



Skills for Employment Investment Program (SEIP)

COMPETENCY STANDARD FOR PRODUCTION PLANNING AND CONTROL (*RMG SECTOR*)

Finance Division, Ministry of Finance
Government of the People's Republic of Bangladesh

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Copyright

The Competency Standard for Production Planning and Control is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order for individuals who graduated through the established standard via competency-based assessment to be suitably qualified for a relevant job.

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List of Abbreviations

General	
BMET	Bureau of Manpower Employment and Training
B-SEP	Bangladesh Skills for Employment and Productivity
BTEB	Bangladesh Technical Education Board
DTE	Directorate of Technical Education
ILO	International Labor Organization
ISC	Industry Skills Council
NPVC	National Pre-Vocation Certificate
NTVQF	National Technical and Vocational Qualifications Framework
PPP	Public Private Partnership
SCDC	Standards and Curriculum Development Committee
SEIP	Skills for Employment Investment Program
TVET	Technical Vocational Education and Training
UoC	Unit of Competency
Occupation Specific	
BOM	Bill of Material
KPI	Key performance indicators
MIS	Management information system
MPS	Master production schedule
MRP	Material requirements planning
OHS	Occupational health and safety
PPE	Personal protective equipment
PTS	Predetermined time standards
SOP	Standard operating procedure
SMV	Standard minute value

Introduction

The Skills for Employment Investment Program (SEIP) Project of the Finance Division of the Ministry of Finance has embarked on a project which aims to qualitatively and quantitatively expand the skilling capacity of identified public and private training providers by establishing and operationalising a responsive skill ecosystem and delivery mechanism through a combination of well-defined set of funding triggers and targeted capacity support.

Among the many components of the project, one is to promote a Market Responsive Inclusive Skills Training Delivery programme. Key priority economic growth sectors identified by the government have been targeted by the project to improve current job skills along with up-skilling of the existing workforce to ensure 'required skills to industry standards'. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training programmes. Priority sectors were identified to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

This document is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

Overview

A **competency standard** is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of national and international subject-matter experts, SEIP, BTEB, ISC, and industry experts to identify the competencies required of an occupation in a particular sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. Competency standards acknowledge that people can achieve technical and vocational competency in many ways by emphasising what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guide

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

Approval Sheet

Identification and validation of units of competency and elements for this occupation were made by experts within this sector. A series of meetings were held to accurately capture industry and employer needs and expectations, and develop the competency framework that would help to enhance the employability of the youth trained. This process started on 23 January 2017 and concluded with a validation workshop with working group on 14 May 2017, and was reviewed and revised on 18 October 2018.

Experts Involved

Industry and subject-matter experts who provided their valuable inputs to develop this competency standard [January 2017 - October 2018]:

Name	Organisation	Designation
Tanvir Al Islam	Ehsan-Moonlight Garments Limited	Manager - Industrial Engineering and Planning
Md. Arafat Rumman	Pride Group	Manager - Research and Development
Md. Shafikur Rahman	Interfab Shirt Manufacturing Limited	Senior Executive and Team Leader - Planning
Md. Illius Hossain	Viyellatex Group	Senior Officer – Industrial Engineering
Md. Hedayetul Islam Khan	BGMEA	Coordinator
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Rashmi Mehra	British Council - SD03	International Consultant and Acting Team Leader
Syed Azharul Haque	British Council - SD03	National Subject Matter Consultant - RMG Sector
Md. Amir Hossain	Dhaka Ahsania Mission	Assistant Consultant - RMG Sector

Development Workshop

Working group formation and competency standard development workshop participants [held on 14 May 2017]:

Name	Organisation	Designation
Mr. Muhammad Zaglul Hayder	BGMEA	Chief Coordinator
Md. Hedayetul Islam Khan	BGMEA	Coordinator
Mr. Motahar Hosen	BGMEA	Trainer
Mr. Shafiqul Islam	Mohammadi Group	Manager - Industrial Engineering and Planning

Name	Organisation	Designation
Ananda Falia	BTEB	Assistant Controller
Syed Nasir Ershad	SEIP	AEPD (Public-1)
Mr. Md. Ahsan Habib	SEIP	TVET Specialist
Mr. Mohiuzzaman	SEIP	Course Specialist
Rashmi Mehra	British Council - SD03	International Consultant and Acting Team Leader
Manjur Kader	British Council - SD03	Programme Manager
Syed Azharul Haque	British Council - SD03	National Subject Matter Consultant - RMG Sector
Md. Amir Hossain	Dhaka Ahsania Mission	Assistant Consultant - RMG Sector

Validation Workshop

Competency standard validation workshop participants [held on 14 May 2017]:

Name	Organisation	Designation
Mr. Muhammad Zaglul Hayder	BGMEA	Chief Coordinator
Md. Hedayetul Islam Khan	BGMEA	Coordinator
Mr. Motahar Hosen	BGMEA	Trainer
Mr. Shafiqul Islam	Mohammadi Group	Manager - Industrial Engineering and Planning
Ananda Falia	BTEB	Assistant Controller
Syed Nasir Ershad	SEIP	AEPD (Public-1)
Mr. Md. Ahsan Habib	SEIP	TVET Specialist
Mr. Mohiuzzaman	SEIP	Course Specialist
Rashmi Mehra	British Council - SD03	International Consultant and Acting Team Leader
Manjur Kader	British Council - SD03	Programme Manager
Syed Azharul Haque	British Council - SD03	National Subject Matter Consultant - RMG Sector
Md. Amir Hossain	Dhaka Ahsania Mission	Assistant Consultant - RMG Sector

