PROPOSED CURRICULAR STRUCTURE FOR PART – III(3rd YEAR) OF THE FULL-TIME DIPLOMA COURSES IN ENGINEERING & TECHNOLOGY

WEST BENGAL STATE COUNCIL OF TECHNICAL EDUCATION											
TEACHING AND EXAMINATION SCHEME FOR DIPLOMA IN ENGINEERING COURSES											
COURSE NAME: FULL TIME DIPLOMA IN PACKAGING TECHNOLOGY											
DURATION OF COURSE: 6 SEMESTERS											
SEMESTER: 6th											
BRANCH: PACKAGING TECHNOLOGY											
SR. NO.	SUBJECT	CREDITS	PERIODS			EVALUATION SCHEME					
			L	TU	PR	INTERNAL SCHEME			ESE	PR	Total Marks
						TA	CT	Total			
1	Industrial Management	3	3	-	-	10	20	30	70	-	100
2	Package Testing & Evaluation	3	3	-	-	20	10	30	70	-	100
3	Package Design	4	3	-		10	20	30	70	-	100
4	Elective (any one) i)Security Printing ii)Application of computer in packaging iii)Coding System for packaging	5	3		3	10	20	30	70	100	200
5	Packaging Technology lab 7	2	-	-	4	-	-	-	-	100	100
6	Packaging Technology lab 8	1	-	-	2	-	-	-	-	50	50
7	Industrial Project	3	-	-	6	-	-	-	-	100	100
8	Professional Practice-IV	2	1	-	2	-	-	-	-	50	50
9	General Viva Voce	3								100	100
Total:		25	13		17	40	80	120	280	500	900

STUDENT CONTACT HOURS PER WEEK:33 hrs
Theory and Practical Period of 60 Minutes each.
L- Lecture, TU- Tutorials, PR- Practical, TA- Teachers Assessment, CT- Class Test, ESE- End Semester

Exam.

Industrial Management -------- Same as Mechanical

Name of the course : **Package Testing & Evaluation**	
Course code: PT/PTE/S6	Semester: 6th
Duration: 17 Weeks	Maximum Marks: 100
Teaching Scheme:	**Examination Scheme:**
Theory: 3hrs/week Tutorial: Nil	Internal Examination:20 Assignment & Attandence:10 End semester exam : 70
Credit: 3	

Objective:

- Understand the basic concepts of quality control & standards in packaging.
- To know the information regarding test procedure.
- To know the testing & evaluation of package performance.

Contents:

	Group - A		
		Hrs./unit	Marks
Unit – 1 Evaluation & Testing fundamentals	Determination of Thickness & grammage , M/c direction, cross direction, top side wire side determination of paper samples. Determination & method for calculation of tensile strength, tear strength, bursting strength, burst factor, stiffness, rigidity, folding endurance.	5	12
Unit – 2 Transit Package Testing	Drop Test, Incline impact test, stack test, vibration test. Compression test Methods, Salt spray corrosion test details.	5	12
Unit – 3 Migration test	Conditioning of test specimen. Determination of Moisture content of test specimen, COBB Value, WVTR, Water vapour permeability, water proofness, water penetrations, Gas transmission rate.	8	12

Unit 4 Sheif life	Shelf life , Group 1, Group2, Group3 product , Determination of shelf life	5	5
Unit – 5 Testing of plastic packages	Compatibility, hot tack method, Layer gauge method- principle only , details not required Testing of plastic films-- Gloss, Haze, See through (clarity), Machine-ability, slip, curl, rigidity definition only – Details not required Mechanical test of plastic. Tensile strength, elongation, tear strength, impact strength, burst strength determination	8	12
Unit – 6 Corrugated board testing	Bursting strength, Edge crust test, Flat crust test, box compression strength.	7	9
Unit 7 Quality Control	Standard, standardization, specification, measurement, inspection, standard space diagram, aspects of standards, levels of standards, function of standards. Advantage of standardization, standard test schedule Quality, quality control, SQC. Attributes & variables. Criteria of packaging quality control. Acceptance sampling, How it is done. AQL	7	8
	Total	45(Lecturer +Tutorial)	70
Internal assessment Examination and preparation for semester examination		2 weeks (6 Lecture hour)	
Total		51Lecture hour(17 Weeks)	

