

INTENSIVE TRAINING COURSE (ITC)

P Certificate Programme* in Packaging

* Endorsed by



* Accreditation by



THE ASIAN PACKAGING FEDERATION

1st September	- 30th November, 2017	Mumbai
1st September	- 30th November, 2017	Delhi
12th September	- 12th December, 2017	Kolkata
1st October	- 31st December, 2017	Hyderabad
1st December	- 28th February, 2018	Ahmedabad

PROSPECTUS, SYLLABUS & APPLICATION FORM



भारतीय पैकेजिंग संस्थान
Indian Institute of Packaging

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

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- Graphic Design
- Industrial Photography
- Data Base
- Information
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- Publications



IIP CENTRES :

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GUWAHATI:

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Ghopa Mouza, Amingaon, Near IIT Guwahati,
Kamrup District, North Guwahati.



PROSPECTUS

The Institute

The Indian Institute of Packaging is a National Institute set up in May 1966 by the Government of India, Ministry of Commerce & Industry, and the Indian Packaging and Allied Industry.

The Institute's endeavour is to improve the standard of packaging needed for the promotion of exports and help create infrastructural facilities for overall packaging improvement in India through Research and Development, Problem solving Consultancy, Testing & Evaluation, Training and Education, Industrial co-ordination, Information Dissemination and other promotional efforts.

Programme Objectives

Visibility of Packages in Supermarkets, for consumer products & durables is increased significantly in recent years. Improvements in technology & materials have made high impact on Packaging. With changing needs of supply chain management system, market expansion, environmental considerations and more discerning attitude of the consumer, Packaging Standards need to be radically improved. In this contest the present programme is designed to give insight into the sophisticated field of packaging, technology & management.

Who Can Participate?

12th / ITI / Diploma / Degree in any branch with a zest to make a career in packaging

Course

The course comprises over 120 classroom sessions on various aspects of packaging to be dealt by experts from respective fields. Besides theoretical exposure, practical demonstrations of testing and evaluation of packaging materials and packages have been included in the programme. Visits to various industrial establishments and production centers to provide an opportunity to the participants to get familiarised with the processes of conversion and manufacturing and the selection of packaging materials and packages, testing quality evaluation are an essential feature of this programme. Special visits to Ports, Handling & Transportation Centers, etc. have also been planned.

Certificate

A Certificate of attendance will be given to all the participants whose attendance is at least 75% of total programme duration. Candidates passing all the examinations will be awarded passing Certificate.



Performance Evaluation

Evaluation is through quiz, written tests, dissertation/literature survey and seminar presentation. In addition, there will be a group project. Minimum qualifying marks required in all the written tests, and viva-voce are 40 % in the individual subject and 50 % on an aggregate.

Facilities

The Institute is well equipped with state of art package testing laboratory and library with vast collection of books on packaging. The institute has a large campus spread over 10 acres, full of greenery and fresh air with recreational facilities and canteen providing catering at competitive prices.

Fee

● **For Indian Participants**

- | | |
|-----------------------------|--------------------------------|
| Non-Members | - Rs. 45,000/- per participant |
| I.I.P - Ordinary Members | - Rs. 39,000/- per participant |
| I.I.P - Patron/Life Members | - Rs. 38,000/- per participant |
- (+Service Tax/ GST as applicable on above Fee)

● **For Overseas Participants tuition fee US \$ 3200**

The Fee includes cost of tuition, essential Course Material & Expenditure towards Transportation for Industrial Study Tours during the programme.

The Participants have to make their own arrangements for daily attendance and other incidental expenditure.

Accommodation for Indian Participants

Accommodation for Participants inside the campus can be provided subject to availability, at an additional cost, on prior intimation.

Food and Accommodation for Overseas Participants

The indicative cost of food & accommodation for 3 months in IIP Campus facility will be US\$ 4500 approximately.

Application Forms

A set of the Prospectus and Syllabus along with the prescribed application form can be had from the Institute after paying a sum of Rs.100/- in cash or by demand draft, in favour of "**Indian Institute of Packaging**" Payable at Mumbai.



The application form can also be downloaded from website and the charges for the same i.e. Rs. 100/- are to be added with the course fee. For overseas Participants Prospectus, Syllabus & application form will be sent free of cost, on request.

Admission

Admission will be on the basis of first - come - first - served, subject to availability of seats.

Venue

The venue for this programme will be the Institute's premises in Mumbai, Delhi, Kolkata and Hyderabad.

Timings

The programme will normally be held between 10.30 a.m. to 04.00 p.m. It will be a 5-day programme from Monday through Friday. Occasionally Saturdays may also be used, if necessary.

Duration

The programme is of 3 month's duration.

Registration

By application form duly filled with attested copies of last examination passed & Work Experience if any and remittance of fees by Demand Draft / Cash to the Institute at the earliest to reserve a seat.

