

# EMBROIDERY MACHINE OPERATOR



## **QUALIFICATION PACK**

Ref. Id. : (AMH/Q0801)

### **SECTOR**

Apparels, Made ups  
& Home Furnishing

### **CLASS**

11<sup>th</sup> & 12<sup>th</sup>



## **PSS CENTRAL INSTITUTE OF VOCATION EDUCATION**

(A constituent Unit of National Council of Educational Research and Training, under Ministry of Education, Government of India), Shyamla Hills, Bhopal – 462002 (M.P.)

[www.psscive.ac.in](http://www.psscive.ac.in)

## VOCATIONAL EDUCATION

Vocational Education and Training (VET) in India is organised through the formal, informal and non-formal sector. VET delivery occurs in different forms, according to different target groups and the skill needs of the learners. Amongst the various Ministries, the Ministry of Skill Development and Entrepreneurship (MOSDE) and the Ministry of Education (MOE), Government of India are responsible for the majority of the skill development schemes and programmes. VET provisions made through the schools, colleges and universities come under the purview of the Department of School Education and Literacy and Department of Higher Education of the MoE. The vocational education and training provided through Polytechnics, Industrial Training Institutes, Jan Shikshan Sansthan, National Institute for Entrepreneurship and Small Business Development comes under MOSDE. Schools provide an environment to the learners for systematic acquisition of knowledge, skills and attitude required to meet the varied aspirational needs and educational goals. The school-based vocational education programmes provide training for entry-level qualifications in various occupations.



Vocationalisation of education, which refers to the inclusion of those practical subjects or courses, which shall generate among the students some basic knowledge, skills and disposition that prepare them to think of becoming skilled workers or entrepreneurs is being implemented under the Samagra Shiksha - an integrated scheme of school education. It is designed to provide diverse educational opportunities and career pathways and improve learning outcomes in occupational skills.

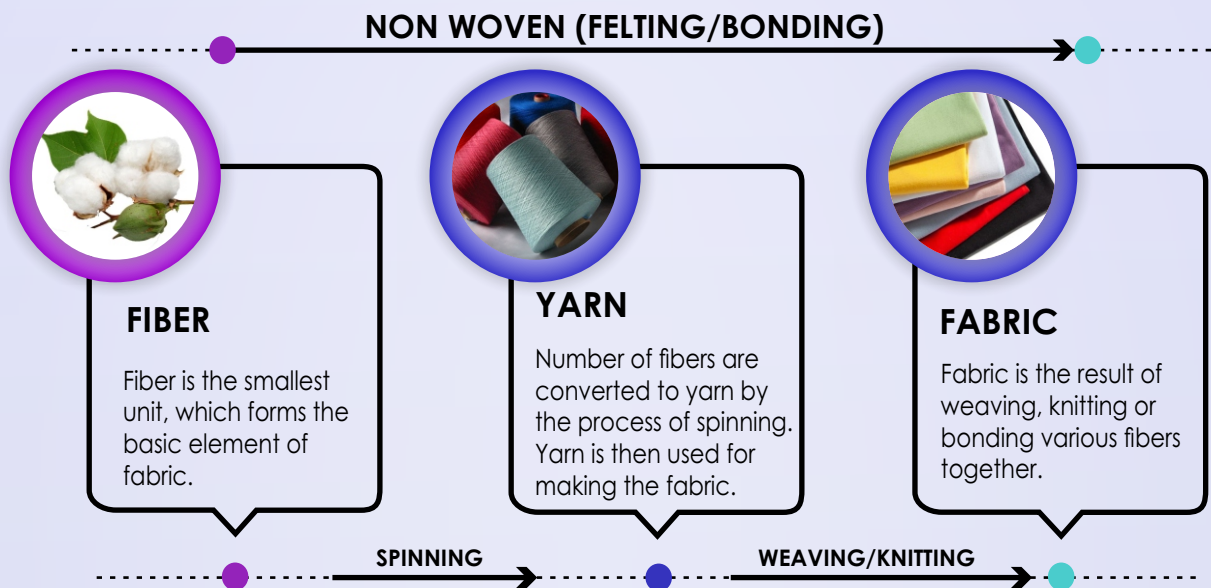
Vocational Education and Training (VET) system is recognised to prepare and develop skilled manpower to meet the growing demands of labour market. VET focuses on specific job roles and imparts practical knowledge and skills, which allow individuals to engage in specific occupational activities. It is not only vital for providing employment opportunities to individuals but also helps in enhancing productivity in industries.