Text and Reference Books:			
S.N	Name of the Author	Title of the Book	Name of the Publishers
1.	S. Natarajan M. Govindarajan B.Kumar	Fundamental of Packaging Technology	PHI Learning Private Limited.
2.		Hand book of Packaging Technology	Engineers India Research Institute
3.	U.K Jain D.C Goupale S.Nayak	Pharmaceutical Packaging Technology	Pharma Med Press
4	Josep F.Harlon, Robert JKelsey	Hand book of Package Engineering	CRC PRESS
5	F.A Paine	Fundamentals of packaging	Brook side Press ltd lLondon

Examination Scheme Theoretical:

Name of the course: **Package Testing & Evaluation** Course code: **PT/PTE/S6**
Internal Examination: 20 Assignment & Attendance: 5+5=5
End semester exam: 70

Subjective Question			Total Marks
To be set	To be answered	Marks per Questions	
20	Any five tacking at least one from each group	10	50

Objective Question			Total Marks
To be set	To be answered	Marks per Questions	
25 (twenty five)	Any twenty (20)	1	20

Name of the course : **Package Design**	
Course code: **PT/PD/S6**	Semester: 6th
Duration: 17 Weeks	Maximum Marks: 100
Teaching Scheme:	Examination Scheme:
Theory: 3hrs/week Tutorial: Nil	Internal Examination:20 Assignment & Attandence:10 End semester exam : 70
Credit: 4	

Objective:

The course will enable the student to

- Understand the basic concepts of design for packaging.
- Know the factors influencing the package design.
- Design packaging products.
- Understand the function of advertising agency.
- Use relevant tools . AutoCAD for package design.

Contents:

	Group – A		
		Hrs./unit	Marks
Unit – 1 **Introduction to Package Design**	Basic idea of packaging design. Factors influencing package design. Need for changes in package design. Product-package relationship, Role of advertising agency in package design.	6	9
Unit – 2 Graphic design	Packaging graphic design objective, Packaging colors, Roles of color in sales, choice of color in packaging design.(Elementary idea only)	6	8
Unit 3 Introduction of corrugated box design	Design of corrugated boards, types. Factors influencing rigidity of corrugated boards. Types of flute, flute selection, box design. .(Elementary idea only)	6	9
Unit – 4 Shelf life Analysis	Shelf life & factors influencing shelf life. Analysis of shelf life.	3	9
Unit – 5 Cushion design	Cushion designing/ Need/ cushion method/ Method of isolation/ Factor of consideration of cushion	6	9

	design/ Steps in cushion design. .(Elementary idea only)		
Unit-6 Mould & Die Design	Designs of moulds & Tools. Injection Moulds, Blow Mould, Extrusion Die, (Elementary idea only)	6	10
Unit -7 Misc. Design consideration	Strip package design consideration Dairy products Design considerations , Requirement of Glass design – design considerations of closures/,Design shrink film wraping Requirement of metal packaging design, design consideration of folding cartoon	6	8
Unit 8 Autocad in Package design	Introduction Computer Design through AutoCAD. Advantage of CAD, DRAW OPTION, MODIFY OPTION, VIEW, DIMENSION. 2-D DRAWING – (LINE, POLYGON, CIRCLE, RECTANGLES & HATCH, with DIMENSIONS ETC.)FINDING AREA, CIRCUMFERENCE	6	8
	Total	45(Lecturer +Tutorial)	70
Internal assessment Examination and preparation for semester examination		2 weeks (6 Lecture hour)	
Total		51 Lecture hour(17 Weeks)	

Text and Reference Books:			
S.N	Name of the Author	Title of the Book	Name of the Publishers
1.	S. Natarajan M. Govindarajan B.Kumar	Fundamental of Packaging Technology	PHI Learning Private Limited.
2.		Hand book of Packaging Technology	Engineers India Research Institute
3.	U.K Jain D.C Goupale S.Nayak	Pharmaceutical Packaging Technology	Pharma Med Press
4	Josep F.Harlon, Robert JKelsey	Hand book of Package Engineering	CRC PRESS
5	Paine F. A	Package design & Performance	Pira 1990