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide

Course Structure

SL	Unit Code and Title		Level	Nominal Duration (Hours)
Generic Competencies (4 units of competency required)				
1	SEIP-RMG-PPC-01-G	Apply occupational health and safety (OHS) practice in the workplace		8
2	SEIP-RMG-PPC-02-G	Carry out workplace interaction		8
3	SEIP-RMG-PPC-03-G	Operate in a team environment		8
4	SEIP-RMG-PPC-04-G	Apply basic IT skills		16
Sub-Total				40
Sector-specific Competencies (3 units of competency required)				
1	SEIP-RMG-PPC-01-S	Explore the history of RMG Sector		20
2	SEIP-RMG-PPC-02-S	Carry out measurements and calculations		20
3	SEIP-RMG-PPC-03-S	Read and interpret sketches and drawings		20
Sub-Total				60
Occupation-specific Competencies (5 units of competency required)				
1	SEIP-RMG-PPC-01-O	Understand basic production planning		32
2	SEIP-RMG-PPC-02-O	Identify garment operation and manufacturing process		44
3	SEIP-RMG-PPC-03-O	Apply data management techniques		60
4	SEIP-RMG-PPC-04-O	Apply planning methods		76
5	SEIP-RMG-PPC-05-O	Perform planning optimisation and waste control		48
Sub-Total				260
Total Nominal Learning Hours				360

Competency Chart

Units of Competency	Elements		
Apply occupational health and safety (OHS) practice in the workplace SEIP-RMG-PPC-01-G	Identify OHS policies and procedures	Apply personal health and safety practices	Report hazards and risks
	Respond to emergencies		
Carry out workplace interaction SEIP-RMG-PPC-02-G	Interpret workplace communication and etiquette	Read and understand workplace documents	Participate in workplace meetings and discussions
	Practice professional ethics at work		
Operate in a team environment SEIP-RMG-PPC-03-G	Identify team goals and work process	Identify own role and responsibilities within team	Communicate and cooperate with team members
	Practice problem solving within the team		
Apply basic IT skills SEIP-RMG-PPC-04-G	Identify and use most commonly used IT tools	Understand use of computer	Work with word processing application
	Work with spreadsheets	Access email and search the internet	

Sector-specific (Common) Competencies

<p>Explore the history of RMG Sector SEIP-RMG-PPC-01-S</p>	<p>Examine the background of RMG Sector</p>	<p>Identify main industries within RMG sector</p>	<p>Identify prime local and export markets</p>
<p>Carry out calculations and measurements SEIP-RMG-PPC-02-S</p>	<p>Plan and prepare</p>	<p>Obtain measurements</p>	<p>Perform calculations</p>
<p>Read and interpret sketches and drawings SEIP-RMG-PPC-03-S</p>	<p>Interpret information and specifications</p>	<p>Read and interpret sketches and drawings</p>	

Occupation-specific (Core) Competencies

Understand basic production planning SEIP-RMG-PPC-01-O	Identify production planning process	Explain structure of PPC department	Identify planning tools
Identify garment operation and manufacturing process SEIP-RMG-PPC-02-O	Identify types of sewing machine	Interpret garment operations process	Explain garment manufacturing process
Apply data management techniques SEIP-RMG-PPC-03-O	Arrange data on production	Prepare production calculations	
Apply planning methods SEIP-RMG-PPC-04-O	Identify aggregate planning methods	Perform master production scheduling (MPS)	Prepare for order scheduling
Perform planning optimisation and waste control SEIP-RMG-PPC-05-O	Analyse production lead time reduction	Apply plan follow-up and adjustment	Implement waste control measures

Units and Elements Table

Generic – Compulsory (4 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-RMG-PPC-01-G	Apply occupational health and safety (OHS) practice in the workplace	<ol style="list-style-type: none"> 1. Identify OHS policies and procedures. 2. Apply personal health and safety practices. 3. Report hazards and risks. 1. Respond to emergencies. 	8
SEIP-RMG-PPC-02-G	Carry out workplace interaction	<ol style="list-style-type: none"> 1. Interpret workplace communication and etiquette. 2. Read and understand workplace documents. 3. Participate in workplace meetings and discussions. 4. Practice professional ethics at work. 	8
SEIP-RMG-PPC-03-G	Operate in a team environment	<ol style="list-style-type: none"> 1. Identify team goals and work processes. 2. Identify own role and responsibilities within team. 3. Communicate and co-operate with team members. 4. Practice problem solving within the team. 	8
SEIP-RMG-PPC-04-G	Apply basic IT skills	<ol style="list-style-type: none"> 1. Identify and use most commonly used IT tools. 2. Understand use of computer. 3. Work with word processing application. 4. Work with spreadsheets. 5. Access email and search the internet. 	16
Total Hours			40

Sector-specific – Compulsory (3 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-RMG-PPC-01-S	Explore the history of RMG Sector	<ol style="list-style-type: none"> 1. Examine the background of RMG sector. 2. Identify main departments within RMG sector. 3. List prime local and export markets. 	20
SEIP-RMG-PPC-02-S	Carry out measurements and calculations	<ol style="list-style-type: none"> 1. Plan and prepare. 2. Obtain measurements. 3. Perform calculations. 	20
SEIP-RMG-PPC-03-S	Read and interpret sketches and drawings	<ol style="list-style-type: none"> 1. Interpret information and specifications. 2. Read and interpret sketches and drawings. 	20
Total Hours			60

Occupation-specific – Compulsory (5 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-RMG-PPC-01-O	Understand basic production planning	<ol style="list-style-type: none"> 1. Identify production planning process. 2. Explain structure of PPC department. 3. Identify planning tools. 	32
SEIP-RMG-PPC-02-O	Identify garment operation and manufacturing process	<ol style="list-style-type: none"> 1. Identify types of sewing machine. 2. Interpret garment operations process. 3. Explain garment manufacturing process. 	44
SEIP-RMG-PPC-03-O	Apply data management techniques	<ol style="list-style-type: none"> 1. Arrange data on production. 2. Prepare production calculations. 	60
SEIP-RMG-PPC-04-O	Apply planning methods	<ol style="list-style-type: none"> 1. Identify aggregate planning methods. 2. Perform master production scheduling (MPS). 3. Prepare for order scheduling. 	76
SEIP-RMG-PPC-05-O	Perform planning optimisation and waste control	<ol style="list-style-type: none"> 1. Analyse production lead time reduction. 2. Apply plan follow-up and adjustment. 3. Implement waste control measures. 	48
Total Hours			260