The vocational subjects were introduced under the revised scheme of vocationalisation of secondary and higher secondary education in 2012, with one job roles across Grades 9 to 12 (4-year pattern). The scheme was subsumed in Samagra Shiksha in 2018, along with Sara Shiksha Abhiyan (SSA) and Rashtriya Madhyamik Shiksha Abhiyan (RMSA).

There has been increased emphasis on Vocational Education in the National Education Policy 2020 (NEP-2020). The NEP-2020 envisages re-imagining of Vocational Education to provide a due social status and for developing a system for integration of Vocational Education with General Education.

## ABOUT APPAREL, MADE-UPS AND HOME FURNISHING (AMHF) SECTOR

Apparel, Made-ups and Home Furnishing sector is amongst the fastest growing sectors in our country. It covers a great number of activities from the transformation of raw materials into fibres, yarns and fabrics to produce end products. This sector includes activities related to designing, pattern making, cutting, stitching, finishing and embellishment of apparel, made-ups and home furnishing items. It also includes assessing their quality, merchandising and export.



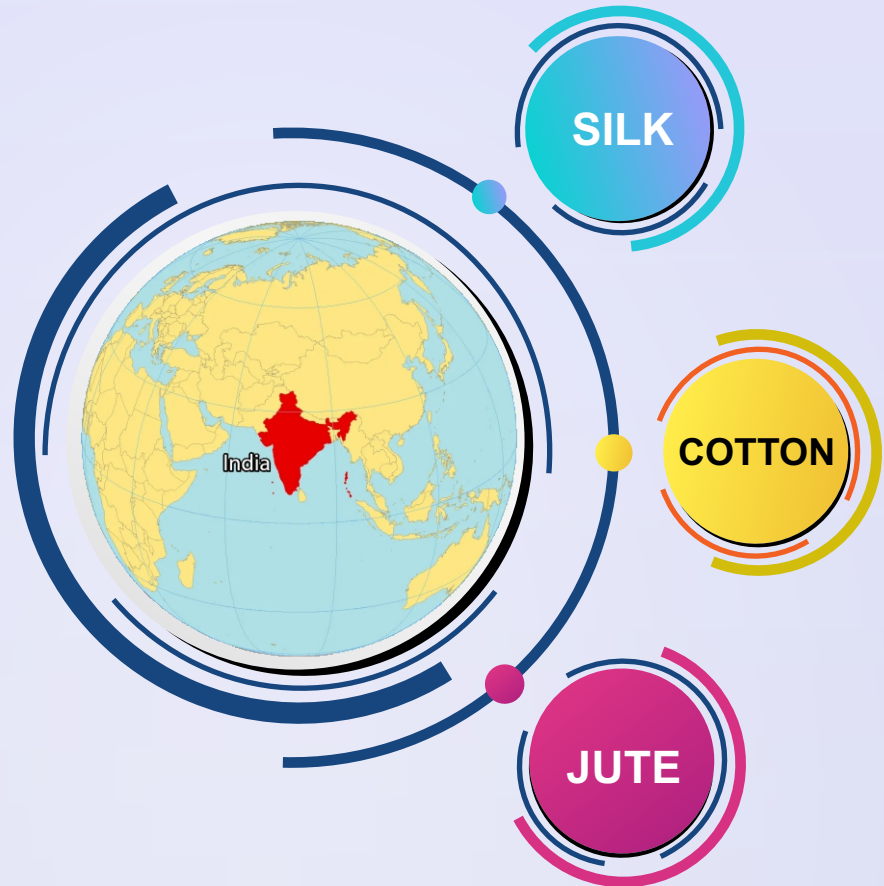
Fabric is transformed into various end products as per requirement. Textile/Apparel product development passes through the stages of planning and execution with quality control at each stages.