Examination Scheme Theoretical:

Name of the course: Package design Course code: PT/PD/S6
Internal Examination: 20 Assignment & Attendance: 5+5=10
End semester exam: 70

Subjective Question			Total Marks
To be set	To be answered	Marks per Questions	
20	Any five tacking at least one from each group	10	50

Objective Question			Total Marks
To be set	To be answered	Marks per Questions	
25 (twenty five)	Any twenty (20)	1	20

Name of the course : ELECTIVE I (Security Printing)	
Course code: **PT/E –I/S6**	Semester: 6th
Duration: 17 Weeks	Maximum Marks: 100
Teaching Scheme:	Examination Scheme:
Theory: 3hrs/week Tutorial:	Internal Examination:20 Assignment & Attandence:10 End semester exam : 70
Credit: 3	
Objective: After the completion of this course the students will be able to	

---Know the raw materials of security printing. ---Develop the concept of different method of security printing for packaging. ---Understand the concept of hologram origination.			
CONTENTS:			
		Hrs/unit	Marks
Unit1 Introduction to security printing	Security Printing – Different method of security printing, offset, flexography, gravure, screen printing, digital printing.	11	
Unit2 Example of security printing	2.1. some common example of security printing. 2.2. Bank note printing, cheque printing. 2.3. Ticket printing, share form printing.	11	
Unit3 Raw materials	Description of security printing paper. Security printing ink.	7	
	GroupD		
Unit4 Hologram origination & Barcode	---2-D, 3-D origination, dot matrix origination, E-beam origination. --. Multi-level holographic security feature like overt, covert, forensic features. --- Range of holographic security solution. ----Hologram labels with variable information. ----Holographic packaging film, holographic hot stamping foil. ---- Barcode – 1D / 2D, Uses, Symbologies & benefits.	16	
	Total	45(Lecturer +Tutorial)	70
Internal assessment Examination and preparation for semester examination		2 weeks (6Lecture	

	hour)	
Total	51 Lecture hour(17 Weeks)	

Text and Reference Books:			
S.N	Name of the Author	Title of the Book	Name of the Publishers
1.	Helmut Kiphan	Handbook of Printing Media	Springer
2.	Victor Strauss	The Printing Industries	North Wood Books
3.	Robert Leach & Ray Pierce	The Printing Ink Manual	Kluwer Academic Publisher
4.	J Michael Adams	Printing Technology Latest Edition	GATF

Examination Scheme Theoretical:

Name of the course: ELECTIVE I (security Printing) Course code: **PT/E –I/S6**
Internal Examination: 20 Assignment & Attendance: 5+5 =10
End semester exam: 70

Subjective Question			Total Marks
To be set	To be answered	Marks per Questions	
20	Any five tacking at least one from each group	10	50

Objective Question			Total Marks
To be set	To be answered	Marks per Questions	

25 (twenty five)	Any twenty (20)	1	20

Name of the course : **ELECTIVE II(Application of Computer in Packaging)**			
Course code: **PT/E II/S6**		Semester: 6th	
Duration: 17 Weeks		Maximum Marks: 100	
Teaching Scheme:		Examination Scheme:	
Theory: 4hrs/week Tutorial:		Internal Examination:20 Assignment & Attandence:10 End semester exam : 70	
Credit: 3			
Objective: After the completion of this course the students will be able to --Know the application of computer in packaging. ---Understand the factor influencing Computer aided package design. ---Know the basic commands of creating 2-D & 3-D objects. ---Develop package design using CAD.			
CONTENTS:			
		Hrs/unit	Marks
.			
Unit1 Role of computer in package design	Different aspects of package design. Indian standard codes for packaging materials.	13	20
Unit2 Setting of Design process.	. Setting of drawing requirements ---Commands & systems variables	19	30