Generic Competencies

Unit Title:	Apply occupational health and safety (OHS) practice in the workplace
Unit Code:	SEIP-RMG-PPC-01-S
Nominal Hours:	8 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to apply occupational health and safety (OHS) practices in the workplace. It specifically includes identifying OHS policies and procedures, applying personal health and safety practices, reporting hazards and risks, and responding to emergencies.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify OHS policies and procedures	<p>1.1. <u>OHS policies</u> and safe operating procedures are interpreted</p> <p>1.2. Safety signs and symbols are identified and followed.</p> <p>1.3. Response, evacuation procedures and other contingency measures are interpreted correctly.</p>
2. Apply personal health and safety practices	<p>2.1. OHS policies and procedures are interpreted in the workplace including <u>personal protective equipment (PPE)</u>.</p> <p>2.2. Common health issues are recognised.</p> <p>2.3. Common safety issues are identified.</p>
3. Report hazards and risks	<p>3.1. Hazards and risks are identified.</p> <p>3.2. Hazards and risks assessment and controls are interpreted.</p>
4. Respond to emergencies	<p>4.1. Respond to alarms and warning devices.</p> <p>4.2. <u>Emergency response plans and procedures</u> are responded to.</p> <p>4.3. <u>First aid procedures</u> during emergency situations are identified.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. OHS policies	<p>1.1. Organisational OHS polices</p> <p>1.2. International OHS requirements</p> <p>1.3. Fire safety rules and regulations</p>
2. Emergency response plans and procedures	<p>2.1. Firefighting procedures</p> <p>2.2. Earthquake response procedures</p> <p>2.3. Emergency response plans and procedures</p> <p>2.4. Medical and first aid</p>

Range of Variables	
Variable	Range (may include but not limited to)
3. First aid procedure	3.1. Washing of open wound 3.2. Washing chemically infected area 3.3. Applying bandage 3.4. Taking appropriate medicine
4. Personal protective equipment	4.1. Safety glasses 4.2. Ear plugs 4.3. Gloves 4.4. Apron 4.5. Helmet 4.6. Mask 4.7. Safety shoes

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified OHS policies and procedures 1.2. Applied personal health and safety practices (including PPE) 1.3. Reported hazards and risks 1.4. Responded to emergencies
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Workplace OHS policies and procedures 2.2. Work safety procedures 2.3. Emergency response procedures: <ol style="list-style-type: none"> 2.3.1. Firefighting 2.3.2. Earthquake response 2.3.3. Accident response 2.4. Types of hazards (biological, chemical and physical) and their effects 2.5. OHS awareness 2.6. Personal protective equipment (PPE)
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Identifying OHS policies and procedures 3.2. Applying personal health and safety practices 3.3. Reporting hazards and risks 3.4. Responding to emergencies

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes	4.1. Committed to occupational health and safety practices 4.2. Communicates well with peers, subordinates and seniors in workplace 4.3. Prompt in carrying out activities 4.4. Tidy and punctual 4.5. Sincere and honest concerning duties 4.6. Responsible during emergencies
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Personal protective equipment (PPE) 5.3. Firefighting equipment 5.4. Emergency response manual 5.5. First aid kits 5.6. Stationary 5.7. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Unit Title:	Carry out workplace interaction
Unit Code:	SEIP-RMG-PPC-02-G
Nominal Hours:	8 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to carry out workplace interaction. It specifically includes workplace communication, etiquette, understanding workplace documents, workplace meetings and discussions, and professional ethics at work.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Interpret workplace communication and etiquette	<p>1.1. Workplace codes of conduct are interpreted as per organisational guidelines.</p> <p>1.2. Appropriate lines of communication are maintained with supervisors and colleagues.</p> <p>1.3. Workplace interactions are conducted in a <u>courteous manner</u> to gather and convey information.</p> <p>1.4. <u>Workplace procedures and matters</u> are comprehended.</p>
2. Read and understand workplace documents	<p>2.1. Workplace documents are interpreted correctly.</p> <p>2.2. Visual information/symbols/signage are understood correctly and followed.</p> <p>2.3. Specific and relevant information are accessed from <u>appropriate sources</u>.</p> <p>2.4. Appropriate medium is used to transfer information and ideas.</p>
3. Participate in workplace meetings and discussions	<p>3.1. Team meetings are attended on time.</p> <p>3.2. Meeting procedures and etiquette are followed.</p> <p>3.3. Active participation is ensured, opinions are expressed and heard.</p> <p>3.4. Inputs are provided and interpreted in line with the meeting purpose.</p>
4. Practice professional ethics at work	<p>4.1. Responsibilities as a team member are performed.</p> <p>4.2. Tasks are performed in accordance with workplace procedures.</p> <p>4.3. Confidentiality is maintained.</p> <p>4.4. Inappropriate and conflicting situations are avoided.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Courteous manner	1.1. Effective questioning 1.2. Active listening 1.3. Speaking skills 1.4. Writing skill 1.5. Email etiquette
2. Workplace procedures and matters	2.1. Notes 2.2. Arranging a meeting 2.3. Agenda 2.4. Simple reports such as progress and incident reports 2.5. Job sheets 2.6. Operational manuals 2.7. Brochures and promotional material 2.8. Visual and graphic materials 2.9. Standards 2.10. OHS information 2.11. Signs
3. Appropriate sources	3.1. Human Resources (HR) Department 3.2. Managers 3.3. Supervisors 3.4. Management Information System (MIS)

