

Syllabus for Industrial Garment Manufacturing Operator

Course Name	Industrial Garment Manufacturing Operator
Sector	Apparel Made-ups & Home Furnishing
Course Code	APL/2023/IGMO/272
Level	3
Occupation	Industrial Garment Manufacturing operator
Job Description	An Industrial Garment Manufacturing Operator is responsible for operating industrial sewing machines to assemble garments according to specified patterns and quality standards. This role involves efficiently handling materials, monitoring machine performance, and conducting quality checks to ensure the production of high-quality garments.
Course Duration	Total Duration 390 Hrs (T-90, P-180, OJT-60 and ES-60)
Trainees' Entry Qualification	Grade 10 OR Grade 8 with two year of (NTC/ NAC) after 8 th OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR Previous relevant Qualification of NSQF Level 2 with one yr experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
Trainers Qualification	Degree in Textile/ Fashion & apparel Technology from UGC recognized university with one-year experience in the relevant field. OR 3 years Diploma in Apparel / Fashion /Garment technology from recognized board of education with two-year experience in the relevant field. OR NTC/ NAC passed in Dress Making /Sewing Technology with three-year experience in the relevant field

Structure of Course:

Module No.	Module name	Outcome	Theory (Hrs)	Practical (Hrs)	Total (Hrs) [Multiple of 30]
1	Introduction of Industrial Garment Manufacturing operator	Describe the fundamental principles and practices involved in industrial garment manufacturing with the role and responsibilities of the operator	10	20	30
2	Safe working practices	Maintain work area, tools and machines with safe working practices	10	20	30
3	Stitching procedure	Execute diverse stitching procedure essential for garment manufacturing	30	60	90
4	Specialized product with quality in sewing machine work	Demonstrate expertise in specialized stitching, precise handling of materials maintaining machine attachments, quality, and industry standards.	30	60	90
5	Production Scheduling	Assist to plan, organize and execute efficient production schedules within a garment manufacturing industry	10	20	30
6	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	-	60	60
7	Employability Skill	As per guided curriculum	60	--	60
Total			150	240	390

SYLLABUS:**MODULE. 1 : Introduction of Industrial Garment Manufacturing operator****Outcome :**

Describe the fundamental principles and practices involved in industrial garment manufacturing with the role and responsibilities of the operator

Theory Content :

- Introduction about Apparel Sector
- Explain the job scope in apparel industry
- Roles and responsibilities of an Industrial Garment Manufacturing Operator
- Difference between Domestic garment manufacturing operator and Industrial garment

manufacturing operator in the following context:

- a. Scale of operations
 - b. Setting
 - c. Machinery and Technology
 - d. Production Volume
 - e. Employment structure
- Different types of sewing machine and their uses
 - Precision in stitching techniques
 - Commitment on quality control
 - Collaboration in team settings
 - Efficient workflow
 - Follow organization procedures and maintain personal health and hygiene.

Practical Content:

- Demonstrate various sewing machine with functions
- Procedure for set up machine operation
- Stitching techniques
- Process of threading
- Attach machine guard and attachments
- Understand the teaching guideline in safe manner in different machines
- Material handling
- Production target and time management
- Identify and follow professional grooming and hygiene
- Work with correct posture

Tools & Equipment :

Sewing Machine (Single needle lock stitch industrial model), Stitch guard, Machine guard, Looper, Bobbin, Bobbin Case, Models
White-Board/Smart Board, Marker, Duster

MODULE 2: Safe working practices

Outcome : Maintain work area, tools and machines with safe working practices

Theory Content:

- Safe working practices for cleaning and maintenance of equipments
- Identify different types of cleaning equipment and substance their use
- Identify different ways of minimize wastage
- Identify different types of lubricant for cleaning
- Describe types of specialized mechanism of sewing machines (Treadle, Industrial machines)
- Explain Health and Safety in the work place
- Explain importance of complain with Healthy, Safety related instructions
- Describe hazards like physical injuries etc.
- Check the work place and work process
- Describe various personal protective equipment like nose musk, hand gloves etc.

