

**FACULTY OF COMMERCE & MANAGEMENT**

**SRIDEV SUMAN UTTARAKHAND VISHWAVIDHYALAYA  
BADSHAHITHAUL, (TEHRI GARHWAL), UTTARAKHAND**



*Ordinance and syllabus for one year*

**P.G. Diploma in Packaging Science & Technology**

in accordance with

**National Education Policy-2020**

**2023**

## Board of Studies in Faculty of Commerce & Management

Sridev Suman Uttarakhand Vishwavidhyalaya, Badshahithaul, (Tehri-Garhwal)

(Pt. Lalit Mohan Sharma Campus, Rishikesh)




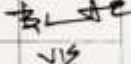

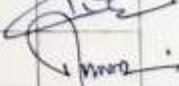
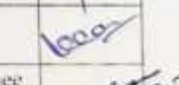

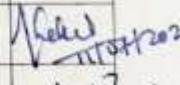
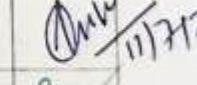



Proceedings of Second Annual Meeting of Board of Studies held on 11<sup>th</sup> July, 2023

In accordance with

**National Education Policy 2020**

Following the provisions specified in National Education Policy 2020 for the new academic curriculum (Syllabi), for the modifications and additions in the Syllabi as per section of 13 (7) and section of 35(1) University Statutes, the constitution of the Board of Studies in Commerce & Management, Sridev Suman Uttarakhand Vishwavidhyalaya, Badshahithaul, Tehri- Garhwal (Pt. Lalit Mohan Sharma Campus, Rishikesh) is hereby notified by Honorable Vice- Chancellor as follows vide notification 2865/SDSUV/Administration/2023 dated 6<sup>th</sup> July, 2023.

### List of Members of Board of Studies 2023-24

S.N.	Name	Designation	Nominated As	Signature
1.	Prof. Kanchan Lata Sinha	Head & Dean	Chairperson	
2.	Prof. Vijay Prakash	Professor (Subject Expert)	Member	
3.	Prof. V.N. Gupta	Professor	Member	
4.	Prof. Bharat Singh	Professor	Member	
5.	Prof. V.K. Gupta	Professor	Member	
6.	Prof. C.S. Negi	Professor	Member	
7.	Prof. Dharmendra Tiwari	Professor	Member	
8.	Prof. K.K. Verma	Professor S.R.T. Campus, Badshahithaul	Member	
9.	Prof. H.C. Purohit	Head & Dean Faculty of Commerce & Management Doon University, Dehradun	V.C. Nominee	 11/07/2023
10.	Prof. V. N. Sharma	Principal Govt P.G. College, Laksar	Principal	 11/07/2023
11.	Prof. A.K. Tiwari	Principal Govt. P.G. College, Purola	Principal	 11/7/23
12.	Prof. Rajesh Kumar Ubhan	Principal Govt. College, Narendra Nagar	Principal	
13.	Mrs. Rashmi Haldar	Deputy Director Directorate of Economics & Statistics (DES), Uttarakhand	V.C. Nominee	 11/07/23

## **Post Graduate Diploma in Packaging Science & Technology (PGD-PSPT)**

### **1. GENERAL OBJECTIVES OF THE COURSE: TO ENABLE THE STUDENTS:**

- a. To become competent and committed professional willing to perform and excel in packaging and printing technology
- b. To use competencies and skills needed for becoming a successful packaging and printing technology professional.
- c. The objective of this course is to provide students with supervised professional experience within a business setting under the direction of supervisor.

### **2. Name of the Course**

**Post Graduate Diploma in Packaging Science & Technology (PGD-PSPT)**

### **3. DURATION OF THE COURSE**

**The duration of the course shall be 12 months. The commencement and conclusion of the course shall be fixed by the university as per the starting of new academic session.**

### **4. ELIGIBILITY**

Any candidate who has passed any graduation program or any other equivalent examination with 50% will be eligible for the admission to the PGD-PST

INTAKE-60 STUDENTS

SELECTION PROCEDURE- Merit / Interview

### **5. MEDIUM OF INSTRUCTION AND EXAMINATION**

Medium of instruction for PGD-PSPT will be in English and question paper shall be set in English.

