



Participant Handbook

Sector
Furniture and Fittings

Sub-Sector
Wooden/Modular Furniture

Occupation
Design: Wooden/Modular Furniture

Reference ID: FFS/Q0106, Version 1.0
NSQF level: 4



**Assistant Furniture
Designer**

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Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India.
If we have to move India towards
development then Skill Development
should be our mission. ”



Certificate
COMPLIANCE TO
QUALIFICATION PACK – NATIONAL OCCUPATIONAL
STANDARDS

is hereby issued by the

FURNITURE & FITTINGS SKILLS COUNCIL

for

SKILLING CONTENT : PARTICIPANT HANDBOOK

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The preparation of this handbook would not have been possible without the Furniture & Fittings Industry’s support. Industry feedback has been extremely encouraging from inception to conclusion and it is with their input that we have tried to bridge the skill gaps existing today in the industry.

This participant handbook is dedicated to the aspiring youth who desire to achieve special skills which will be a lifelong asset for their future endeavors.

About this book

This Participant Handbook is designed for providing skill training and /or upgrading the knowledge level of the Trainees to take up the job of an “Assistant Furniture Designer” in the Furniture and Fittings Sector.

This Participant Handbook is designed based on the Qualification Pack (QP) under the National Skill Qualification framework (NSQF) and it comprises of the following National Occupational Standards (NOS)/topics and additional topics.

1. Introduction
2. FFS/N0109 Research and creation of furniture design concept
3. FFS/N0110 Create a scale model and build a furniture prototype
4. FFS/N8601 Ensure health and safety at workplace
5. FFS/N8801 Work effectively with others
6. Employability & Entrepreneurship Skills

Symbols Used



Key Learning
Outcomes



Unit
Objectives



Exercise



Tips



Notes



Activity



Summary

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**FURNITURE &
FITTINGS
SKILL COUNCIL**

1. Introduction

Unit 1.1 - Introducing the Furniture and Fittings Sector in India

Unit 1.2 - Common Furniture Styles

Unit 1.3 - Defining Modular Design of Furniture



Key Learning Outcomes



At the end of this module, you will be able to:

1. Discuss the Furniture and Fittings sector in India
2. Analyze the common furniture styles
3. Define modularity

Unit 1.1: Introducing the Furniture and Fittings Sector in India

Unit Objectives

At the end of this unit, you will be able to:

1. Evaluate the Furniture and Fittings sector in India
2. Analyse the statistics for furniture purchase in India

1.1.1 Get an Overview of the Furniture and Fittings Sector in India

- Currently, India is the 14th largest market in the world for the Furniture and Fittings sector, as stated by HKTDC Research.
- The Indian middle-class population and business organisations are gradually recovering from the temporary market decline, which was driven by recent economic reforms and measures. These are like Demonetization, introduction of the GST (Goods and Services Tax) and advent of the Long-Term Capital Gains Tax.
- The GDP (Gross Domestic Product) of India, for the fiscal year 2018-19, has been forecasted to grow by 7-7.5% by the Economic Survey of India (2017-18).
- This can be attributed to the rise in per capita income level and the subsequent growth in consumption by the urban and semi-urban middle-class population.
- The choice and consumption of middle-class population in India are now driven by need, quality and convenience, rather than affordable prices.
- Middle-class households are now interested in enhancing their lifestyle standards by decorating their homes with modern and chic furniture, fixtures and fittings.
- The Furniture & Fittings sector in India has been forecasted, by TechSci Research, to beat INR 3200 Crores by 2019.
- Apart from the rising consumption of middle-class households, expansion of the Tourism and Hospitality sector would also substantially contribute towards the mammoth growth of the Furniture & Fittings sector.
- According to recent reports by KPMG India, the current Furniture & Fittings sector in India comprises the following segments:



Fig. 1.1.1.1: popular brands in Indian furniture industry

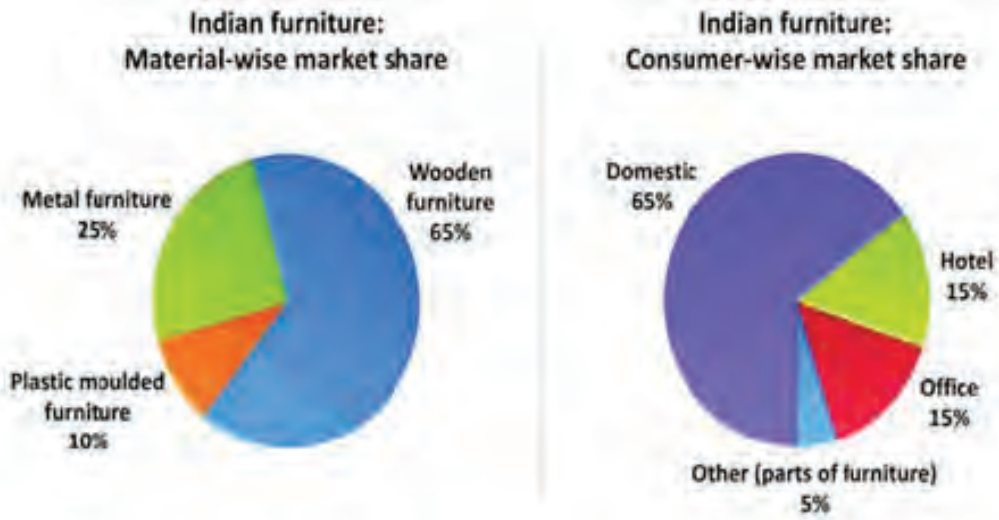


Fig. 1.1.1.2: Furniture Industry in India

On the basis of the area of applicability, the major subsectors in the Indian Furniture & Fittings sector are:

- Home Furniture segment (comprises furniture used to furnish and decorate Indian homes)
- Office Furniture segment (comprises furniture used in commercial spaces)
- Contract segment (caters to the need of Tourism & Hospitality industry)



Fig. 1.1.1.3: Statistics for Furniture purchase in India

Unit 1.2: Common Furniture Styles

Unit Objectives

At the end of this unit, you will be able to:

1. State the History and Style of Furniture
2. Identify the common furniture styles (before and after 20th Century)

1.2.1 About History and Style of Furniture

History of Furniture

The concept of furniture came from ancient Egypt. The chief forms of furniture were boxes, chairs, beds and thrones. One of the earliest forms of furniture were beds that were made up of wood and had a simple framework.

The location of one of the great beds was found in Tutankhamen's tomb which was put together with staples and bronze hooks. The ideology behind such furniture design was simple – quick folding and dismantling process and easy facilitation for transportation and storage.



Fig. 1.2.1.1: Furniture from Tutankhamen's tomb

As per the early Indian culture, the furniture-making tradition started with the Vijayanagar Empire (South India) during the 14th Century.

The common types of wood that were used for creating and designing furniture in ancient and present India are:

- Rosewood or Shisham
- Ebony (Aabnus or Aablus)
- Acacia (Olonkar or Badam)
- Teak (Segun or Sagaun)

In India, the furniture designs were heavily inspired by traditional English Styles, Indo-Dutch Style, Goanese Style, Mughal Style, and Indo-European furniture.



Fig. 1.2.1.2: Furniture design with East and West blend - Goanese Style



Fig. 1.2.1.3: Traditional English Styles



Fig. 1.2.1.4: Indo Portuguese Furniture






Fig. 1.2.1.5: Mughal Style Wooden Furniture





The common styles of furniture are:



Before 20th Century

Style	Characteristics	Images
Jacobean	<ul style="list-style-type: none"> • Geometric, symmetrical design and a strong emphasis on rectilinear lines and shapes • Ornate carvings, influenced by the Classical era and detailed geometric motifs • Physically and visually heavy • Very close to the ground level 	
William and Mary	<ul style="list-style-type: none"> • Replaced the orthogonal, rectilinear Jacobean style with soft curves and graceful spirals • Physically lighter and sleeker, as compared to the Jacobean style • Visually disconnected from and higher off the ground • Implemented Dovetails joints to incorporate softer features in furniture 	