- Importance of training sensitization programme

Practical Content:

- How to manage materials and tools safely and correctly
- Use correct and lifting and handling procedures
- Regular maintenance of tools and equipments
- Safe working practice for the cleaning and maintenance of equipment
- Work with correct posture
- Use cleaning lubricant for machine and equipment maintenance
- Explain Health and Safety in the work place
- Identify the best use of materials and their wastage
- Maintenance, cleaning of tools and equipment's
- Correct machine guards are in the proper place
- Correct posture of working place
- Dispose waste safely in the proper place
- Identify how to use different tools and equipment related to stitching like scissors, thread cutters etc. safely and securely.

Tools & Equipment:

Sewing Machine (Single needle lock stitch industrial model), , Overlock Machine, Button Hole Machine, Button Stitch Machine, Scissors
Scale 24", Leg Shaper, Hip Curve, French Curve, L Scale, Bobbin, Bobbin Case
Prinking Shears, Stitch Opener, Marking Wheel, Models, White-Board/Smart Board
Marker, Duster, First-aid Ki, Fire Extinguisher

Module No. 3: Stitching procedure

Outcome

Execute diverse stitching procedure essential for garment manufacturing

Theory Content:

- Different stitching techniques
- Garment patterns on stitching
- Select the fabric as per requirement
- Describe various parts of garments i.e., pockets, fronts, backs, collars, cuffs, sleeves etc.
- Cause of needle brake
- Cause of thread cutting
- Select the proper machinery as per requirement
- Describe how to assemble various parts of garments
- Maintain the material before stitching the product
- Production deadline and maintain time frame

Practical Content:

- Demonstrate stitching technique proficiency
- Describe various types of fabrics and their characteristics
- Identify various types of accessories, trims, fastener used for garment construction
- Using of tools and equipments in sewing machines
- Identify the types of stitch classes and seam classes
- Demonstration the measurement technique applied on dress forms
- Various sources of updates in latest fashion trends
- Development of garments based on different surface ornamentation technique
- Identify the potential hazards associated with the machines and the safety precautions which must be taken

Tools & Equipment:

Sewing Machine (Single needle lock stitch industrial model), Overlock Machine, Button Hole Machine, Button Stitch Machine, Scissors

Scale 24", Leg Shaper, Hip Curve, French Curve, L Scale, Bobbin, Bobbin Case, Prinking Shears

Stitch Opener, Marking Wheel, Models, White-Board/Smart Board, Marker, Duster

Stitch guard, Machine guard, Looper

Module No. 4: Specialized product with quality in sewing machine work

Outcome

Demonstrate expertise in specialized stitching, precise handling of materials maintaining machine attachments, quality, and industry standards.

Theory Content:

- Specialized techniques for production
- Working procedure of different sewing machines
- Demonstrate the fixing of the attachment
- Identify the seam, seam line, notches before stitching
- Identify all marks (Punch, Grain, Notch Fold, Bais etc.)
- Describe different fabrics and materials
- Quality control measures
- Collaboration and communication with team members and stakeholders
- Adherence to industry standards

Practical Content:

- Demonstrate various types of machine attachments viz. presser Foot, Zipper Foot, Buttonhole Foot, Quilting foot, Hemming Foot, Embroidery Foot, Blind hem Foot
- Replace the broken needle during stitching
- Apply the trims using and check the type of stitching defects
- Preparation of miniature garments
- Write the process of specification on sheets
- Maintain the Quality Checking properly

Tools & Equipment :

Sewing Machine (Single needle lock stitch industrial model), Overlock Machine, Button Hole Machine,

Button Stitch Machine, Scissors

Scale 24", Leg Shaper, Hip Curve, French Curve, L Scale, Bobbin, Bobbin Case, Prinking Shears