## SCHEME OF EXAMINATION /PATTERN OF EXAMINATION

**Examination Fees: Ass per University norms**

**Eligibility for appearing at Post graduate diploma in packaging science & technology (PGD-PSPT)**

### **Examination:**

Student teacher should keep the terms with at least 75% attendance. He should complete all the practical and other work allotted in all parts of the syllabus.

### **Centre of examination:**

The theory and practical examination will be conducted in the college campus.

### **Theory:**

The theory examination will be held at the term. This examination will be of three hours duration and carry 100 marks. Objective and descriptive types of question.

### **Practical:**

The practical examination will be held before the theory examination.

### **Evaluation:**

1) theory	marks	Minimum Std of passing
	100(each paper)	50(each paper)
	500	250
2)Practical		
Project/dissertation	150	75
Viva Voice	50	25
Total	200	100
GRAND TOTAL	700	350

Standard of passing:

1. A student must obtain minimum 50% of marks in theory paper.
2. A student must obtain 50% of marks in practical examination separately in internal assessment.

A student must obtain 20% aggregate marks together in theory & practical assessment to pass the project

**Award of class:****Theory:**

Class will be awarded to the students at the end of the course on the basis of aggregate marks obtained by him/her in theory part as shown in the table given below.

Sr.No.	Class	Theory
1)	First class with distinction	70% & above
2)	First class	60% & above but less than 70%
3)	Higher second class	55% & above but less than 60%
4)	Second class	50% & above but less than 55%

**Practical:**

There shall be a grade on the report card for the practical assessment conducted. The grades will be given as below

Mark obtained (%)	Grade
90 & above	O
70-89	AB
60-69	C
50-59	FAIL
Less than 50	

**Backlog of course**

Students will have to acquire at least 50% marks. if he / she fails to do so, re – examination for theory/ project work will be arranged for them during the next course. Student shall appear only in the failed subject.

**Marks Weightage:**

Theory Paper: Post – Graduate diploma In Packaging Science & Technology (PGD-PSPT)

Sr.No.	PAPER	SUBJECT	Internal	External	Marks
1	PGD-PSPT 101	INTRODUCTION TO PACKAGING & PACKAGING MATERIAL	20	80	100
2	PGD-PSPT 102	QUALITY ASSURANCE, STANDARDISATION & PACKAGING LAWS	20	80	100

3	PGD-PSPT 103	PACKAGE PRINTING & GRAPHICS	20	80	100
4	PGD-PSPT 104	PACKAGING & MARKETING	20	80	100
5	PGD-PSPT 105	PACKAGING MACHINERY & TECHNOLOGY	20	80	100
		TOTAL	100	400	500

### Practical

Sr.No.	Project/Dissertation work	Marks
1	On Packaging & printing protocols	150
2	Viva voice	50
	Total	200

### Lectures and Workload

#### Lectures:

Theory & Practical: 45 mins, four lectures a day- Monday to Friday

#### Theory

#### Participants will have the opportunity to:

- Get introduced to various types of packaging and printing training protocols and undergo many types of functional activities.
- Know more about fundamental and regulatory requirements of packaging and printing industry.
- Get Knowledge of various marketing concept related to product packaging.
- Develop and use interpersonal communication and apply this to leadership situations.

### SYLLABUS

#### Paper I

#### PGD- PSPT 101

(Introduction to Packaging & Packaging material)

#### Concepts in Packaging

Introduction, Role of Packaging, Status Review of Packaging Industry etc.

Packaging Development (Factors & Criteria)

Product & Packaging, Material Characteristics, Packaging Evaluation.

Packaging Media ( Science, Technology, Manufacture, Conversion, Properties & Applications)

Paper & Board, Fiber Board Boxes, Composite containers, Drums, Cellulosic, Glass, Metal Containers and Components, Polymers and Plastics, Flexible Packaging Materials, Wooden Containers, Create, IBCs, Flexible & Rigid, Textiles and Jute.