Style	Characteristics	Images
Queen Anne	<ul style="list-style-type: none"> • Geometric, symmetrical design and a strong emphasis on rectilinear lines and shapes • Ornate carvings, influenced by the Classical era and detailed geometric motifs • Physically and visually heavy • Very close to the ground level 	
Pennsylvania Dutch	<ul style="list-style-type: none"> • Influenced by American and German culture • Straightforward and utilitarian style • Incorporated straight lines and tapered legs • Less use of ornate curves • Decorated with colorful folk painting on the cases, generally depicting natural sceneries or geometric patterns • Often polished, finished and varnished with veneer (thin, decorative piece of fine wood) 	
Chippendale	<ul style="list-style-type: none"> • Pioneered by English cabinet-maker Thomas Chippendale • Highly elegant and classy, this style incorporates the important features of Gothic, Chinese and Rococo influence • Pointed arches, wooden lattice, and S-shaped curves were adopted from the Gothic culture • Fretwork design and Japanning were adopted from the Chinese culture • Rococo influence brought about designs like broad chair seats, decorated with interlacing ribbon backs • Stained Maple was used, instead of Mahogany, Walnut and Cherry Wood to reduce cost • Such furniture were often finished with a clear wax coating • Easily recognized from designs like the Ball-and-Claw foot and Chair backs decorated with ribbon and shell motifs 	





Style	Characteristics	Images
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Hepplewhite	<ul style="list-style-type: none"> • Pioneered by English designer George Hepplewhite • Very graceful and influenced by the Neoclassical style • Delicate appearance due to extensive use of veneers with contrasting colors (Marquetry) • Presence of decorative motifs like elegant swags, tapered legs, curling ribbons, feathers, urns, trees, etc. • Use of narrow vertical strips of wood glued to a heavy background clot called 'Tambours.' • Incorporates simple geometric shapes like circle and primary curves 	





Style	Characteristics	Images
Sheraton	<ul style="list-style-type: none"> • Marked with the use of thinner legs • Visually lighter as compared to other styles • Characterized by Rectangular Chair and Sofa backs • Characterized by Cabinets and dressers with rectilinear features • Flaunts the presence of ornate and delicate lines and contrasting veneers, influenced by the Neoclassical style • The legs are usually tapered, often resembling columns of a Greek temple in appearance 	
Federal	<ul style="list-style-type: none"> • Incorporates the borderline features of the Sheraton and the Hepplewhite styles • Depicts strong use of ornate inlay, tapered legs, straight lines and delicate feature columns of a Greek temple in appearance 	
American Empire	<ul style="list-style-type: none"> • Characterized by traditional ornamentation, rustic decoration and dark finish • Depicts a strong presence of Roman and Greek motifs • Visually heavy, thus communicating strength and durability • Highly decorated, to depict prosperity 	
Victorian	<ul style="list-style-type: none"> • This style was greatly influenced by Queen Victoria's love for heavy, ornate decoration • This style primarily includes a mixture of the Gothic, Neoclassical and Rococo features • Usually characterized by dark pieces of furniture, heavy fabrics, and chinaware and glassware as accessories 	

Style	Characteristics	Images
Scandinavian Contemporary	<ul style="list-style-type: none"> • Involves basic, utilitarian style • Primarily built out of natural wood • Influenced by less ornate details • Defined strongly by modern, clean, solid pieces • Designed to occupy less space, in a clutter-free manner 	
Scandinavian Contemporary	<ul style="list-style-type: none"> • Involves basic, utilitarian style • Primarily built out of natural wood • Influenced by less ornate details • Defined strongly by modern, clean, solid pieces • Designed to occupy less space, in a clutter-free manner 	

Post 20th Century

- Antique
- Traditional
- Vintage
- Rustic
- Art Deco
- Retro
- Modern
- Contemporary
- Modular

Style	Characteristics	Images
Antique	<ul style="list-style-type: none"> • A piece of furniture is considered “Antique” if it is at least 100 years old • Generally built out of wood • Antique furniture comprises ornate details and specific motifs that help in determining their date of origin and thus, their prices 	
Traditional	<ul style="list-style-type: none"> • This style incorporates the best features of styles like Queen Anne, Chippendale and Sheraton • Significant features are the elegant ornamentation, straight lines and gently tapered legs 	
Vintage	<ul style="list-style-type: none"> • Younger in age as compared to Antique, this style of furniture flaunts the most prominent features of a particular detail associated with a certain period • Incorporates a very charming, delicate, lightweight style • Wood is painted in light pastel colors like Wool White, Beryl Green, Santa’s Gray, Mauve, Oriental Pink, etc 	
Art Deco	<ul style="list-style-type: none"> • Characterized by geometric and angular patterns • Typical examples of such patterns are ziggurats, pyramidal, triangular, trapezoidal, zigzagged, chevron, sunburst, sweeping curves, stepped forms, etc. • It harmonizes jazzy patterns with materials like glass, chrome, mirrors, etc. 	

