



भारतीय पैकेजिंग संस्थान  
Indian Institute of Packaging

An autonomous body under the Ministry of Commerce & Industry, Govt. of India

*Celebrating 50 years*



सत्यमेव जयते

Ministry of External Affairs  
Government of India

# TWO WEEKS TRAINING PROGRAMME ON PACKAGING TECHNOLOGY

for

Ministry of Industrial Development, Bhutan

under

The Indian Technical and Economic Cooperation (ITEC)

Ministry of External Affairs (MEA), GOI

3<sup>rd</sup> - 17<sup>th</sup> January, 2023

Organized By :



Plot No.21, Functional Industrial Estate, Patparganj, Delhi - 110092

E-mail : [iipdelhi@iip-in.com](mailto:iipdelhi@iip-in.com) | Website : [www.iip-in.com](http://www.iip-in.com)

## INDIAN INSTITUTE OF PACKAGING

The Indian Institute of Packaging (IIP) is a national apex body which was set up in 1966 by the packaging and allied industries and the Ministry of Commerce, Government of India, with the specific objective of improving the packaging standards in the country. The Institute is an autonomous body working under the administrative control of the Ministry of Commerce.

The Institute endeavors to improve the standard of packaging needed for the promotion of exports and create infrastructural facilities for overall packaging improvement in India. This is achieved through the Institute's multifarious activities which are today, in line with those of premier packaging institutes the world over. The Institute aims to make India a focal point for contemporary developments in Art, Science, Technology and Engineering, with respect to the field of Packaging. The Institute began in a very humble way, with an office at Mumbai. It has now expanded, with its Head Quarter at Mumbai and Centers located at Delhi, Kolkata, Hyderabad and Chennai. Bangaluru and Vizaq are two new centres which are recently started by IIP.

The Institute has its main activities like Testing & Certification, Evaluation of packaging materials and packages; training and education; Research & Development, consultancy services for the benefit of packaging and allied industries and the packaging user industry.

The Institute has the expertise to conduct training programmes in the field of packaging and has conducted these types of programmes for Ministry of MSME, EPCH (Export Promotion Council for Handicrafts), Ministry of Textiles (Handicrafts and Handloom Division) and other ministries and various industries and different Government departments.

## VISION OF THE INSTITUTE

- To make Indian Institute of Packaging a World Class Centre of Excellence with Sustained Commitment from the Stake Holders.
- To develop Close International Relationship with Worldwide Packaging Fraternity.
- To make India a Focal Point for Contemporary Developments in Art, Science, Technology and Engineering in the Field of Packaging.



## **BACKGROUND OF THE PROGRAMME**

With the globalization of markets and trade, the role of PACKAGING has assumed a great significance for marketing and distribution of products. With increasing focus on the development of technological capabilities, training plays a major role in the development of knowledge infrastructure and data bases.

Packaging is the integral part of the production and physical distribution. All products need packaging to protect the product to reach to the customer in a safe and factory fresh condition. Role of packaging is to place the product in an aesthetic manner with the greater sales appeal which cannot be avoided for all types of products produced by big industries as well as small entrepreneurs. It is essential to impart training on packaging to all sectors of industries people and entrepreneurs to apply their skill and knowledge to upgrade the packaging of their products and do better business in India and abroad. This will enable them to improve their sales and their livelihood for the benefit of the respective sectors.

Packaging is a combination of arts, science and technology which helps to protect the product and reaches to the customer in a fresh condition. Packaging has a big role for the exports of all goods to different countries in the world. In this regard, a lot of innovations and design in packaging can boost up the sales in the domestic and export market. Such innovations and designs in the packaging needs to be understood by the products manufacturer and exporters. Indian Institute of Packaging provides such training on packaging for manufactures and exporters. Looking at the importance of the packaging, improvement in the packaging design and sustainable innovations of products, this training programme has been designed for the benefit of all the entrepreneurs. The focus of the programme is aimed at bringing to the fore concept of Packaging and Packaging Technology as well as provide valuable insight into the state-of-art practices, emerging technologies and trends in Packaging.

### **Key Focus Areas of the Programme**

The training course shall emphasize on the Packaging Technology and its recent advances which are as follows:

- **Basics of Packaging Principles and Concepts**
  - Functions, Attributes of Packaging
  - Physical, Physico Chemical and Biological Characteristics of the Products
  - Properties of Packaging Materials, Selection Criteria, and Package
  - Development Factors

- **Packaging Materials**

- Paper and Speciality Paper
- Folding Board for Cartons
- CFB Boxes, Types, Properties, Applications
- Metal Containers Selection Criteria
- Glass Containers
- Flexible Plastic Materials
- Ancillaries - Adhesives, Ink, Coatings

- **Packaging of Food Products**

- Product Package Compatibility
- Shelf Life
- Packaging of Fresh and Processed Fruits and Vegetables
- Packaging of Snack Foods
- Packaging of Spices
- Packaging of Edible Oil
- Any Other Food Products as per the Requirement of the Participants

- **Packaging of Pharmaceutical Products**

- Packaging of Tablets and Capsules
- Packaging of Liquid Orals
- Packaging of Ointments and Creams
- Packaging of Injectables

- **Packaging of Cosmetic Products**

- Packaging of Shampoos
- Packaging of Soaps
- Packaging of Talcum Powder
- Packaging of Creams etc.

