand features of equipment, when required
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA6. Liaise with the operational staff to identify and diagnose any on-air/ off-air technical issues SA7. Explain and discuss the impact of technical issues with relevant employees across the organization SA8. Liaise with distributors to handle/ correct remote customer reception complaints
B. Professional Skills	**Plan and Organize**

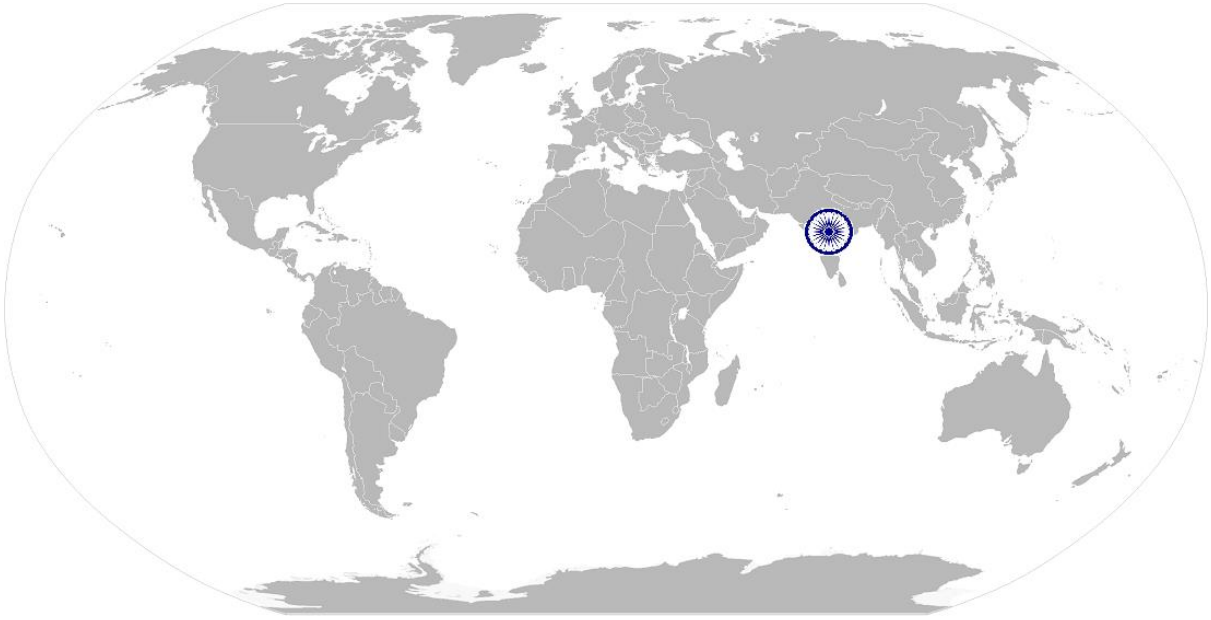
	The user/individual on the job needs to know and understand how to: SB1. Plan own/team activities to ensure daily maintenance tasks are completed as scheduled SB2. Plan own/team activities in which urgent issues and breakdowns are resolved on an emergency basis SB3. Carry out the maintenance activities in the specified sequence and in an agreed time scale
	Problem solving
	The user/individual on the job needs to know and understand how to: SB4. Interpret system reports and logs to identify and resolve issues proactively
	Decision making
	The user/individual on the job needs to know and understand how to: SB5. Report any instances where the maintenance activities cannot be fully met or where there are identified defects outside the planned schedule
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB6. how to select the most appropriate tools and equipment to carry out the required work
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB7. Have precise attention to all the details of the equipment

NOS Version Control

NOS Code	MES / N 0805		
Credits(NSQF)	TBD	Version number	1.0
Sector	Media and Entertainment	Drafted on	18/09/13
Sub-sector	Television, Radio	Last reviewed on	25/03/15
Occupation	Broadcast Operations / Technology	Next review date	24/03/17



National Occupational Standard



Overview

This unit is about operating broadcast systems to the expected quality and requirements of the broadcast ouput