Style	Characteristics	Images
Retro	<ul style="list-style-type: none"> • This style bears the look of having been built between the 1950s and the 1980s • This style imitates previous fashion trends • Evokes nostalgic feelings and memories related to a particular era or place 	
Modern	<ul style="list-style-type: none"> • Characterized by smooth surfaces, minimal decoration, standardized dimensions, neutral design and combination of different materials in an ad hoc manner • Common materials are Steel, Vinyl, Plastic and Leather • However, the use of natural materials is predominant • Prominent use of monochromatic color palettes • Marked by a balance between aesthetics, utility, and affordability 	
Contemporary	<ul style="list-style-type: none"> • This style is ever-changing and adapts itself with time • Contemporary style pertains to the style most popular nowadays • Although referred to synonymously, the Contemporary style is completely different from the modern style of furniture • The Modern style refers to a particular era (the 1900s), while the Contemporary style walks hand-in-hand with the changing time 	
Art Deco	<ul style="list-style-type: none"> • Specific form of portable furniture aimed at saving space • Highly utilitarian and cost-effective • Divided into numerous small and solid units, which can be connected horizontally, vertically and matrix-wise, using a simple series of steps • All small parts or “modules” in a system are reusable and scalable 	

Unit 1.3: Defining Modular Design of Furniture

Unit Objectives

At the end of this unit, you will be able to:

1. Define and explain Modularity
2. Evaluate the characteristics of Modular Furniture
3. Categorise Modular Furniture according to design

1.3.1 Defining and Explaining Modularity

- Modularity is an approach of designing furniture, which involves subdividing a system into numerous small building blocks, or elementary components, commonly known as "modules" or "skids".
- These elementary modules, building blocks or skids can be autonomously created for developing various systems.
- In simple words, Modularity enables us to develop and administer a system by the "divide and rule" policy.
- The procedure, in which a system can be broken down or subdivided into modules, is called "Functional Allocation".
- Modular furniture can not only be assembled from small modules but also be dismantled into them, thus making repeated assembly and disassembly possible.
- For re-assembling specific pieces of furniture (say, modular bed), entire sets of modules are available and sold in the market in the form of prefilled packages.
- Modularity is a popular concept that is applicable not only in building furniture but also in the following areas:
 - Architecture
 - Designing and building Heavy Vehicles
 - Aerodynamics
 - Building Heavy Machinery
 - Manufacturing Computer Hardware
 - Developing and testing Software using OOPS (Object-oriented Programming System) concept

1.3.2 Characteristics of Modular Furniture

Modular Furniture and their components exhibit the following characteristics:

Reusability	The same modules can be arranged and built up according to various designs or matrices to develop diverse types of furniture.
Discreteness	Individual modules or skids have autonomous properties and are functionally distinct from the other modules in the matrix.
Adaptability	An existing modular design can be broken down into its modules, which can be reconstructed into another modular design, serving a different purpose.

Application	Hardware application plays an important role in modular furniture.
Scalability	A modular design is scalable, i.e., its size, shape, and dimensions can be varied by rearranging, increasing or decreasing (as per requirement) the number of modules used in building it
Simplicity	<ul style="list-style-type: none"> • As the term suggests, modular designs are very simple to understand and easy to build • This is because the first step in building design is to understand the individual, small building blocks
Reliability	<ul style="list-style-type: none"> • Modular designs are very precise, accurate and highly reliable • This is because each design is created and built using discrete modules, which are precise regarding individual dimensions, make and specifications
Cost Minimization and Space Utilization	<ul style="list-style-type: none"> • Modularity helps in reducing training, operational (assembling, installing and dismantling) and maintenance costs • The very purpose behind modularity is Space utilization

1.3.3 Classifying Modular Furniture According to Design

According to design, Modular Furniture can be classified into the following:

- Single-bodied
- Multi-bodied
- Universal for completion
- On a frame
- For hanging