SYLLABUS

Section I : CONCEPTS

1. Packaging

- a) Historical background, definition of packaging as an integral part of production and marketing.
- b) Basic concepts - Physical and Physico-chemical such as colligative properties, gas laws, surface tension, dialysis, diffusion, energy measurements, etc.
- c) Package - components, separation, clearance, support, positioning, cushioning, weight distribution, suspension and closures.

2. Packaging Characteristics

- a) Physical characteristics of the product - physical state, weight, centre of gravity, symmetry, fragility, rigidity, surface finish, etc.



- b) Physico-chemical characteristics - susceptibility to water, water vapour, gases, odour, heat, light - mechanism of spoilage.
- c) Principles of Corrosion and its prevention.
- d) Compatibility - permissible plasticisers in plastics and coating media, their migration to food - can lining compounds and lacquers for containers for fruit and vegetables, fish, meat and other products.
- e) Package design - factors influencing design / product-package relationship.

3. Packaging Materials

Technology, manufacture, conversion, properties, applications, advantages, Limitations, trends in use and forecast for future:

- a) Paper and speciality papers.
- b) Paper Board - Folding cartons.
- c) Cellulosic film and flexible Laminates.
- d) Plastics - polyethylene, polypropylene, polystyrene, polyvinyl chloride, polyvinylidene chloride, nylon, polyester, films, laminates and other combinations.
- e) Expanded polystyrene, Expanded polyethylene, Expanded polyurethane, Bubble film.
- f) Aluminium foil.
- g) Lamination and coatings.
- h) Tinsplate, 2 CRPlate, Tin-free steel including closures.
- I) Galvanised drums, coated steel drums and closures.
- j) Aluminium rigid containers, collapsible tubes, closures.
- k) Glass containers including ampoules and vials.
- l) Composite containers, composite drums and paper tubes.
- m) Textiles - Jute textiles - Sacks.
- n) Multiwall paper sacks and Plastic Woven sacks.
- o) Wood and Wooden containers, Boxes, Crates, Wire bound packing cases, Plywood cases.
- p) Corrugated Boards and Boxes-Combinations with various materials.
- q) Solid Fibre Board.
- r) Traditional packaging materials and forms, like leaves, mats, baskets and clay pots.
- s) Bio-Degradable plastics in Packaging.



4. Ancillary Materials

- a) Adhesives :
 - 1. Theory and principles of adhesion and factors affecting bond strength.
 - 2 Different types of adhesives - vegetable, animal, inorganic and synthetic.
 - 3. Adhesive tapes - gum paper tapes, pressure sensitive tapes, their manufacture and applications.
- b) Cushioning :
 - 1. Physical concepts in cushioning, energy, impact load and concept of shock as a function of deceleration, impulse and time.
 - 2. Prevention of shock & damage to articles by various means and their measurement.
 - 3. Types of cushioning materials and properties - space fillers cork, paper shavings, wood-wool, saw dust, coir dust, paddy straw and dry grass.
Resilient materials - rubberised hair, rubberised coir, poly styrene and polyurethane foams, springs, metal shock mounts, etc. Non-resilient system - rigid foams, honeycomb, etc.
- c) Reinforcements - straps - steel, plastic, rayon-based & wires bailing hoops etc.
- d) Stitching methods - bags / paper and textiles, corrugated board boxes and stitching appliances.
- e) Seals and closures.
- f) Lining compounds and lacquers for tin containers.
- g) Labels and labelling including instant labels.

5. Test Procedures

- a) For packaging materials - physical, physico - chemical properties, resistance to light, insect and mould.
- (b) For packaged goods - Unit package : compatibility studies, shelflife studies - with reference to flexible, rigid packs, different types of seals, closures etc. Bulk packages - Evaluation of transportworthiness of filled packages - physical and climatic hazards.

6. Packaging of Food Products

- (a) Agriculture produce.
- (b) Processed and dehydrated food.
- (c) Milk and milk products.



- (d) Meat and poultry products.
- (e) Marine products - Shrimps.
- (f) Spices

7. Method of Storage

- (a) Cold storage, and deep freezing method of storage, their design and usage.
- (b) Irradiation, preservation of perishables and semi - perishables.

8. Packaging of other Specific Items

- (a) Pharmaceuticals.
- (b) Tea.
- (c) Cosmetics and perfumery.
- (d) Soaps, detergents and shampoos.
- (e) Chemicals and fertilizers.
- (f) Petroleum products.
- (g) Pesticides.
- (h) Light Engineering Goods and domestic appliances.
- (i) Heavy machinery and equipments.
- (j) Textiles and Garments.
- (k) Handicrafts.

9. Speciality Packages

- (a) Aerosols, easy opening devices, carry home packs.
- (b) Strip packaging, shrink packaging, blister packaging, skin packaging and stretch wrapping.
- (c) Systems packaging - Lined cartons. Form - fill - seal, Stand - up pouches, etc.
- (d) Controlled Atmosphere packaging (CAP) and Modified Atmosphere packaging (MAP).
- (e) Aseptic packaging.