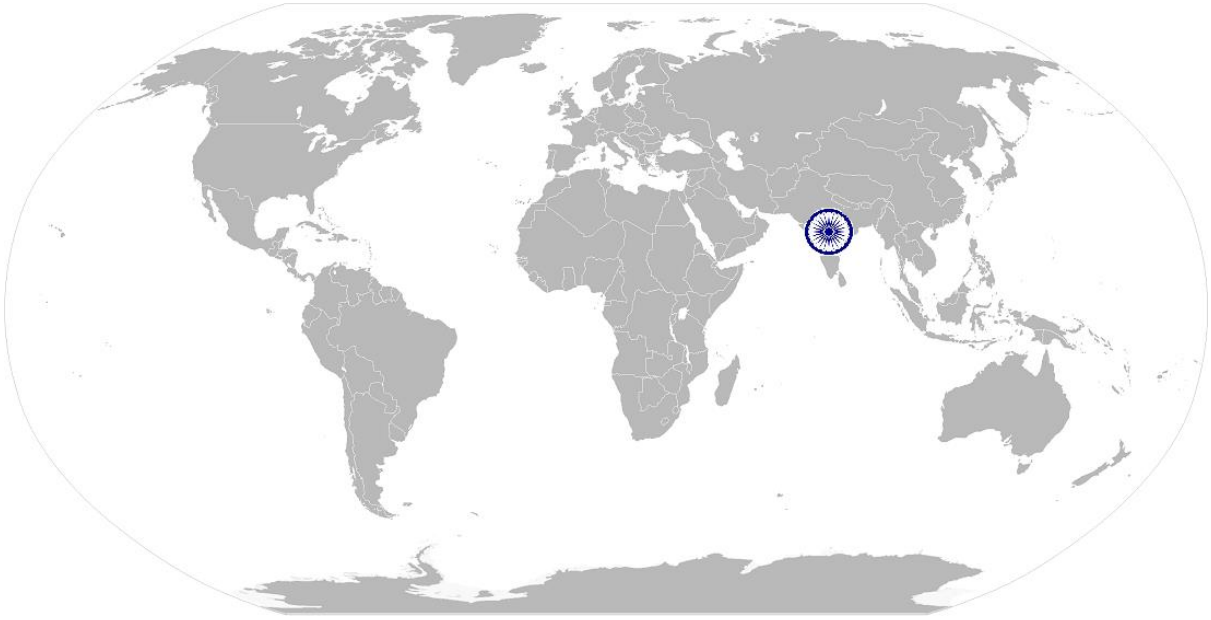
National Occupational Standard

Unit Code	**MES/ N 0809**
Unit Title (Task)	**Operate broadcast systems**
Description	This OS unit is about operating broadcast systems to the expected quality and requirements of the broadcast ouput
Scope	This unit/task covers the following: • Operate broadcast systems
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Operate broadcast systems	PC1. Identify, research and understand the software and equipment required to operate broadcast sytems effectively, within the context of the role PC2. Identify and be aware of appropriate methods, procedures and guidelines prior to operating broadcast systems PC3. Operate broadcast systems in various conditions (including studio operation, outside broadcast, post production, distribution and transmission), in line with production objectives PC4. Identify and rectify the causes of basic faults in broadcast systems and equipment, and bring problems to the attention of appropriate personnel
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. The broadcast objectives of the organization KA2. The broadcast equipment and applications being used by the organization, and its use in broadcasting activities KA3. The roles and responsibilities of the production and operational departments
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The purpose, benefits, limitations and risks of different equipment and software required for broadcast systems, and when appropriate to use them KB2. How to operate the broadcast systems, software and equipment required, in line with protocols KB3. How to connect broadcast systems and equipment to IT systems KB4. The organisational processes for ensuring physical and IT security of data and systems KB5. The techniques to ingest, wrangle and play out/export broadcast data or media KB6. The current industry protocols for metadata in relation to file transfer KB7. The types of problem that can occur with the operation of broadcast systems, and how to prioritise these problems KB8. The tools and techniques to identify and rectify the causes of basic faults in broadcast systems and equipment KB9. How to check the quality of outputs of the broadcast system using subjective and objective assessments of output picture and sound quality
Skills (S) (Optional)	
A. Core Skills/	**Writing Skills**