- **Packaging Systems**

- Aseptic and Retort Packs for ready to eat Beverages and Foods
- Controlled Atmosphere Packaging / Modified Atmosphere Packaging for Fresh Fruits and Vegetables and Meat and Poultry Products
- Stretch Wrapping and Shrink Wrapping – Unitization and Transportation of Unit Packs
- Tamper Identification Devices – Caps and Closures, Holograms, Shrink Sleeves and Others.

- **Significance of Quality Control and Testing**

- (A) Physical, Chemical, Physico Chemical Testing of Packaging Materials :

- Paper
    - Paperboard
    - Glass Containers
    - Plastics – Flexibles & Rigid
    - Metal Containers
    - Composite Containers

- (B) Package Performance Testing

- Evaluation of Transport Worthiness of Packs - Physical & Environmental.

- **Printing Processes and Printing Inks**

- Different Types of Printing Methods Versus Substrates
- Printing Inks Available, Recent Developments In Printing Inks.

- **Package Marking and Bar Coding**

- Concepts of Marking and Bar-Coding and Its Significance

- **Packaging & Environment – Recycling**

- Reducing Solid Waste
- Aspects related to Recycling and Reuse of Packages

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3<sup>rd</sup> - 17<sup>th</sup> December, 2023

## DAY - 1 (03-01-2023)

Time	Topic
10:30 am - 11:30 am	Inauguration
11:30 am - 12:00 Noon	Tea / Coffee
12:00 Noon - 01:30 am	Introduction on Packaging Technology
01:30 pm - 02:30 pm	Lunch
2:30 pm - 4:00 pm	Principles of Packaging and Concepts
4:00 pm - 4:30 pm	Tea/Coffee
4:30 pm - 6:00 pm	Types of Packaging Materials and Designing of Packaging and Steps to be Followed

## DAY - 2 (04-01-2023)

10.00 am - 11:30 am	Paper - Raw Materials, Manufacturing Processes and Types of Paper in Packaging
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Testing and Quality Control of Paper for Packaging
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Folding Board Carton & its Designing
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	CFB Box – Raw Materials, Manufacturing Processes & Designing

## DAY - 3 (05-01-2023)

10.00 am - 11:30 am	Quality Control of CFB Box in Packaging
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Composite Containers / Fibre Drums in Packaging – Raw Materials and Manufacturing Processes
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Testing and Quality Control of Composite Containers
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	<b>Laboratory Visit</b> - Practical on Testing of CFB Box , Paper & Composite Containers

## DAY - 4 (06-01-2023)

10.00 am - 11:30 am	Metal Containers – Tinsplate Containers and Manufacturing Processes
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Testing and Quality Control of Metal Containers (Tinsplate)
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Glass Containers – Raw Materials, Manufacturing Process and Application
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	Testing and QC of Glass Containers

**DAY - 5 (07-01-2023)**

Local Factory Visit in Delhi

**DAY - 6 (08-01-2023)**

Sunday off

**DAY - 7 (09-01-2023)**

10.00 am - 11:30 am	Ancillary Packaging Materials and its Application in Packaging
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Cushioning Materials and Designing of Packaging by using Cushioning Materials
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Plastic Containers - Raw Materials, Manufacturing Processes and Application in Packaging
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	Different Printing Processes For Packaging

**DAY - 8 (10-01-2023)**

10.00 am - 11:30 am	Compatibility of Packaging Materials, Migration and Barrier Testing of Packaging Materials
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Various Films and Lamination Processes
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Application of Laminates and Multilayer Films in Packaging
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	Testing of Flexible Packaging Materials

**DAY - 9 (11-01-2023)**

10.00 am - 11:30 am	Packaging of Fresh Fruits and Processed Products
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Packaging of Snack Foods
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Packaging of Spices
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	Packaging of Edible Oils

**DAY - 10 (12-01-2023)**

10.00 am - 11:30 am	Packaging of Dairy Products
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Packaging of Pharma Products
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Label & Labeling for Process of Different Products
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	Barcoding and Different Sealing Technologies

**DAY - 11 (13-01-2023)**

10.00 am - 11:30 am	Packaging of Healthcare Products
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Packaging of Cosmetic Products
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Different Materials used in Packaging
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	Testing and Evaluation of Transport Packaging

**DAY - 12 (14-01-2023)**

**Local Tour in Delhi**

**DAY - 13 (15-01-2023)**

**Sunday Day off**

**DAY - 14 (16-01-2023)**

10.00 am - 11:30 am	Shelf Life Studies of Processed Food Products
11:30 am - 12:00 Noon	Tea/ Coffee
12:30 pm - 01:30 pm	Packaging of Dangerous Goods
01:30 pm - 02:30 pm	Lunch
02:30 pm - 04:00 pm	Visit to Transport Laboratory at IIP Delhi
04:00 pm - 04:30 pm	Tea/ Coffee
04:30 pm - 06.00 pm	Discussion & Valedictory Function





Klyde Grand Hotel



India Gate



Red Fort



Lotus Temple



Qutub Minar



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**REGIONAL CENTRE**

**DELHI** : Plot No.21, Functional Industrial Estate, Patparganj, Delhi - 110092

Tel. : 8826614743, 8826648346, E-mail : iipdelhi@iip-in.com

For more details please contact :

**Prof. (Dr.) Tanweer Alam : +91-9310601300**

**REGISTRATION FORM**

Name of Participant : .....

Designation : .....

Name of Organization : .....

Address : .....

Contact No. : ..... E-mail : .....

Payment Details : .....