Summary



- India is the 14th largest market in the world for the Furniture and Fittings sector, as stated by HKTDC Research.
- The Indian middle-class population and business organizations are gradually recovering from the temporary market decline.
- The GDP (Gross Domestic Product) of India, for the fiscal year 2018-19, has been forecasted to grow by 7-7.5% by the Economic Survey of India (2017-18).
- Middle-class households are now interested in enhancing their lifestyle standards by decorating their homes with modern and chic furniture, fixtures and fittings.
- The Furniture & Fittings sector in India has been forecasted, by TechSci Research, to reach INR 3200 Crores by 2019.
- Furniture styles can be broadly categorized into - Before and After the 20th Century
- Modularity is an approach of designing furniture, which involves subdividing a system into numerous small building blocks
- Modular Furniture can be classified according to the design.
- The location of one of the great beds was found in Tutankhamen's tomb which was put together with staples and bronze hooks.

Exercise

Choose the Correct Option

1. Which sector also substantially contributes towards the mammoth growth of the Furniture & Fittings sector?
 - a) Bartending
 - b) Electrical
 - c) Hospitality
2. The characteristic of which furniture type has geometric and angular patterns?
 - a) Retro
 - b) Art Deco
 - c) Vintage
3. The full form of OOPS is:
 - a) On-Line Operating Plan System
 - b) Operation on Placental Support
 - c) Object-oriented Programming System
4. Modularity helps in reducing training, operational (assembling, installing and dismantling) and:
 - a) Maintenance costs
 - b) Travel allowance
 - c) Electricity bills
5. As per the early Indian culture, the furniture-making tradition started with the Vijayanagar Empire (South India) during which Century?
 - a) 50th
 - b) 14th
 - c) 3rd

Activity

Chart Paper

- In this session, the Trainer will divide the class into 3 groups
- After the group is formed, the Trainer will give the groups their respective topic.
- The topic for the 1st group will be on “History of Furniture.”
- The topic for the 2nd group will be on “Types of Furniture before the 20th Century.”
- The topic for the 3rd group will be on “Types of Furniture Post 20th Century.”
- The Trainees can use both texts as well as hand-drawn diagrams to represent their answers.
- After the groups complete their work, it is the responsibility of the Trainer to collect all the charts and evaluate them properly
- The group that impressively creates the chart with valid points and diagrams will receive appreciation and accolades

2. Research and Creation of Furniture Design Concept



Unit 2.1 - Furniture Design Objective and Research

Unit 2.2 - Prioritize Work Activities to Achieve Desired Results

Unit 2.3 - Create Design Concept

Unit 2.4 - Furniture Design Drawing and Approval



Key Learning Outcomes

At the end of this module, you will be able to:

1. List the furniture design objective and research
2. State the correct process of marking out and measuring accurately
3. Illustrate furniture ergonomics
4. Relate about design software like Auto-CAD, CorelDraw, Photoshop

Unit 2.1: Furniture Design Objective and Research

Unit Objectives

At the end of this unit, you will be able to:

1. Express furniture design objective and research
2. List and prioritize work activities to achieve desired results
3. State about the design concept
4. Describe furniture design drawing and approval

2.1.1 Organisation Procedures and Formalities to be completed during Work

An assistant furniture designer must understand that successful designing, assembly, and installation is not a mechanical work that can be done alone.

There are a few other important aspects of the designing processes that an assistant furniture designer must consider.

There are relevant procedures and formalities that designers require to check. They are like:

- Appropriate documentation
- Accepting client's payment
- Reporting
- Calling up and asking for the clients' suggestions (if any)
- Greeting the client on visit
- Using appropriate PPE

Statutory Responsibilities under Organization Rules and Regulations

- An assistant furniture designer must abide by all clauses in his / her job responsibilities and code of conduct. These are considered statutory as per the organizational legislation and regulations.
- The role and responsibilities of an assistant furniture designer depend on the situation and the phase of the project. It is extremely important that the designer, on requirement, must switch between the role of a Team Player and a Team Leader.
- During the process and during each phase of the project, the assistant furniture designer must identify the mandatory clauses in his / her job responsibilities and play the role accordingly.
- It is important that on the initiation of an assignment or project, the assistant furniture designer is subjected to an induction or a training session on his / her work area and related responsibilities.