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Interpreted workplace communication and etiquette 1.2. Interpreted workplace instructions and symbols 1.3. Performed active participation in workplace meetings
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Workplace communication and etiquette 2.2. Workplace documents, signs and symbols 2.3. Meeting procedure and etiquette 2.4. Professional ethics
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Demonstrating workplace communication and etiquette 3.2. Interpreting workplace instructions and symbols 3.3. Demonstrating active participation in workplace meeting 3.4. Applying professional ethics at work

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes

- 4.1. Prompt in carrying out activities
- 4.2. Tidy and punctual
- 4.3. Respectful of peers, subordinates and seniors in the workplace
- 4.4. Concerned about the work environment
- 4.5. Sincere and honest concerning duties

5. Resource implications

The following resources must be provided:

- 5.1. Workplace (simulated or actual)
- 5.2. Workplace procedures
- 5.3. Standard operating procedure
- 5.4. Workplace documents, signs and symbols
- 5.5. Codes of conduct
- 5.6. Projector
- 5.7. Stationary
- 5.8. Learning manual

6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Unit Title:	Operate in a team environment
Unit Code:	SEIP-RMG-PPC-03-G
Nominal Hours:	8 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to operate in a team environment. It specifically includes identifying team goals and work processes, roles and responsibilities, team communication and problem solving within the team.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify team goals and work processes	<p>1.1. Roles and objectives of the team are identified and interpreted.</p> <p>1.2. Roles and responsibilities of team members are identified and interpreted.</p>
2. Identify own role and responsibilities within team	<p>2.1. Personal role and responsibilities are identified within the team environment.</p> <p>2.2. Reporting relationships are interpreted within team and external to team.</p>
3. Communicate and co-operate with team members	<p>3.1. Other teammates' tasks are identified and support provided when requested.</p> <p>3.2. The team is encouraged through <u>sharing information</u> or expertise, working together to solve problems, and putting team success first.</p> <p>3.3. Views and opinions of other team members are interpreted and respected.</p>
4. Practice problem solving within the team	<p>4.1. Problems faced at the individual and team level are identified and showed insight into the root-causes of the problems.</p> <p>4.2. A range of solutions and courses of action are identified together with benefits, costs, and risks associated with each.</p> <p>4.3. The good ideas of others to help develop solutions are recognised and advice sought from those who have solved similar problems.</p> <p>4.4. It is looked beyond the obvious and not stopped at the first answers.</p>

Range of Variables	
Variable	Range (may include but not limited to)
1. Sharing information	1.1. Agenda 1.2. Minutes 1.3. progress and incident reports 1.4. Operational manuals 1.5. Visual and graphic materials 1.6. Emails and SMS 1.7. Phone directory 1.8. Policy, procedure and standards 1.9. OHS information

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Identified own role and responsibilities within team 1.2. Communicated and co-operated with team members 1.3. Demonstrated problem solving within the team
2. Underpinning knowledge	2.1. Team goals and work processes 2.2. Roles and responsibilities 2.3. Finding problems and solving them
3. Underpinning skills	3.1. Identifying own role and responsibilities within team 3.2. Communicating and co-operating with team members 3.3. Demonstrating problem solving within the team
4. Underpinning attitudes	4.1. Active on teamwork 4.2. Prompt in carrying out activities 4.3. Tidy and punctual 4.4. Respectful of peers, subordinates and seniors in the workplace 4.5. Sincere and honest concerning duties
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Projector 5.3. Stationary 5.4. Learning manual

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Unit Title:	Apply basic IT skills
Unit Code:	SEIP-RMG-PPC-04-G
Nominal Hours:	16 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to apply basic IT skills in the workplace. It specifically includes identifying IT tools, using computer, word processing and spreadsheet applications, email and searching on internet.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify and use most commonly used IT tools	<p>1.1. History of information technology (IT) is identified and summarised.</p> <p>1.2. Commonly used <u>IT tools</u> are identified and described.</p>
2. Understand use of computer	<p>2.1. Basic parts of a computer are identified.</p> <p>2.2. Turning on and off technique of a computer is performed.</p> <p>2.3. Working environment, functions and features of operating system is interpreted.</p> <p>2.4. Simple trouble-shooting techniques are applied.</p>
3. Work with word processing application	<p>3.1. Word processing application appropriate to perform activity is operated.</p> <p>3.2. Basic typing technique to document is applied.</p> <p>3.3. Word processing techniques to document are employed.</p> <p>3.4. Personal CV writing using suitable word processing techniques is practiced.</p> <p>3.5. Saving and retrieving technique of a document is used.</p>
4. Work with spreadsheets	<p>4.1. Spreadsheet working environment, functions and features are identified and interpreted.</p> <p>4.2. Data entry on spreadsheet appropriate to perform activity is performed.</p> <p>4.3. <u>Data manipulation techniques</u> to spreadsheet document are applied.</p> <p>4.4. Spreadsheet document is created and saved.</p>
5. Access email and search the internet	<p>5.1. Use of email account in online environment is explained.</p> <p>5.2. Writing and sending of workplace emails is completed.</p> <p>5.3. Different <u>browsers</u> to work online are identified and selected.</p> <p>5.4. Browse different web portals and apply proper search techniques.</p>

Range of Variables	
Variable	Range (may include but not limited to)
1. IT tools	1.1. Cell phone 1.2. Tablets 1.3. Computers, laptops, notebooks 1.4. Internet 1.5. Software 1.6. Satellite
2. Data manipulation techniques	2.1. Sum 2.2. Average 2.3. Count 2.4. Max 2.5. Min 2.6. If 2.7. Sort 2.8. Fill 2.9. Header 2.10. Footer 2.11. Print
3. Browsers	3.1. Internet Explorer 3.2. Firefox 3.3. Google Chrome 3.4. Opera 3.5. Safari 3.6. Omni Web 3.7. Microsoft Edge