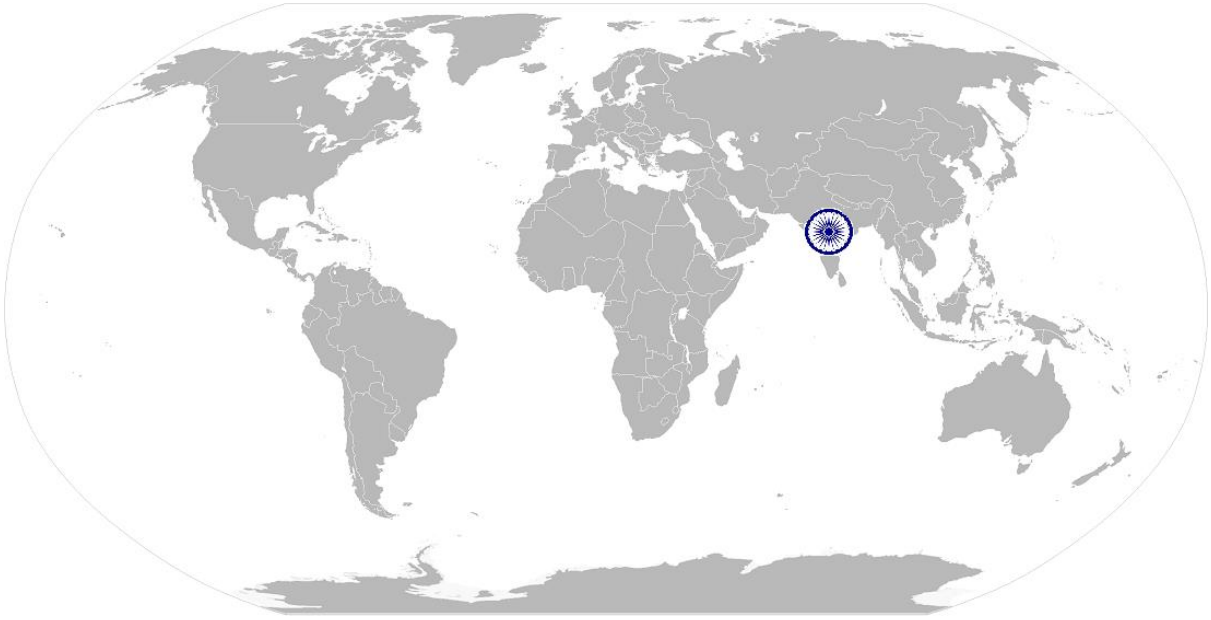
Generic Skills	The user/individual on the job needs to know and understand how to: SA1. Maintain reports for any repair/maintenance activities, data manipulation or file transfer activities undertaken
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. Read standard operating procedures and technical training manuals to understand how to operate broadcast equipment and software SA3. Read and interpret broadcast specifications, systems configurations, documentations etc
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA4. Liaise with relevant personnel to understand the technical requirements of the broadcast output SA5. Liaise with the operational staff to identify and diagnose any on-air/ off-air technical issues SA6. Liase with IT staff to ensure broadcast systems are connected appropriately with IT systems SA7. Explain and discuss the impact of technical issues with relevant employees across the organization
B. Professional Skills	**Plan and Organize**
	The user/individual on the job needs to know and understand how to: SB1. Plan for any repair/maintenance activities, data manipulation or file transfer activities, to ensure completion as per broadcast schedules
	Problem solving
	The user/individual on the job needs to know and understand how to: SB2. Identify, prioritize and rectify the causes of basic faults in broadcast systems and equipment
	Decision making
	The user/individual on the job needs to know and understand how to: SB3. Decide on appropriate levels of specification required for different broadcast situations
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB4. Identify interrelation of different broadcast systems
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB5. Analysis different broadcast systems and techniques for identifying the benefits, weaknesses and implications of different solutions
	Customer Centricity
	The user/individual on the job needs to know and understand how to: NA

NOS Version Control

NOS Code	MES / N 0809		
Credits(NSQF)	TBD	Version number	1.0
Sector	Media and Entertainment	Drafted on	18/09/13
Sub-sector	Television, Radio	Last reviewed on	25/03/15
Occupation	Broadcast Operations / Technology	Next review date	24/03/17



National Occupational Standard



Overview

This unit is about contributing towards maintaining a healthy, safe and secure working environment

National Occupational Standard

Unit Code	MES/ N 0104
Unit Title (Task)	**Maintain workplace health and safety**
Description	This OS unit is about contributing towards maintaining a healthy, safe and secure working environment
Scope	This unit/task covers the following: • Understanding the health, safety and security risks prevalent in the workplace • Knowing the people responsible for health and safety and the resources available • Identifying and reporting risks • Complying with procedures in the event of an emergency