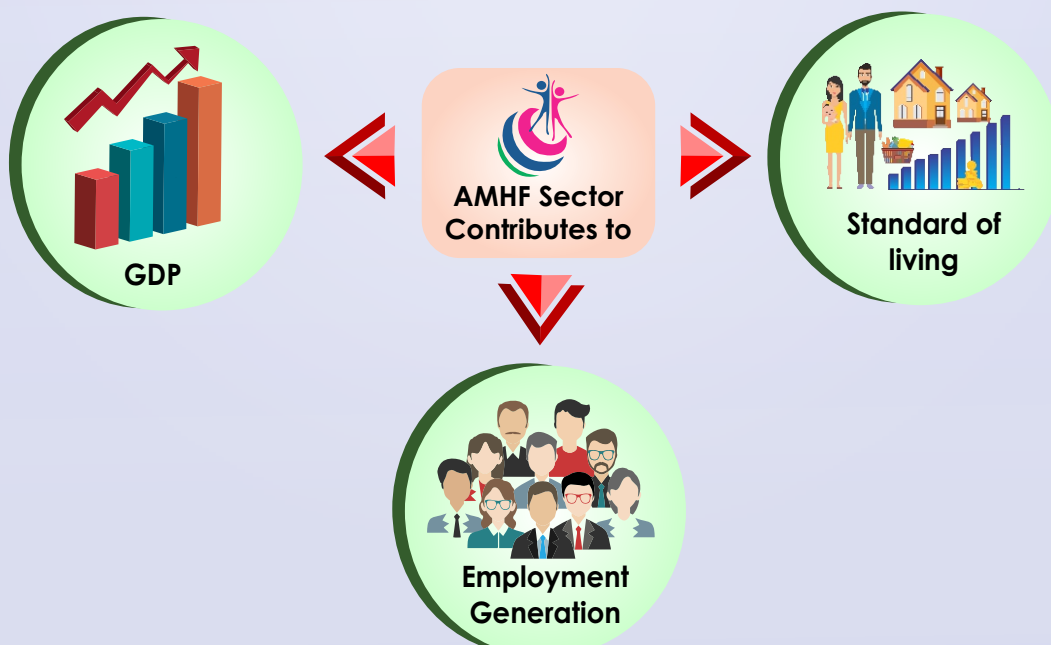
## CONTRIBUTION OF AMHF SECTOR IN ECONOMY

India not only possesses a rich heritage but also holds a strong position on the world map showcasing the richness of legacy in agriculture and textile industry.

**One of the Major Exporter**



The above figure reflects the contribution of the AMHF sector to India's growth. AMHF has not only contributed to the Gross Domestic Product (GDP) but also boosts economy by being a vital part of the exports. This sector has been vital in the employment generation in the country seeding the growth of youth and improvement in standard of living.



## COMPONENTS OF APPAREL INDUSTRY

AMHF sector can be divided into two major segments:

1. **Fiber to Fabric (Textile Industry)**
2. **Fabric to Product (Apparel Industry)**

The textile industry in the AMHF sector includes the conversion of fiber into yarn or fabric and yarn to fabric. The fabric is further enhanced using dyeing, printing, embroidery, embellishment & finishing technique.

The apparel industry consists of usage of this fabric to create various products like garments, home furnishings & accessories.