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified commonly used IT tools 1.2. Performed simple trouble-shooting with computer 1.3. Performed typing on word processing software, saved and retrieved documents 1.4. Performed data entry with spread sheet 1.5. Used email account for different online purposes

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

2. Underpinning knowledge	<ul style="list-style-type: none">2.1. IT and IT tools2.2. Computer trouble-shooting2.3. Techniques to access internet
3. Underpinning skills	<ul style="list-style-type: none">3.1. Demonstrating simple trouble-shooting with computer3.2. Demonstrating typing on word processing software3.3. Demonstrating data entry with spread sheet3.4. Opening email account and using it for different purposes
4. Underpinning attitudes	<ul style="list-style-type: none">4.1. Active on teamwork4.2. Prompt in carrying out activities4.3. Tidy and punctual4.4. Respectful of peers, subordinates and seniors in the workplace4.5. Sincere and honest concerning duties
5. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none">5.1. Workplace (simulated or actual)5.2. IT tools5.3. Computer/laptop/notebook5.4. Software5.5. Internet5.6. Projector5.7. Stationary5.8. Learning manual
6. Methods of assessment	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none">6.1. Written test6.2. Oral test6.3. Observation6.4. Demonstration6.5. Portfolio
7. Context of assessment	<ul style="list-style-type: none">7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Sector-specific Competencies

Unit Title:	Explore the history of RMG Sector
Unit Code:	SEIP-RMG-PPC-01-S
Nominal Hours:	20 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to explore the history of RMG Sector in Bangladesh. It specifically includes examining the background of RMG sector, identifying the main departments within the RMG sector, and identifying prime local and export markets.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Examine the background of RMG sector	1.1. Historical background of RMG sector is examined and described. 1.2. Backward and forward linkages are identified.
2. Identify main departments within RMG sector	2.1. <u>Main departments</u> of the RMG sector are identified. 2.2. Importance of RMG sector and main departments is explored and analysed. 2.3. Common <u>types of machine</u> used in RMG sector are identified.
3. Identify prime local and export markets	3.1. Prime local markets and <u>export markets</u> are identified. 3.2. Local and export markets are listed.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Main departments	1.1. PDS 1.2. Store 1.3. Cutting 1.4. Embellishment 1.5. Sewing 1.6. Washing 1.7. Finishing 1.8. Quality 1.9. Industrial engineering 1.10. Production planning 1.11. Production control 1.12. Maintenance 1.13. Merchandising

Range of Variables	
Variable	Range (may include but not limited to)
2. Types of machine	2.1. Single needle 2.2. Double needle 2.3. Overlock 2.4. Flatlock 2.5. Feed of the arm 2.6. Kansai multi needle 2.7. Bartuck 2.8. Button needle 2.9. Button stitch 2.10. Snap attach
3. Export markets	3.1. United States 3.2. European 3.3. Asian

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Illustrated history of RMG sector 1.2. Identified prime local and export markets
2. Underpinning knowledge	2.1. History of RMG sector 2.2. Main departments 2.3. Common types of machinery 2.4. Prime local and export markets
3. Underpinning skills	3.1. Describing the history of RMG sector 3.2. Identifying prime local and export markets
4. Underpinning attitudes	4.1. Eager to learn 4.2. Considerate of personal grooming 4.3. Patient and attentive 4.4. Active on team work 4.5. Tidy and punctual 4.6. Sincere and honest concerning duties

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

5. Resource implications

The following resources must be provided:

- 5.1. Workplace (simulated or actual)
- 5.2. Map/globe
- 5.3. Projector
- 5.4. Stationary
- 5.5. Learning manual

6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Unit Title:	Carry out measurements and calculations
Unit Code:	SEIP-RMG-PPC-02-S
Nominal Hours:	20 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required for carry out measurements and calculations in the workplace. It specifically includes planning and preparing to take measurements, obtaining measurements, and performing calculations.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Plan and prepare	<p>1.1. Work instructions are confirmed and applied to the job in hand.</p> <p>1.2. Materials to be measured are identified as per job specification.</p> <p>1.3. Appropriate <u>measuring device</u> is identified and selected based on materials to be measured.</p> <p>1.4. Specifications are obtained and verified from relevant <u>documents</u>.</p>
2. Obtain measurements	<p>2.1. Method of obtaining measurement is selected and applied.</p> <p>2.2. <u>Measurements</u> are obtained using appropriate device in accordance with job requirement.</p> <p>2.3. Measurements, including area, volume, tolerance and clearance limits, are confirmed and applied.</p>
3. Perform calculations	<p>3.1. <u>Calculations</u>, using basic operations, for determining material requirement are taken.</p> <p>3.2. Appropriate <u>formulas</u> for calculating quantities are selected.</p> <p>3.3. Quantities are estimated from the calculation taken.</p> <p>3.4. Material quantities are calculated, confirmed and recorded within tolerances.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Measuring device	<p>1.1. Measuring tape</p> <p>1.2. Steel rule</p> <p>1.3. Calculator</p> <p>1.4. Sets square</p>
2. Documents	<p>2.1. Technical manuals</p> <p>2.2. Specifications</p> <p>2.3. Sketches</p> <p>2.4. Drawings</p> <p>2.5. Charts</p> <p>2.6. Photographs</p>

Range of Variables	
Variable	Range (may include but not limited to)
3. Measurements	3.1. Length 3.2. Width 3.3. Weight 3.4. Tolerance
4. Calculations	4.1. Addition 4.2. Subtraction 4.3. Multiplication 4.4. Division 4.5. Area 4.6. Volume 4.7. Circumference 4.8. CBM 4.9. Volumetric weight
5. Formulas	5.1. Fractions 5.2. Percentages 5.3. Mixed numbers 5.4. Conversions 5.5. Scales