Escalation Hierarchy and Code of Conduct

Organizational hierarchy refers to the pyramid of ranks or posts in an organization. In an organization, every employee has to report to the immediate boss. In case of escalations, the employee should put it forward to the immediate boss. Here, we will see the escalation hierarchy in the furniture industry.

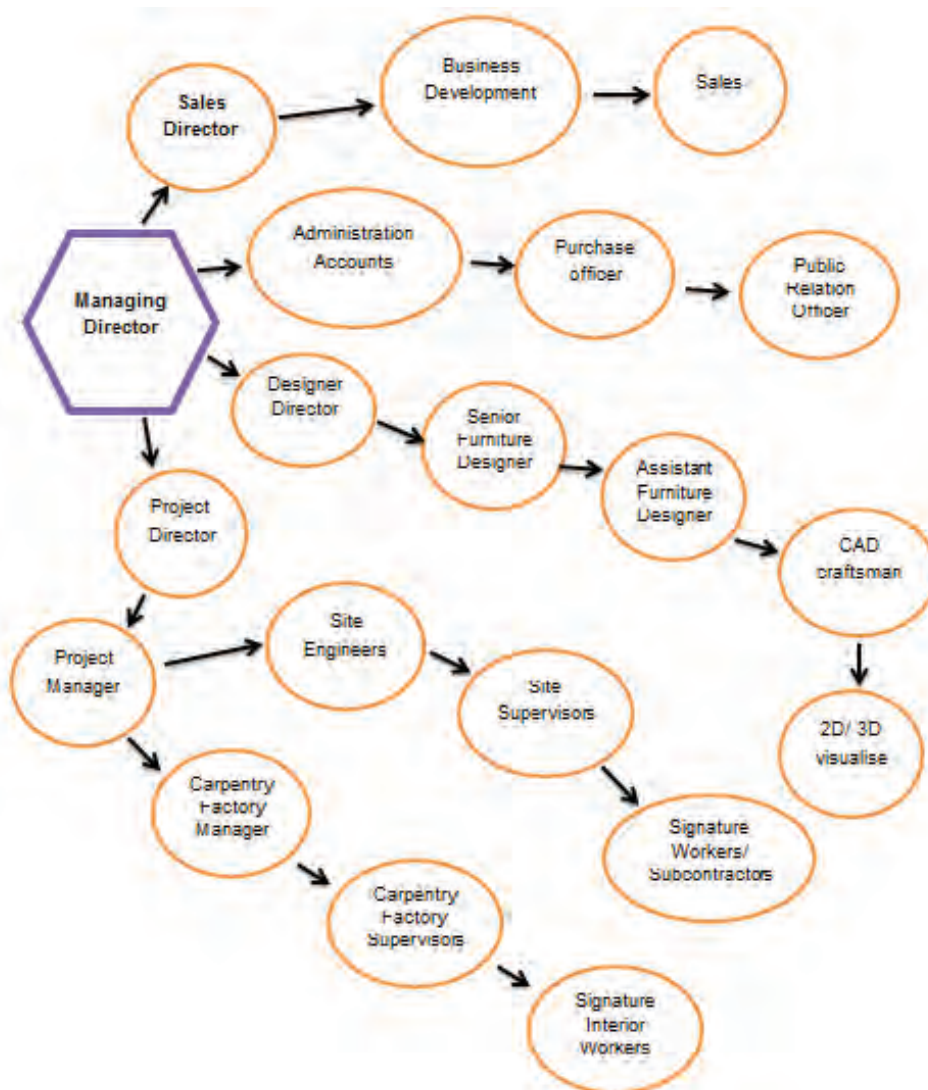


Fig. 2.1.1.1: Sectoral hierarchy

Any person in an organization should escalate his/ her issues to the person he/she is reporting. For example, as an assistant furniture designer, you will be working under and with your supervisor or senior furniture designer. You should contact your supervisor in case of queries on procedures, products, or problem. If it is not satisfactorily resolved, you can report your query to a higher level.

Although, organizations encourage direct escalation to higher levels in some cases, like:

- Breach of code of conduct
- Women Harassment
- Racial discrimination
- Misbehavior by co-workers/seniors

Code of Conduct

- It is mandatory to follow the design standards that are approved by the Project Director and Project Manager.
- You should not indulge in any fraudulent activity