Other industries associated with AMHF sector are:



Apparel industry is very diverse in nature performing variety of processes. It starts from a design idea and ends when the finished garment reaches the customer. These processes are carried out by different departments of an apparel industry. Every department is responsible for a specific function and together all the departments aim at providing good quality product within reasonable cost and time. Various departments are as follows-

- Merchandising Department
- Store Department
- Cutting Department
- Sewing Department
- Washing Department
- Finishing and packing Department
- Quality Assurance Department
- Maintenance Department
- Finance & Accounts Department
- Admin Department

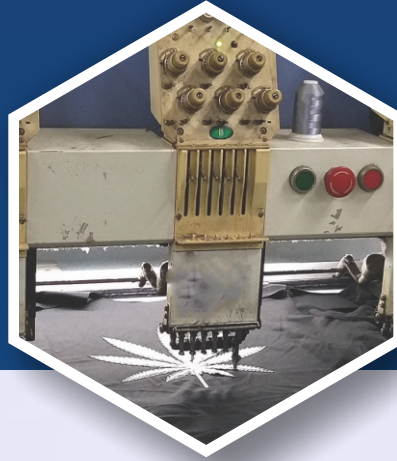


## ABOUT THE JOB ROLES

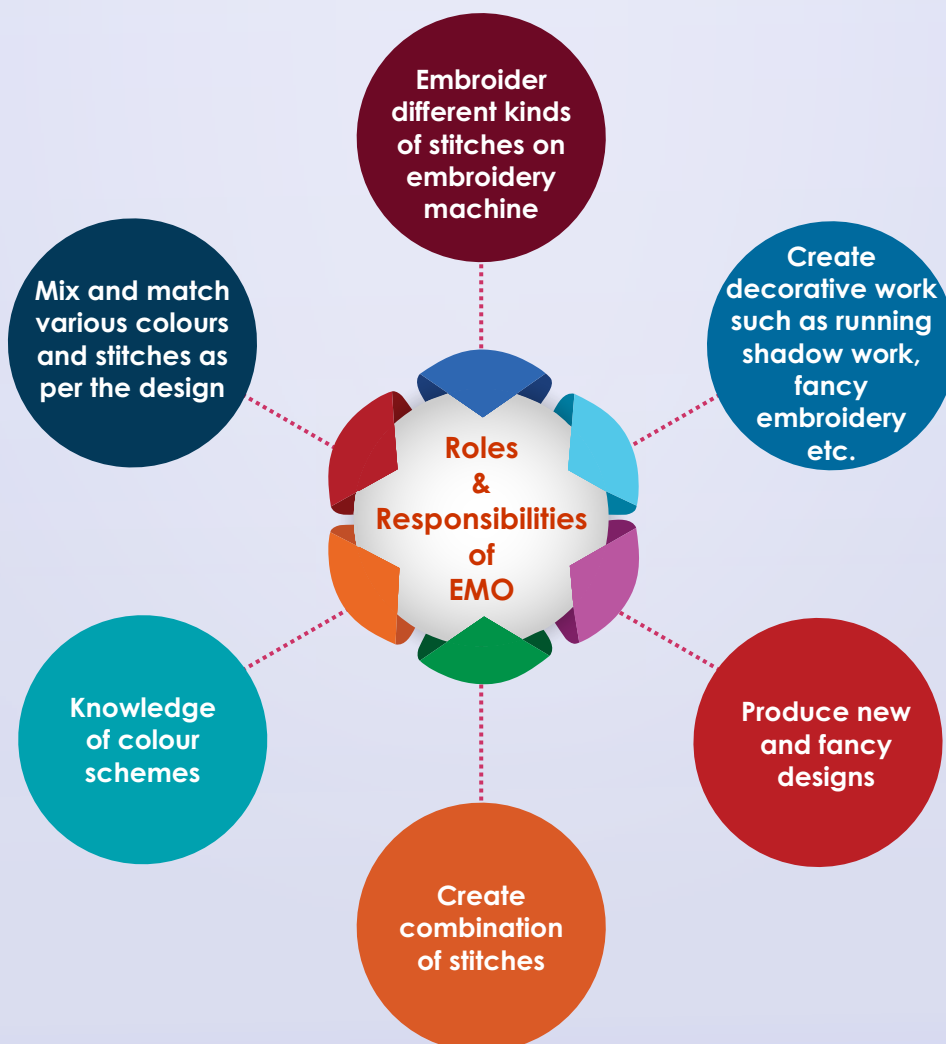
In the Apparel, Made-Ups and Home Furnishing sector, there are various job roles which one can opt as their profession and enhance their skills. This sector focuses on providing many job opportunities to the budding candidates. It includes all the jobs related to apparel industry like pattern master, self-employed tailor, hand embroiderer, etc. and self-owned small businesses like embroidery unit, boutique, design studios, etc. Job roles identified by National Skills Qualification Framework (NSQF) under Apparel, Made-Ups and Home Furnishing Sector as follows:

<b>01</b>	<b>Fabric Checker</b>
<b>02</b>	<b>In-Line Checker</b>
<b>03</b>	<b>Layerman</b>
<b>04</b>	<b>Measurement Checker</b>
<b>05</b>	<b>Pressman</b>
<b>06</b>	<b>Sewing Machine Operator</b>
<b>07</b>	<b>Embroidery Machine Operator (Zigzag Machine)</b>
<b>08</b>	<b>Export Assistant</b>
<b>09</b>	<b>Framer - Computerized Embroidery Machine</b>
<b>10</b>	<b>Garment Cutter (CAM)</b>
<b>11</b>	<b>Hand Embroiderer</b>
<b>12</b>	<b>Quality Assessor</b>
<b>13</b>	<b>Sampling Tailor</b>
<b>14</b>	<b>Advance Pattern Maker (CAD/CAM)</b>
<b>15</b>	<b>Fashion Designer</b>
<b>16</b>	<b>QC Executive - Sewing Line</b>
<b>17</b>	<b>Merchandiser</b>
<b>18</b>	<b>Machine Maintenance Mechanic (Sewing Machine)</b>
<b>19</b>	<b>Export Executive</b>
<b>20</b>	<b>Export Manager</b>
<b>21</b>	<b>Sampling Coordinator</b>
<b>22</b>	<b>Industrial Engineer (IE) Executive</b>
<b>23</b>	<b>Production Supervisor Sewing</b>
<b>24</b>	<b>Factory Compliance Auditor</b>
<b>25</b>	<b>Specialized Sewing Machine Operator</b>
<b>26</b>	<b>Assistant Designer - Home Furnishing</b>
<b>27</b>	<b>Assistant Designer - Madeups</b>
<b>28</b>	<b>Assistant Fashion Designer</b>
<b>29</b>	<b>Boutique Manager</b>
<b>30</b>	<b>Cutting Supervisor</b>
<b>31</b>	<b>Fabric Cutter - (Apparel made Ups and Home Furnishing)</b>
<b>32</b>	<b>Finisher</b>
<b>33</b>	<b>Hand Embroiderer (Addawala)</b>
<b>34</b>	<b>Line Supervisor Stitching</b>
<b>35</b>	<b>Merchandiser - Made-Ups &amp; Home Furnishing</b>
<b>36</b>	<b>Online Sample Designer</b>
<b>37</b>	<b>Packer</b>
<b>38</b>	<b>Pattern Master</b>
<b>39</b>	<b>Processing Supervisor (Dyeing &amp; Printing)</b>
<b>40</b>	<b>Record Keeper</b>
<b>41</b>	<b>Self Employed Tailor</b>
<b>42</b>	<b>Sewing Machine Operator (Knits)</b>
<b>43</b>	<b>Sourcing Manager</b>
<b>44</b>	<b>Store Keeper</b>
<b>45</b>	<b>Washing Machine Operator</b>

One of the important job roles of Apparel, Made-Ups and Home Furnishing sector is Embroidery Machine Operator (zigzag machine). Let us understand this job role in detail. Embroidery Machine Operator is responsible for operating the embroidery machine to embroider decorative designs on fabric/garments in the apparel industry.



## Roles and responsibilities of an Embroidery Machine Operator (zigzag machine)



The coursework is being offered in class 11th and 12th. The content of class XI and XII textbooks includes the following:

## CLASS XI

### UNIT-1

#### INTRODUCTION TO EMBROIDERY MACHINE

Hand embroideries are unique and classic, but machine embroidery has taken over the garment industry. Machines can produce embroideries very close to hand crafts with their improved technologies and automated versions. In this unit, students will learn about types of embroidery machines, different types of tools, threads, needles and fabrics used for machine embroidery. Various parts and attachments of free-motion and semi-automatic embroidery machines are explained in detail. Also care, maintenance and safety rules of embroidery machines are dealt with proper illustration.