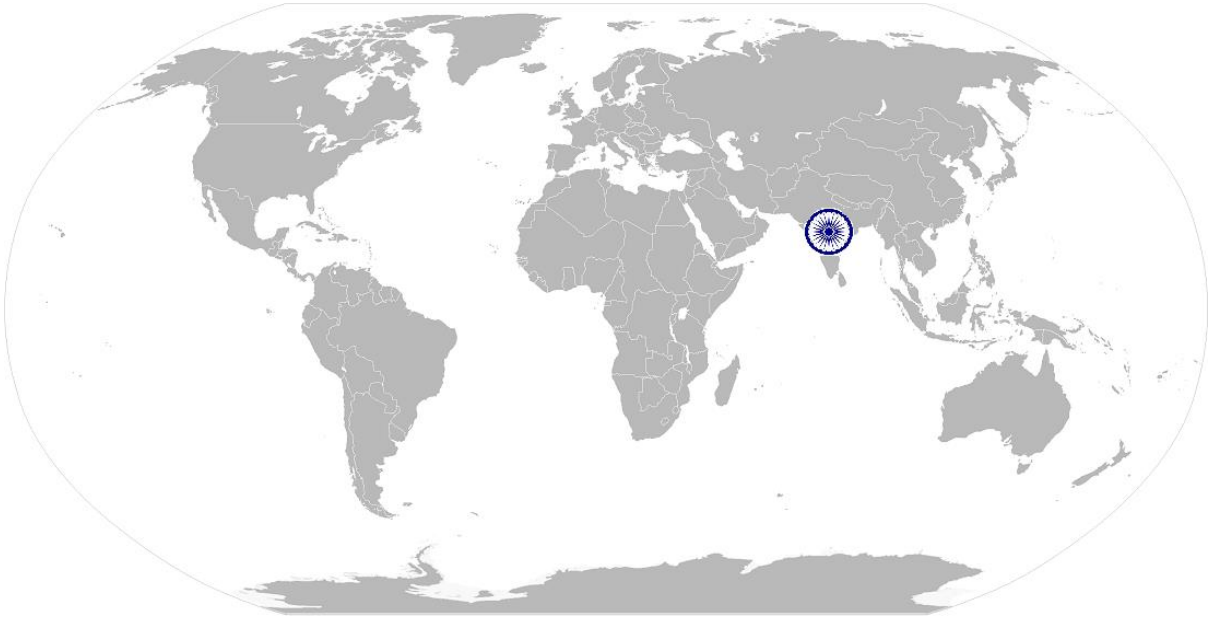
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Understanding the risks prevalent in the workplace	To be competent, the user/individual on the job must be able to: PC1. Understand and comply with the organisation's current health, safety and security policies and procedures PC2. Understand the safe working practices pertaining to own occupation PC3. Understand the government norms and policies relating to health and safety including emergency procedures for illness, accidents, fires or others which may involve evacuation of the premises PC4. Participate in organization health and safety knowledge sessions and drills
Knowing the people responsible for health and safety and the resources available	PC5. Identify the people responsible for health and safety in the workplace, including those to contact in case of an emergency PC6. Identify security signals e.g. fire alarms and places such as staircases, fire warden stations, first aid and medical rooms
Identifying and reporting risks	PC7. Identify aspects of your workplace that could cause potential risk to own and others health and safety PC8. Ensure own personal health and safety, and that of others in the workplace though precautionary measures PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person PC10. Report any hazards outside the individual's authority to the relevant person in line with organisational procedures and warn other people who may be affected
Complying with procedures in the event of an emergency	PC11. Follow organisation's emergency procedures for accidents, fires or any other natural calamity in case of a hazard PC12. Identify and correct risks like illness, accidents, fires or any other natural calamity safely and within the limits of individual's authority

Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. Organisation's norms and policies relating to health and safety KA2. Government norms and policies regarding health and safety and related emergency procedures KA3. Limits of authority while dealing with risks/ hazards KA4. The importance of maintaining high standards of health and safety at a workplace