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1. Identified and selected appropriate measuring devices 1.2. Carried out measurements for apparel 1.3. Identified and selected correct mathematical formula 1.4. Performed calculations as per job requirement
2. Underpinning knowledge	2.1. Measuring devices 2.2. Basic mathematical formulas 2.3. Simple calculation techniques 2.4. Garment allowances and tolerances 2.5. Recording data procedures
3. Underpinning skills	3.1. Identifying appropriate measuring devices 3.2. Carrying out measurements for apparel 3.3. Performing calculations as per job requirement

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes	4.1. Committed to occupational health and safety practices 4.2. Communicates well with peers, subordinates and seniors in workplace 4.3. Prompt in carrying out activities 4.4. Tidy and punctual 4.5. Sincere and honest concerning duties
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Computer/laptop/notebook 5.3. Calculator 5.4. Measuring tape 5.5. Projector 5.6. Stationary 5.7. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Unit Title:	Read and interpret sketches and drawings
Unit Code:	SEIP-RMG-PPC-03-S
Nominal Hours:	20 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to read and interpret sketches and drawings. It specifically includes interpreting information and specifications, and reading and interpreting sketches and drawings.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Interpret information and specifications	<p>1.1. Appropriate <u>manuals</u> for work activity are identified and collected.</p> <p>1.2. Information and <u>specifications</u> in the manuals is interpreted and applied.</p>
2. Read and interpret sketches and drawings	<p>2.1. Relevant <u>sketches and drawings</u> are identified for job requirement.</p> <p>2.2. Key <u>terms and abbreviations</u> are identified and interpreted.</p> <p>2.3. <u>Signs and symbols</u> are identified and interpreted.</p> <p>2.4. Schedules, dimensions, sketches, drawings and specifications are correctly read and interpreted.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Manuals	<p>1.1. Buyers specification</p> <p>1.2. Compliance</p> <p>1.3. Maintenance procedure</p> <p>1.4. Periodic maintenance</p> <p>1.5. Quality assurance</p> <p>1.6. Standard operating procedure (SOP)</p>
2. Sketches and drawings	<p>2.1. Technical</p> <p>2.2. Measurement</p> <p>2.3. Design</p>
3. Specifications	<p>3.1. Product</p> <p>3.2. Performance</p> <p>3.3. Method</p>
4. Terms and abbreviations	4.1. Refers to all terms and abbreviations associated with the RMG Sector
5. Signs and symbols	5.1. Includes all signs and symbols associated with the RMG Sector

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Identified information and specifications 1.2. Read and interpreted sketches and drawings
2. Underpinning knowledge	2.1. Manuals 2.2. Units of measurement 2.3. Units of conversion 2.4. Sketch, drawings and specifications
3. Underpinning skills	3.1. Read and identifying information and specifications (from manual) 3.2. Reading and interpreting sketches and drawings
4. Underpinning attitudes	4.1. Eager to learn 4.2. Tidy and punctual 4.3. Concerned about proper use of computer and peripherals 4.4. Concerns for other's rights 4.5. Sincere and honest concerning duties
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Computer/laptop/notebook 5.3. Software 5.4. Stationary 5.5. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Occupation-specific Competencies

Unit Title:	Understand basic production planning
Unit Code:	SEIP-RMG-PPC-01-O
Nominal Hours:	32 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to understand basic production planning. It specifically includes identifying the production planning process, explaining the structure of production planning control (PPC) department, and identifying planning tools.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify production planning process	1.1. Common <u>production terminology</u> is defined. 1.2. Steps of <u>production process</u> are identified and explained. 1.3. <u>Production planning</u> sequence is mapped out and described.
2. Explain structure of PPC department	2.1. Structure of <u>PPC department</u> is described. 2.2. Activities of PPC department are identified and explained.
3. Identify planning tools	3.1. <u>Types of planning tools</u> are identified. 3.2. Format and usage guidelines of each type of planning format are identified.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Production terminology	1.1. Input 1.2. Output 1.3. Processing
2. Production process	2.1. Raw material sourcing 2.2. Required sample approvals 2.3. PP meeting 2.4. Cut to pack 2.5. Pre-final inspection
3. Production planning	3.1. Taking orders from marketing division 3.2. Analysing orders 3.3. Planning for fabric development 3.4. Planning for trims and accessories 3.5. Planning for pattern to packing 3.6. Delivery planning

Range of Variables	
Variable	Range <i>(may include but not limited to)</i>
4. Production planning control department (PPC)	4.1. Management 4.2. Organogram 4.3. Manpower 4.4. Plan follow up 4.5. Individual department planning
5. Types of planning tools	5.1. Work study 5.2. Planning format 5.3. Time and action calendar 5.4. Loading plan

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified and explained production process 1.2. Mapped out and described production planning sequence 1.3. Described structure and activities of PPC department 1.4. Identified planning tools
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Common production terminology 2.2. Steps of production process 2.3. Production planning sequence 2.4. Production planning control department 2.5. Planning tools 2.6. Format and usage guidelines
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Explaining production process 3.2. Mapping out production planning sequence 3.3. Describing structure and activities of PPC department 3.4. Identifying planning tools (including format and usage guidelines)
4. Underpinning attitudes	<ol style="list-style-type: none"> 4.1. Tidy and punctual 4.2. Prompt in carrying out activities 4.3. Sincere and honest concerning duties 4.4. Active on teamwork 4.5. Eager to learn 4.6. Respectful of peers, subordinates and seniors in the workplace 4.7. Communicate with peers and seniors in the workplace