### UNIT-2

#### SUPPORTING MATERIALS, EMBROIDERY DESIGNS AND TRACING METHODS USED FOR MACHINE EMBROIDERY

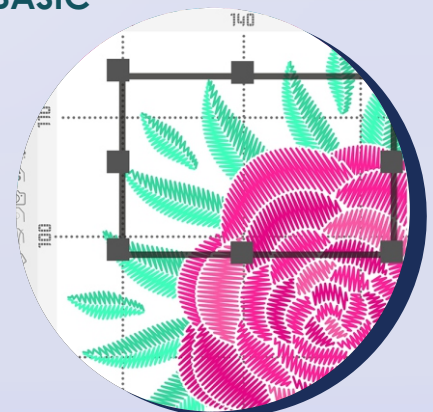
While doing embroidery various supporting materials are needed such as stabilizers, adhesive sprays, embroidery motifs or designs, etc. In this unit, students will learn about different types of supporting materials and fabrics used in Machine embroidery. They will also learn elements, principles and development of design for machine embroidery. This unit will also deal with types of tracing methods.



### UNIT-3

#### OPERATING EMBROIDERY MACHINE FOR BASIC STITCHES

An Embroidery Machine Operator must learn the basic embroidery stitches for smooth operations. In this unit, students will be taught basic machine embroidery stitches like running stitch etc. Defects related to embroidery work as well as embroidery materials and machines is also discussed.





## UNIT-4

### Maintaining a clean and hazard free working area

All industries have different type of tools, equipment and machineries. There is always a risk of hazard while operating machines. Therefore, while handling of tools and machines, workers and employees must follow all precautionary measures and safety instructions. EMO should also understand the importance of maintaining a clean and hygienic work environment. In this unit all these factors are considered to increase productivity and operating efficiency.



### Health and safety related practices applicable at the workplace

## UNIT-5



This unit deals with the health and safety of workers which has a direct bearing on their productivity and efficiency and hence company's output and profits. Therefore, it is of utmost importance to take care of their health and safety and to provide them with a safe working environment. Here the student will learn about various potential health and safety hazards, risks to understand and follow various health and safety related practices, which should be followed in any organisation to keep the workers and premises safe.

## UNIT-6

### Compliance to legal, regulatory and ethical requirements

All the industries, organizations, offices and manufacturing units are required to follow regulations and compliances as decided by the respective governments and countries they operate in. Garment and textile industries are no exception to this. These are also expected to maintain certain standards to operate. This unit deals with all the regulations and compliance related to this industry.



# CLASS XII

## UNIT-1

### Selection of Machine Attachments as Per Embroidery Techniques/ Stitches

Hand embroideries has taken over big machine embroidery in the garment industry with improved technologies and automated versions. In this unit, students will learn about the advance stitches used in the machine embroidery. Advance stitches such as quilting, applique and sequin work etc are included with their application.



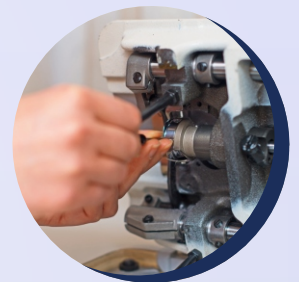
## UNIT-2 Specifications Sheet and Handling of Different Fabrics While Embroidery

Specification sheet is an important document which contains the details of all mandatory elements required to manufacture any garment or any other stitched product. These specifications are to be followed for the production. In this unit, students will learn the use of design specification sheet as per embroidery work, factors affecting the processing of embroidery work and problems encountered while working on different fabrics.



## UNIT-3 Detecting Faults in Embroidery Machine and Inspection Process to Maintain Quality

To develop high quality products on embroidery machines, all the machine faults should be dealt properly in time. An embroidery machine operator should be aware of the correct ways to rectify these problems and follow the instructions given in the user manual of the machine. In this unit, students will learn detecting faults in machines such as correctable faults and non-correctable faults, care of embroidery tools and inspection of embroidered products.