B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The different types of health and safety hazards in a workplace KB2. Safe working practices for own job role KB3. Evacuation procedures and other arrangements for handling risks KB4. Names and contact numbers of people responsible for health and safety in a workplace KB5. How to summon medical assistance and the emergency services, where necessary KB6. Vendors' or manufacturers' instructions for maintaining health and safety while using equipments, systems and/or machines
Skills (S) (Optional)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/individual on the job needs to know and understand how to: SA1. How to write and provide feedback regarding health and safety to the concerned people SA2. How to write and highlight potential risks or report a hazard to the concerned people
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA3. Read instructions, policies, procedures and norms relating to health and safety
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA4. Highlight potential risks and report hazards to the designated people SA5. Listen and communicate information with all anyone concerned or affected
B. Professional Skills	**Decision making**
	The user/individual on the job needs to know and understand how to: SB1. Make decisions on a suitable course of action or plan
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB2. Plan and organize people and resources to deal with risks/ hazards that lie within the scope of one's individual authority
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB3. Apply problem solving approaches in different situations
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB4. Understand hazards that fall within the scope of individual authority and report all hazards that may supersede one's authority SB5. Apply balanced judgements in different situations
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB6. build and maintain positive and effective relationships with colleges and customers
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB7. analyze data and activites

NOS Version Control

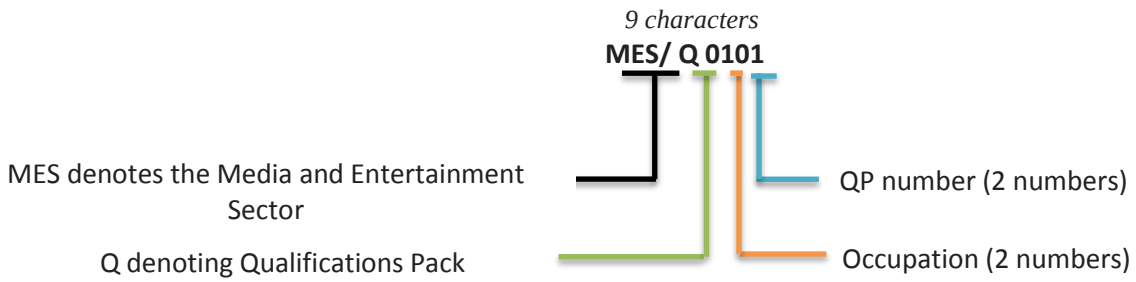
NOS Code	MES / N 0104		
Credits(NSQF)	TBD	Version number	1.0
Sector	Media and Entertainment	Drafted on	18/09/13
Sub-sector	Television, Radio	Last reviewed on	25/03/15
Occupation	Broadcast Operations / Technology	Next review date	24/03/17



Annexure

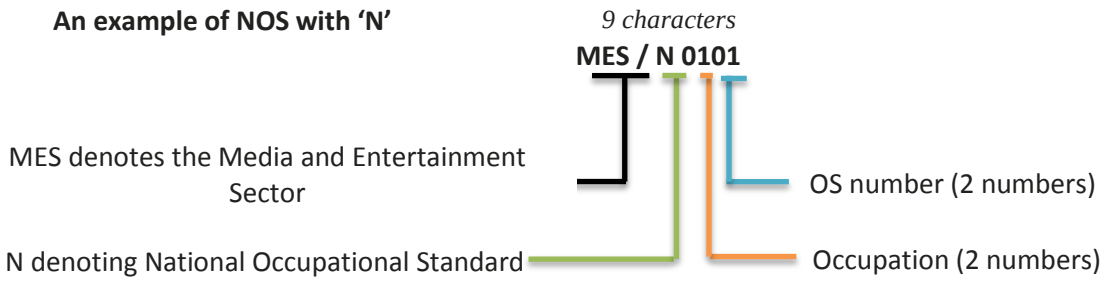
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
…	…

Sequence	Description	Example
Three letters	Media and Entertainment	MES
Slash	/	/
Next letter	Whether **Q**P or **N**OS	Q
Next two numbers	Broadcast Operations/ Technology	08
Next two numbers	Broadcast Operations Engineer	03

CRITERIA FOR ASSESSMENT OF TRAINEES
Job Role: Broadcast Operations Engineer
Qualification Pack: MES Q 0803
Sector Skill Council: Media and Entertainment Skills Council

	NOS	NOS NAME	Weightage
1	**MES/ N 0801**	**Develop skills and knowledge in broadcast operations/engineering**	**30%**
2	**MES/ N 0805**	**Repair and maintain broadcast equipment**	**30%**
3	**MES/ N 0809**	**Operate the broadcast systems**	**30%**
4	**MES/ N 0104**	**Maintain workplace health and safety**	**10%**
			100%

Guidelines for Assessment:
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 & Practical part will be based on knowledge bank of questions created by the AA and approved by 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 this criteria.
5. To pass the Qualification Pack , every trainee should score a minimum of 70% cumulatively (Theory and Practical).