10. Logistics and Physical Distribution

- (a) Physical distribution and material handling methods.
- (b) Handling and transportation.
- (c) Unit Load Systems :
 - (i) Palletisation : Skids and pallets - Principles, construction and application.
 - (ii) Conveyor : Loading and unloading and other mechanical handling application.

- (iii) Containerization : Intermodal containers.
- (d) Air (IATA regulations), Sea (IMDG) and Road transportation and packaging.
- (e) Bar-Code in Packaging
- (f) RFID in Packaging

11. Standard and Quality Control

- (a) Basic concepts.
- (b) Standard for packaging material - rigid, non - rigid and ancillary material.
- (c) Standards for export packages - labelling and marketing regulations.
- (d) Packaging quality control criteria.
- (e) Sampling, variables and attributes, AQL.
- (f) Implication of ISO-9000.
- (g) Eco Packaging and regulation.
- (h) Recycling and Disposal of Packaging Waste.

12. Packaging Process, Machinery & Equipments

- (a) Packaging processes and machinery - types, characteristics and specialities; selection and specification.
- (b) Equipments for canning, paper / board carton, flexible packaging, etc.

13. Packaging Embellishment and Printing

- (a) Graphic design - Preparation and reproduction of art work.
- (b) Printing Techniques - Letterpress. Flexography, Lithography, Gravure, Silkscreen.
- (c) Printing inks and Print evaluation.
- (d) Ink-Jet Printing in Bar Coding

14. Packaging & Marketing

- (a) Package Design, its impact on sales, role of packaging as silent-salesman - Communication and Sales appeal.
- (b) Packaging and Export Marketing.
- (c) Better Packaging as an instrument of marketing.
- (d) Consumer protection through better packaging.

15. Packaging Economics

- (a) Principles of packaging economics.



- (b) Planning of packaging and packaging material requirement.
- (c) Production planning and control in packaging process.
- (d) Inventory control techniques.
- (e) Packaging cost - controllable and uncontrollable costs; costing methods.
- (f) Cost reduction in packaging - Value Engineering approach.
- (g) Packaging and loss prevention.

16. Packaging Laws & Regulations

- (a) Food Safety & Standards Act, 2006
- (b) The Legal Metrology Act, 2009 (Packaged Commodities Rules, 2011)
- (c) UN certificate code for packaging of Dangerous goods.
- (d) Packaging laws and regulations - legal requirements.

17. Packaging Management

- (a) Role of packaging technologist in an organisation - his functions and effectiveness.
- (b) Judicious Management of Packaging material for its optimum utilisation.
- (c) Packaging industry - a forecast.
- (d) System approach to packaging.

Section II: PRACTICALS

1. On the spot studies in industrial units involved in manufacture, use, handling, transportation and storage of packaging materials.
2. Identification of packaging materials.
3. Tests for physical and physico - chemical properties of packaging material.
4. Shelf life studies for packaged goods.
5. Evaluation of transport - worthiness of filled packages.
6. Case studies.

Section III : PROJECT

Project - Package Development for a selected product - a team exercise.

Dissertation - Design & Development of package for certain product-Individual Exercise.

Presentation - A topic shall be assigned to each participant for making presentation to the group.

CAREER IN PACKAGING

TWO -YEAR FULL TIME POST GRADUATE DIPLOMA IN PACKAGING

Eligibility: Fresh Graduate in Science (12+3 years degree – entire 5 years in science only), with Physics, Chemistry, Mathematics, Microbiology (any one as main subject) or Agriculture/ Food Science or Engineering or Technology with minimum second class. Students awaiting result may also apply.

Admission: Through Entrance Examination at Mumbai, Chennai, Hyderabad, Kolkata and Delhi. Applications Forms available at all the Centres of IIP. Entrance Exam in June.

Hostel: Separate Hostel accommodation for Boys and Girls is available at Mumbai only

Prospects: Excellent, in Food, Pharma including MNC'S and other Companies in India and Overseas. Over 900 Alumni are working in Industries in India and Abroad.

Application form and Prospectus can be had from Mumbai or other Regional Centers by paying Rs. 500/- in cash or by Demand Draft in favor of "Indian Institute of Packaging", payable at respective Centres of IIP.

DIPLOMA IN PACKAGING (THROUGH CORRESPONDENCE)

Eligibility: Graduate in Science, Engineering, Technology, Commerce, Arts from UGC recognized university / Diploma from recognized technical board in Engineering / Technology are eligible for the course. Candidates should have minimum one year industrial experience in the operational areas like Production, Marketing, Quality Control, etc.,

Registration / Admission: Application form alongwith Prospectus and Syllabus can be obtained from any centres of Indian Institute of Packaging by paying Rs.100/- only by DD in favour of Indian Institute of Packaging.

Starting Date: 1st January

Certificate: Graduate Diploma in Packaging
Accredited by Asian Packaging Federation



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ACTIVITIES OF THE INSTITUTE

LABORATORY



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