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Computer/laptop/notebook 5.3. Projector 5.4. Stationary 5.5. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Unit Title:	Identify garment operation and manufacturing process
Unit Code:	SEIP-RMG-PPC-02-O
Nominal Hours:	44 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to identify garment operation and manufacturing process. It specifically includes identifying types of sewing machine, interpreting garment operations process, and explaining the garment manufacturing process.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify types of sewing machine	1.1. Types of <u>sewing machine</u> are identified. 1.2. Functions of different sewing machine are identified and described.
2. Interpret garment operations process	2.1. Departments related to garment operations are identified and described. 2.2. <u>Garments operation process breakdown</u> is identified and interpreted.
3. Explain garment manufacturing process	3.1. <u>Manufacturing process breakdown</u> is identified and explained. 3.2. Steps in garment manufacturing process are identified and described.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Sewing Machines	1.1. Single needle 1.2. Double needle 1.3. Over lock 1.4. Feed of the arm 1.5. Flat lock 1.6. Blind stitch 1.7. Zigzag 1.8. Kansai multi-needle 1.9. Bar tuck 1.10. Button stitch 1.11. Button hole sewing 1.12. Eye/key hole

Range of Variables	
Variable	Range (may include but not limited to)
2. Garments operation process breakdown	2.1. Basic style 2.2. Semi fancy style 2.3. Fancy style 2.4. Front part 2.5. Back part 2.6. Assembling part 2.7. Make section
3. Manufacturing process breakdown	3.1. Pattern making 3.2. Sample making 3.3. Marker preparation 3.4. Fabric cutting 3.5. Sewing 3.6. Finishing 3.7. Packing 3.8. Embellishment

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified types of sewing machine 1.2. Described functions of different sewing machines 1.3. Identified and interpreted garment operation process breakdown 1.4. Identified and explained garment manufacturing process breakdown
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Sewing machines 2.2. Functions of sewing machines (various) 2.3. Garment operations departments 2.4. Garment operations process 2.5. Garment manufacturing process
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Identifying sewing machines 3.2. Describing functions of sewing machines (various) 3.3. Identifying and interpreting garment operations process 3.4. Identifying and describing garment manufacturing process

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes	4.1. Tidy and punctual 4.2. Prompt in carrying out activities 4.3. Sincere and honest concerning duties 4.4. Active on teamwork 4.5. Eager to learn 4.6. Respectful of peers, subordinates and seniors in the workplace 4.7. Communicate with peers and seniors in the workplace
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Computer/laptop/notebook 5.3. Sewing machine (various) 5.4. Operation manuals (sewing machines) 5.5. Projector 5.6. Stationary 5.7. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Unit Title:	Apply data management techniques
Unit Code:	SEIP-RMG-PPC-03-O
Nominal Hours:	60 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to apply data management techniques. It specifically includes arranging data on production and preparing production calculations.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Arrange data on production	<p>1.1. <u>Standard minute value</u> on process and style are identified as per design.</p> <p>1.2. <u>Individual and line capacity</u> are calculated as per style.</p> <p>1.3. Production efficiency calculation formula is identified.</p> <p>1.4. Data on efficiency is calculated and prepared according to formula.</p>
2. Prepare production calculations	<p>2.1. <u>Production calculation formula</u> is identified and interpreted.</p> <p>2.2. Procedure for production calculation is identified as per plan.</p> <p>2.3. Production calculations are prepared according to costing formula.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Standard minute value (SMV)	<p>1.1. Cycle time</p> <p>1.2. Observed time</p> <p>1.3. Basic time</p> <p>1.4. Allowance</p>
2. Individual and line capacity	<p>2.1. Working minutes</p> <p>2.2. SMV</p> <p>2.3. SMV earners</p>
3. Efficiency	<p>3.1. Earned minutes</p> <p>3.2. Available minutes</p>
4. Production calculation formula	<p>4.1. Target</p> <p>4.2. Capacity</p> <p>4.3. SMV</p> <p>4.4. Working days</p> <p>4.5. Lead time</p>

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Identified SMV on process and style 1.2. Calculated individual and line capacity 1.3. Calculated and prepared data on efficiency 1.4. Prepared production calculations
2. Underpinning knowledge	2.1. Standard minute value 2.2. Individual and line capacity 2.3. Production efficiency calculation formula 2.4. Production calculation formula 2.5. Costing formula
3. Underpinning skills	3.1. Calculating standard minute value 3.2. Calculating individual and line capacity 3.3. Calculating production efficiency 3.4. Preparing production calculations
4. Underpinning attitudes	4.1. Tidy and punctual 4.2. Prompt in carrying out activities 4.3. Sincere and honest concerning duties 4.4. Active on teamwork 4.5. Eager to learn 4.6. Respectful of peers, subordinates and seniors in the workplace 4.7. Communicate with peers and seniors in the workplace
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Computer/laptop/notebook 5.3. Calculator 5.4. Projector 5.5. Stationary 5.6. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

7. Context of assessment

- 7.1.** Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2.** Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Unit Title:	Apply planning methods
Unit Code:	SEIP-RMG-PPC-04-O
Nominal Hours:	76 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to apply planning methods. It specifically includes identifying aggregate planning methods, performing master production scheduling, and preparing for order scheduling.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify aggregate planning methods	<p>1.1. Aggregate planning is identified and explained.</p> <p>1.2. Aggregate planning process is explained.</p> <p>1.3. <u>Forecasting and quantification</u> of expected demand is carried out as per requirement.</p> <p>1.4. <u>Aggregate planning strategy</u> and <u>graphical methods</u> are identified.</p> <p>1.5. Aggregate planning strategy is developed.</p>
2. Perform master production scheduling (MPS)	<p>2.1. Master production scheduling is explained.</p> <p>2.2. Disaggregation and master production schedule are prepared.</p> <p>2.3. <u>Material requirements planning (MRP)</u> is applied as per technical sheet.</p>
3. Prepare for order scheduling	<p>3.1. <u>Loading approaches</u> are identified and explained.</p> <p>3.2. <u>Scheduling approaches</u> are identified and explained.</p> <p>3.3. <u>Sequencing rules</u> are identified and described.</p> <p>3.4. <u>Performance measures</u> and suitable sequencing are identified.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Forecasting and quantification	<p>1.1. Patterns of past data</p> <p>1.2. Qualitative forecasting</p> <p>1.3. Quantitative forecasting</p> <p>1.4. Jury of executive opinion</p> <p>1.5. Delphi method</p> <p>1.6. Sales force composite</p> <p>1.7. Consumer survey</p> <p>1.8. Simple and weighted average</p> <p>1.1. Exponential smoothing</p>