Stitch Opener, Marking Wheel, Models, White-Board/Smart Board, Marker, Duster

Stitch guard, Machine guard, Looper

Module No. 5: Production Scheduling

Outcome: Assist to plan, organize and execute efficient production schedules within a garment manufacturing industry

Theory Content:

- Define and interpret production orders with specification, quantity and delivery deadlines
- Learn techniques for allocating resources, including machinery, manpower and materials to maximize efficiency and minimize downtime
- Creating realistic production timelines
- Optimizing machine utilization
- The concept of balancing workflow
- Techniques for managing variations in production volume and demand.
- Monitoring and adjusting schedules
- Importance of effective communication within the production team

Practical Content:

Trainer will give a project on mass production of any one type of dress materials to the students with the specifications of the product, quantity and timelines to be completed maintaining the following criteria:

- Interpretation of production orders, including garment specifications, quantity requirements and delivery deadlines.
- Demonstrate the task with allocating machinery, manpower and materials to maximize efficiency and minimize downtime.
- Create realistic timelines by considering garment complexity, production capacity and lead times.
- Explore the strategies to optimize machine utilization including machine maintenance, adjusting machine set up for different garment styles.
- Maintain balancing workflow strategies with production progress
- Identify potential delays and make on the spot adjustments to schedules by reallocating resources
- Role play scenarios that simulate communication challenges withing a production team.

Tools & Equipment :

Sewing Machine (Single needle lock stitch industrial model), Overlock Machine, Button Hole Machine, Button Stitch Machine, Scissors

Scale 24", Leg Shaper, Hip Curve, French Curve, L Scale, Bobbin, Bobbin Case, Prinking Shears

Stitch Opener, Marking Wheel, Models, White-Board/Smart Board, Marker, Duster

Stitch guard, Machine guard, Looper

Module No. 6 : OJT

Outcome: Work in real job situation with special emphasis on basic safety and hazards in this domain

Practical Content:

Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for **60 Hours.**)

Module No. 7: Employability Skills (60 Hrs)

Key Learning Outcomes

Introduction to Employability Skills

Duration: 1.5 Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship

Duration: 1.5 Hours

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century

Duration: 2.5 Hours

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

Basic English Skills

Duration: 10 Hours

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

Career Development & Goal Setting

Duration: 2 Hours

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills

Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication

14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion

Duration: 2.5 Hours

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy

Duration: 5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

Essential Digital Skills

Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship

Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

Customer Service

Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs

Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

Learning Outcome – Assessment Criteria

Sl. No.	Outcome	Assessment Criteria
1.	Describe the fundamental principles and practices involved in industrial garment manufacturing with the role and responsibilities of the operator	<p>After completion of this module students will be able to:</p> <ul style="list-style-type: none"> 1.1 Explain the job scope of the apparel industry 1.2 Describe the roles and responsibility of Industrial Garment Manufacturing Operator 1.3 Illustrate basic trade terminology and their uses 1.4 Explain the difference between Domestic and Industrial Garment Manufacturing operation 1.5 Demonstrate the functions of sewing machine 1.6 Identify different types machine to be use 1.7 Interpret work instructions and specifications 1.8 Identify and follow professional grooming and hygiene
2.	Maintain work area, tools and machines with safe working practices	<p>After completion of this module students will be able to:</p> <ul style="list-style-type: none"> 2.1 Clean and maintain the equipment & tools. 2.2 Explain various machines used for industrial garment manufacturing 2.3 Maintain the company's quality standards. 2.4 Follow correct lifting and handling procedures with material 2.5 Follow safe working practices and organizational procedures 2.6 Explain Health and Safety in the work place 2.7 Identify the best use of materials and their wastage 2.8 Demonstrate awareness of emergency procedure 2.9 Ensure correct use of personal protective equipment (PPE)
3	Execute diverse stitching procedure essential for garment manufacturing	<p>After completion of this module students will be able to:</p> <ul style="list-style-type: none"> 3.1 Demonstrate stitching techniques proficiency 3.2 Select and apply stitching techniques suitable for different fabrics 3.3 Identify the types of stitch classes and seam classes 3.4 Demonstrate measurement technique applied on dress forms. 3.5 Execute stitching procedure with efficiency 3.6 Identify and address stitching issues and rectify 3.7 Utilize specialized sewing machine attachment