### **Ancillary Packaging Materials**

Principles and theory of Adhesion, Adhesive- Materials, Types/ Varieties and properties and applications, Cushioning theory, Materials, Types/ Varieties and Properties and Applications, Cushion systems and Design, Corrosion Preventives, Reinforcements, Printing Inks, Coatings and Lacquers, Colorants for Plastics, Labels, Caps, Closures, Wads, Master Batches, etc.

Paper II

### **PGD- PSPT 102**

#### **Quality Assessment & Performance Evaluation**

Testing, Significance of Testing, Quality Control and Quality Assurance, SQC Techniques, Shelf life Evaluation, Product Package Compatibility, Migration, Transport- worthiness Testing, Testing of Ancillary Materials, Machine Material Interaction, IMDG,UN/IATA Testing etc.

Standardization, Variety Reduction & Cost Optimization

Standards – Objectives & Benefits, standardization, Variety Reduction, Packaging, cost & Economics, Value Analysis, ISO 9001:2000,iso 14000-2000, etc.

#### **Packaging Laws & Regulations**

Legal Metrology, Weights and Measures Laws and Rules, Jut control order, Loss Prevention, PFA, FDA, Pollution Control, HACCP, Safety & HSE, etc.

Paper III

### **PGD-PSPT 103**

(Package Printing & Graphics)

#### **Package Printing**

Pre Press, Printing Processes, Letterpress, Offset,

Lithography, Flexography, GRAVURE, Screen, pad, Foil Stamping, Digital printing (Inkjet, Thermal), Computer- to Plate. Colour Management, Colour Measurement etc.

#### **Package Graphics**

Package Design, Role of Graphics, Package Aesthetics, Decoration aspects, Layout and Feature selection etc.

## **Product Packaging**

Agricultural Products, Processed Foods, Marine Products, Pharmaceuticals, Cosmetics, Toiletries, Soaps & Detergents, Chemicals, Pesticides, Textiles, Handicrafts, Technology & Systems, CAP / MAP. Vacuum Packaging, Gas packaging, IQF, Cool and Storage, Freeze Drying.

## **Engineering & Workshop Technology**

Engineering Drawing, Wood Working. Metal Working, Mechanics etc.

Specialized Institutional training.

Specialized Training of Printing Technology.

Specialized Training in Packaging Pre –Production Technology, Pre- Press, Colour Management, Colour Measurement and Structural Design through Esko- Graphics.

Industrial and Institutional Visits

Visits to Industries, Institutions and Exhibitions for a first – hand knowledge.

Industrial Training

3-4 months Industrial Training.

## **Group Projects**

**Project- I: Innovation & Creative Packaging**

**Project- II: Packaging Design / Development and Related Subjects.**

## **Paper IV**

### **PGD- PSPT 104**

(Packaging & Marketing)

Packaging Distribution & Marketing

Distribution, Branding, Retailing, Break Bulks, and Unit Load Devices, Palletisation, Containerization Packaging- a tool of distribution, etc.

Package Coding & Marketing

Marketing & Coding, Bar Coding, Ship Marketing, IMDG/ IATA Coding etc.

Package Storage and Handling

Storage Types, Damage Control, Warehousing and Handling Equipments & Techniques etc.

Packaging & Environment

Eco Issues, wastage Control, Wastage Disposal, Eco Friendly Packaging etc.

Management Concepts in Packaging.



Packaging in Organization Structure, Packaging

Relevance to supply chain management, Marketing, Export Marketing, E – Commerce, Industrial Policy and packaging etc.

### **Paper V**

#### **PGD- PSPT 105**

(Packaging Machinery & Technology)

#### **Packaging Machinery**

Principles and theory of packaging Machines, Types of filling machines, VFFS, HFFS, Thermo form – fill- seal, Bottling Machines, Induction Sealing, Ink Jet Printing, Coding, Capping, Marking, Labeling, On line- end of line systems, shrink and stretch wrapping, cartooning and case packing etc.

#### **CAD in Packaging**

CAD for Packaging, Structural Design, Role of Structure, Die making, Drawing, Moulds. Prototypes, Samples, etc.