Range of Variables	
Variable	Range <i>(may include but not limited to)</i>
2. Aggregate planning strategy	2.1. Level 2.2. Chase 2.3. Hybrid
3. Graphical methods	3.1. Steps of graphical methods 3.2. Cost information related with labour and inventory sub-contract 3.3. Develop of alternative strategy and implementation cost
4. Material requirements planning (MRP)	4.1. MPS 4.2. Bills of Material (BOM) 4.3. Inventory status 4.4. Planned lead-times
5. Loading approaches	5.1. Infinite 5.2. Finite
6. Scheduling approaches	6.1. Forward 6.2. Backward
7. Sequencing rules	7.1. Sequencing jobs at a single resource 7.2. First come first served 7.3. Last come first served 7.4. Shortest processing time 7.5. Longest processing time 7.6. Earliest due date 7.7. Critical ratio 7.8. Sequencing jobs across multiple resources 7.9. Johnson's rule
8. Performance measures	8.1. Average completion time 8.2. Average number 8.3. Average job lateness 8.4. Utilisation

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Carried out production forecasting and quantification 1.2. Developed aggregate planning strategy 1.3. Performed master production scheduling 1.4. Applied master requirements planning 1.5. Prepared for order scheduling
2. Underpinning knowledge	2.1. Aggregate planning process 2.2. Forecasting and quantification 2.3. Aggregate planning strategies and graphical methods 2.4. Master production scheduling 2.5. Material requirements planning 2.6. Order scheduling and sequencing rules
3. Underpinning skills	3.1. Carrying out production forecasting and quantification 3.2. Developing aggregate planning strategy 3.3. Performing master production scheduling 3.4. Applying master requirements planning 3.5. Identifying sequencing rules 3.6. Preparing for order scheduling
4. Underpinning attitudes	4.1. Tidy and punctual 4.2. Prompt in carrying out activities 4.3. Sincere and honest concerning duties 4.4. Active on teamwork 4.5. Eager to learn 4.6. Respectful of peers, subordinates and seniors in the workplace 4.7. Communicate with peers and seniors in the workplace
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Computer/laptop/notebook 5.3. Materials list 5.4. Sample documents (strategy, graphical methods) 5.5. Projector 5.6. Stationary 5.7. Learning manual

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Unit Title:	Perform planning optimisation and waste control
Unit Code:	SEIP-RMG-PPC-05-O
Nominal Hours:	48 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to perform production optimisation and waste control. It specifically includes analysing production lead time reduction, applying plan follow-up and adjustment, and implementing waste control measures.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Analyse production lead time reduction	1.1. <u>Production lead time</u> is identified and analysed as per buyer's instruction. 1.1. <u>Production lead time reduction</u> is applied to enhance organisational performance.
2. Apply plan follow-up and adjustment	2.1. <u>Plan follow-up</u> is identified and interpreted as per revised TNA plan. 2.2. Production planning is adjusted, as necessary, per specification.
3. Implement waste control measures	3.1. <u>Types of waste</u> in production are identified. 3.2. <u>Waste control plan</u> is developed and evaluated. 3.3. Waste control plan is implemented.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Production lead time	1.1. Capacity 1.2. SMV earners 1.3. Machine quantity
2. Production lead time reduction	2.1. Capacity scheduling 2.2. Supply chain 2.3. Bottle neck 2.4. Line balancing 2.5. Scheduling
3. Plan follow-up	3.1. Standard operating procedure (SOP) 3.2. Key performance indicators (KPI) 3.3. Follow up meeting 3.4. Management information system (MIS)

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
4. Types of waste	4.1. MUDA 4.2. Over production 4.3. Inventory 4.4. Transportation 4.5. Defects 4.6. Motion 4.7. Extra processing 4.8. Waiting 4.9. Dis-connectivity
5. Waste control plan	5.1. Finish on time 5.2. Minimum changes in original design 5.3. Least make break/rework 5.4. Keep check on labour and material costs 5.5. Avoid rework due to bad quality 5.6. Optimise usage of materials 5.7. Enhance labour productivity through skill training

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Analysed production lead time 1.2. Applied production lead time reduction 1.3. Identified and interpreted plan follow-up 1.4. Adjusted production planning 1.5. Developed and evaluated waste control plan
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Production lead time 2.2. Buyers instructions 2.3. Plan follow-up 2.4. TNA plans 2.5. Production waste 2.6. Waste control plans
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Analysing production lead time 3.2. Applying production lead time reduction 3.3. Interpreting plan follow-up 3.4. Adjusting production planning 3.5. Developing and evaluating waste control plan

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes	4.1. Tidy and punctual 4.2. Prompt in carrying out activities 4.3. Sincere and honest concerning duties 4.4. Active on teamwork 4.5. Eager to learn 4.6. Respectful of peers, subordinates and seniors in the workplace 4.7. Communicate with peers and seniors in the workplace
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Computer/laptop/notebook 5.3. TNA plan (sample) 5.4. Buyers instruction (sample) 5.5. Projector 5.6. Stationary 5.7. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

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