		<p>and accessories effectively</p> <p>3.8 Meet production deadlines by efficiently executing stitching procedures within allocated time frames</p> <p>3.9 Demonstrate awareness of sustainable stitching practices.</p>
4	Demonstrate expertise in specialized stitching, precise handling of materials maintaining machine attachments, quality, and industry standards.	<p>After completion of this module students will be able to:</p> <p>4.1 Demonstrate expertise in specialized stitching and working procedure of different sewing machine.</p> <p>4.2 Display precise and careful handling of specialized materials, ensuring minimum waste</p> <p>4.3 Exhibit meticulous attention to detail in all aspects of production</p> <p>4.4 Demonstrate various types machine attachments</p> <p>4.5 Maintains consistency in producing flawless quality across different variations</p> <p>4.6 Follow adherence to industry standards</p>
5	Assist to plan, organize and execute efficient production schedules within a garment manufacturing industry	<p>After completion of this module students will be able to:</p> <p>5.1 Interpret and extract key information from production orders</p> <p>5.2 Demonstrate the procedure of allocating resources considering machinery, manpower and materials to maximize efficiency and minimum downtime during production process</p> <p>5.3 Create a realistic production timeline</p> <p>5.4 Optimize the utilization of industrial sewing machines and other equipment's</p> <p>5.5 Develop strategies for balancing workflow, managing peak seasons and handling fluctuations in production requirements</p> <p>5.6 Identify potential delays or issues</p> <p>5.7 Make timely adjustments to schedules by reallocating resources and prepare documentation accordingly.</p> <p>5.8 Relate communication and coordination within a production team.</p> <p>5.9 Create a comprehensive production schedule that reflects practical application of production</p> <p>5.10 Interpret production orders, creating schedules and make the adjustments.</p>
6	OJT	Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed

		to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor/contractor for 60 Hours).
7	Employability Skill	As per guided curriculum

List of Tools, Equipment & Materials needed for 30 Trainees (Practical)

SI No	Items Name	Specification	Qty
1	Sewing Machine	Single needle lock stitch industrial model	15 Nos.
2	Overlock Machine		02 Nos.
3	Button Hole Machine		01 No.
4	Button Stitch Machine		01 No.
5	Scissors		15 + 15 Each
6	Scale 24"		15 Nos.
7	Leg Shaper		15 Nos.
8	Hip Curve		15 Nos.
9	French Curve		15 Nos.
10	L Scale		15 Nos.
11	Prinking Shears		1 Nos.
12	Stitch Opener		15 Nos.
13	Marking Wheel		15 Nos.
14	Models	UK Standard 12 Size. M-1, F-1	02 Nos.
15	White-Board/Smart Board		01 No.
16	Marker		01 Doz
17	Duster		05 Nos.
18	Stitch guard		05 Nos.
19	Machine guard		05 Nos.
20	Looper		05 Nos.
21	Bobbin		30 Nos.
22	Bobbin Case		15 Nos.
23	First-aid Kit		02 Nos.
24	Fire Extinguisher		01 No.
25	Screw Driver Set		02 Nos.

Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr marks	Total OJT marks
Describe the fundamental principles and practices involved in industrial garment manufacturing with the role and responsibilities of the operator	APL/0312/OC1	20	120	0
Maintain work area, tools and machines with safe working practices	APL/0312/OC2	20	110	0
Execute diverse stitching procedure essential for garment manufacturing	APL/0312/OC3	40	150	0
Demonstrate expertise in specialized stitching, precise handling of materials maintaining machine attachments, quality, and industry standards.	APL/0312/OC4	50	150	0
Assist to plan, organize and execute efficient production schedules within a garment manufacturing industry	APL/0312/OC5	20	120	0
OJT	APL/0312/OC6	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0