## UNIT-4 Maintain A Clean and Hazard Free Working Area

Here students will learn the importance and relevance of a clean and hazard free workplace. They will also learn how to ensure health of the employees and visitors. Maintaining clean walking surfaces, suitable footwear and appropriate speed of walking to avoid accidents is also a part of this unit. We will also talk about stairways, aisles and their cleanliness and maintenance for reducing accidents and ensuring a safe workplace.



## UNIT-5 Health, Safety and Security at Workplace

Here students will learn about maintaining health, safety and security as these are one of the most important aspects of human concern at the workplace. This unit will also provide knowledge for building a working environment which provides and maintains highest degree of physical, mental and social well-being for workers in all occupation. The students will also learn to identify and report emergency situations.



## UNIT-6 Industry and Organizational Requirements

In this unit students will learn to maintain documents and procedure for standard organizational compliance as well as ethical compliance. They will also learn the documentation and reporting procedure for deviation from compliance. They will also understand about regulations and requirements specific to customer needs.





## Job Opportunities

The usual job opportunities after finishing the course can be:

### Self-Employment

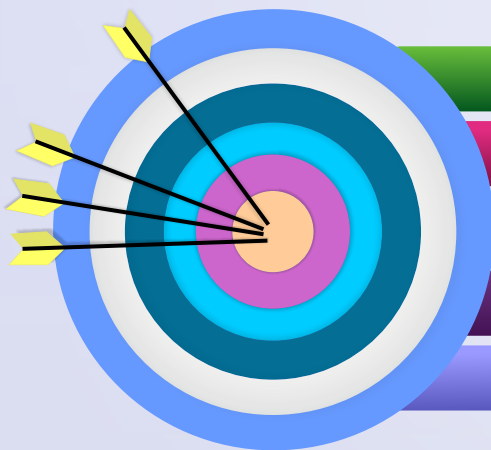
- 👉 Self owned business

### Wage Employment

- 👉 Assistant Embroidery machine operator in an Export/ Buying/ Design House
- 👉 Embroidery machine operator in an Export/ Buying/ Design House
- 👉 Embroidery machine operator in a Boutique
- 👉 Embroidery machine operator in an Institute/ Skill Development Centre



After completing the course for the job role Embroidery Machine Operator, the growth can be in the areas of:



Boutique

Buying and Export House

Design House

Production Unit

Training Centres

### On the job training

- 👉 Government and private skilled training centres.
- 👉 Export/buying/design houses.
- 👉 Design development/ Product development department in government and private organisation

## ABOUT PSSCIVE

### PSS Central Institute of Vocational Education, Bhopal

The Pandit Sundarlal Sharma Central Institute of Vocational Education (PSSCIVE) is an apex research and development organization in the field of vocational education. It is a constituent unit of the National Council of Educational Research and Training (NCERT), established in 1993 by the Ministry of Education [Formerly Ministry of Human Resource Development (MHRD)], Government of India. It is also a UNEVOC (International Project on Technical and Vocational Education) Network Centre in India. The Institute has a picturesque 35-acre campus with Departments created for different disciplines, viz. Agriculture & Animal Husbandry, Business & Commerce, Engineering & Technology, Health & Paramedical Sciences, Home Science & Hospitality Management and Humanities, Science, Education & Research.

The Institute offers quality-training programmes in vocational pedagogy and a wide array of disciplines for the key functionaries in vocational education and vocational teachers. The highly qualified team of the Institute possesses excellent professional skills and experience required to impart training for classroom teaching and training.

The Institute has traversed the path of rapid development in vocational education, responding positively to the changing needs of the industry and at times initiating significant changes in the field of vocational education. The evolution of the Institute in the last twenty-five years has witnessed various challenges, but these have served as opportunities to explore new horizons and work on possibilities of reorienting strategies for meeting the skill needs of the people at the local and global canvas.



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