	---- Co-ordinating system. --- Creating objects --- Editing methods ---- Layers & object properties ---- Creating 2-D & 3-D objects		
	Use of AUTO CAD or any other relevant software tools for packaging design	13	20
	Total	45(Lecturer +Tutorial)	70
Internal assessment Examination and preparation for semester examination		2 weeks (6Lecture hour)	
Total		51 Lecture hour(17 Weeks)	

Text and Reference Books:

S.N	Name of the Author	Title of the Book	Name of the Publishers
1.	F.A Paine	Package Design & Performance	Pira (1990)
2.	Walter Stern Wley	Hand book of package Design Research	

Examination Scheme Theoretical:

Name of the course: ELECTIVE II (Application of Computer in Packaging) Course code: PT/E-II/S6
Internal Examination: 20 Assignment & Attendance: 5+5 =10
End semester exam: 70

Subjective Question			Total Marks
To be set	To be answered	Marks per Questions	

10 (ten)	Any five tacking at least one from each group	10	50

Objective Question			Total Marks
To be set	To be answered	Marks per Questions	
25 (twenty five)	Any twenty (20)	1	20

Name of the course **: ELECTIVE III(Coding system for packaging)**			
Course code: **PT/E III/S6**		Semester: 6th	
Duration: 17 Weeks		Maximum Marks: 100	
Teaching Scheme:		Examination Scheme:	
Theory: 3hrs/week Tutorial:		Internal Examination:20 Assignment & Attandence:10 End semester exam : 70	
Credit: 3			
Objective: After the completion of this course the students will be able to ----Develop the concepts of different types of Coding system for packaging. ---Know the BAR code reader technology. ----Know the printing encrypted data base. ----Develop the knowledge of security features & seals for packages.			
CONTENTS:			
		Hrs/unit	Marks

Unit1 Coding system.	---Generation of Bar code. ---Security numbering process. ---.Tag identification through radio frequency identification & detection. ----. Bar code reader technology.	12	20
Unit 2 Encrypted data base	---Encrypted data base used in telecom & retail industries. Scratch card printing. Printing of credit card.	18	30
Unit5 Foil stamping	Foil stamping used for sensitive documents & consumer products.	5	5
Unit6 Security coding	--- Multimax (Culmination of multiple technology.). ---- Security seals used against tampering & duplicity. ----Multi-level security features like invisible ultra-violet marking. ------ Security base & adhesive. ---- Bar code. --- Personalize signature used for electrical meter protection & pharmaceutical industry.	10	15
	Total	45(Lecturer +Tutorial)	70
Internal assessment Examination and preparation for semester examination		2 weeks (6Lecture hour)	
Total		51 Lecture hour(17 Weeks)	

Examination Scheme Theoretical:

Name of the course: ELECTIVE III (**Coding system for packaging**) Course code: PT/E-III/S6
Internal Examination: 20 Assignment & Attendance: 5+5 =10
End semester exam: 70

Subjective Question			Total Marks
To be set	To be answered	Marks per Questions	
10 (ten)	Any five tacking at least one from each group	10	50

Objective Question			Total Marks
To be set	To be answered	Marks per Questions	
25 (twenty five)	Any twenty (20)	1	20

Name of the course : **Packaging Technology LAB 7**	
Course code: **PT/L PT7/S6**	Semester: 6TH
Duration: 17 Weeks	Maximum Marks: 100
Teaching Scheme:	**Examination Scheme:**
Practical: 4hrs/week	Continuous Internal Assessment : 50 (Performance of job :30 + Notebook :20) External Assessment : 50
Credit: 2	

Objective
: On satisfactory completion of the course, the student should be in a position to develop the skills corresponding to the knowledge acquired in the theoretical subject testing & Evaluation

Suggested List of Laboratory Assignment: (any five)	
1	To study tensile strength of different packaging materials and their comparative study
2	To study tear strength of different packaging materials and their comparative study
3	To study coefficient friction of different packaging materials and their comparative study
4.	To study compression strength & deformation of different boxes and their comparative study