Assessment Outcomes	Assessment Criteria for Outcomes	Total Mark	Out Of	Marks Allocation	
				Theory	Skills Practical
MES/ N 0801 (Develop skills and knowledge in broadcast operations/engineering)	PC1. Identify required broadcast operations/engineering activities	100	20	10	50
	PC2. Evaluate the contribution of new broadcast operations/engineering theories, methods, and procedures, especially in terms of IT solutions to own organization and in relation to their job profile		20	10	
	PC3. Understand audience and customer feedback, and suggestions from colleagues in a positive way		20	10	
	PC4. Monitor developments within broadcast engineering		20	10	
	PC5. Attend professional development programs to update skills and knowledge		10	5	
	PC6. Maintain and update expertise and knowledge at appropriate intervals and in ways that are appropriate to own job role		10	5	
		Total	100	50	50

Assessment Outcomes	Assessment Criteria for Outcomes	Total Mark	Out Of	Marks Allocation	
				Theory	Skills Practical
MES/ N 0805 (Repair and maintain broadcast equipment)	PC1. Maintain and repair broadcast equipment, technology and manage RF equipment a. Broadcast equipment (including broadcast cameras, switchers, measurement systems, compression devices, networking, editing systems etc.) b. Technology (including storage (SAN server /tapes / digital archives), compression (MPEG, DVB etc.), System networking, playout technologies, automation, networking etc.) c. RF equipment (including transmission, uplinking and downlinking equipment including satellites, antennas, decoders, lease lines, towers, flyways, digital modulators etc.)	100	20	10	50
	PC2. Reduce/ maintain broadcast downtime by proactively interpreting, diagnosing and resolving technical problems		20	10	
	PC3. Resolve technical issues and problems that may occur during programming and operational activities (e.g. with editing systems, servers, switchers etc.) either on-site or from a remote location		20	10	
	PC4. Repair broadcast equipment (e.g. cameras, cables, systems, servers, satellite dishes, back-ups etc.) in the production facilities, control rooms, studios etc.		20	10	
	PC5. Install new equipment/systems and install upgrades, where required		10	5	

	PC6. Maintain all electrical equipment (UPS, AC's etc.) and resolve all network related issues		10	5	
		Total	100	50	50
Assessment Outcomes	**Assessment Criteria for Outcomes**	**Total Mark**	**Out Of**	**Marks Allocation** Theory	Skills Practical
MES/ N 0809 (Operate the broadcast systems)	PC1. Identify, research and understand the software and equipment required to operate broadcast sytems effectively, within the context of the role	100	30	15	50
	PC2. Identify and be aware of appropriate methods, procedures and guidelines prior to operating broadcast systems		30	15	
	PC3. Operate broadcast systems in various conditions (including studio operation, outside broadcast, post production, distribution and transmission), in line with production objectives		20	10	
	PC4. Identify and rectify the causes of basic faults in broadcast systems and equipment, and bring problems to the attention of appropriate personnel		20	10	
		Total	100	50	50
Assessment outcomes	**Assessment criteria for outcomes**	**Total mark**	**Out of**	**Theory**	**Skills Practical**
MES/ N 0104 (Maintain workplace health and safety)	PC1. Understand and comply with the organisation's current health, safety and security policies and procedures.	**100**	10	5	50
	PC2. Understand the safe working practices pertaining to own occupation.		10	5	
	PC3. Understand the government norms and policies relating to health and safety including emergency procedures for illness, accidents, fires or others which may involve evacuation of the premises.		5	3	
	PC4. Participate in organization health and safety knowledge sessions and drills.		5	2	
	PC5. Identify the people responsible for health and safety in the workplace, including those to contact in case of an emergency.		10	5	
	PC6. Identify security signals e.g. fire alarms and places such as staircases, fire warden stations, first aid and medical rooms.		10	5	
	PC7. Identify aspects of your workplace that could cause potential risk to own and others health and safety.		10	5	
	PC8. Ensure own personal health and safety, and that of others in the workplace though precautionary measures.		10	5	

	PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person.		5	3	
	PC10. Report any hazards outside the individual's authority to the relevant person in line with organisational procedures and warn other people who may be affected.		10	5	
	PC11. Follow organisation's emergency procedures for accidents, fires or any other natural calamity in case of a hazard.		10	5	
	PC12. Identify and correct risks like illness, accidents, fires or any other natural calamity safely and within the limits of individual's authority.		5	2	
		Total	100	50	50