5.	To study dart impact strength of different packaging materials and their comparative study
6	To study bursting strength of different packaging materials and their comparative study
7	To study stiffness of different packaging materials and their comparative study

Sessional:

Name of the course : **Packaging Technology Lab 8**	
Course code: **PT/L PT 8/S6**	Semester: 6th
Duration: 17 Weeks	Maximum Marks: 50
Teaching Scheme:	**Examination Scheme:**
Practical: 2hrs/week	Continuous Internal Assessment : 25 (Performance of job :15 + Notebook :10) External Assessment : 25
Credit: 1	

Objective:
On satisfactory completion of the course, the student should be in a position to develop the skills corresponding to the knowledge acquired in the theoretical subject package design.

Suggested List of Laboratory Assignment : (Any four)	
1	CONSTRUCTION OF DIFFERENT 2D SHAPE. CIRCLE, POLYGON, RECTANGLE WITH DIMENSIONS. DRAWING 2D SHAPES OF FILLET ← CHAMFBRS, DRAWING 2D FIGURES USING MIRROR, COMMAND, OFFSET,
2	CONSTRUCTION OF 3D FIGURES OF DIFFERENT SHAPE BOXES USED IN PACKAGING
3	CONSTRUCTION OF 3D VIEWS OF DIFFERENT SHAPES THERMOCOL BOXES USED IN PACKAGING
4	FINDING AREA, CIRCUMFERENCE & VOLUME OF DIFFERENT 2D & 3D SHAPES
5	Development & Design of a corrugated box
6	Development & Design of a folded cartoon

List of equipment / apparatus for laboratory experiments :	
1	Auto cad soft ware
2	PC

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Name of the course : **LAB ON ELECTIVE I (**Security Printing)	
Course code: **PT/L EI/S6**	Semester: 6TH
Duration: 17 Weeks	Maximum Marks: 100
Teaching Scheme:	**Examination Scheme:**
Practical: 3hrs/week	Continuous Internal Assessment : 50 (Performance of job :30 + Notebook :20) External Assessment : 50

Objective
: On satisfactory completion of the course, the student should be in a position to develop the skills corresponding to the knowledge acquired in the theoretical subject security printing

Suggested List of Laboratory Assignment:	
1	Visit to a industry/institution for study of conventional printing machine
2	Visit to a industry/institution for study of Offset Printing Machine a) Flexographic Printing Machine b) Gravure Printing machine
3	Visit to a industry/institution for Study and operation of Digital printing machine
4.	Identification of security features for different documents like a) Bank Note b) cheque c) Different tickets d) Share forms e) Credit cards (Visit to a industry/institution)
5.	Study of Generation of different types of Holograms (Visit to a industry/institution)
6	Identifications of Multilevel Holographic Security Features (Visit to a industry/institution)
7	Study of Different uses of hologram & BAR CODES in Packaging (Visit to a industry/institution)

Name of the course : **LAB ON ELECTIVE II (**Application of computer in Packaging)	
Course code: **PT/L EII/S6**	Semester: 6TH
Duration: 17 Weeks	Maximum Marks: 100
Teaching Scheme:	**Examination Scheme:**
Practical: 3hrs/week	Continuous Internal Assessment : 50 (Performance of job :30 + Notebook :20) External Assessment : 50

Objective
: On satisfactory completion of the course, the student should be in a position to develop the skills corresponding to the knowledge acquired in the theoretical subject Application of computer in Packaging

Suggested List of Laboratory Assignment:	
1	Different package design using Auto Cad

Name of the course : **LAB ON ELECTIVE III (Coding system for Packaging)**	
Course code: **PT/L EI/S6**	Semester: 6TH
Duration: 17 Weeks	Maximum Marks: 100
Teaching Scheme:	**Examination Scheme:**
Practical: 3hrs/week	Continuous Internal Assessment : 50 (Performance of job :30 + Notebook :20) External Assessment : 50

Objective
: On satisfactory completion of the course, the student should be in a position to develop the skills corresponding to the knowledge acquired in the theoretical subject **Coding system for Packaging**

Suggested List of Laboratory Assignment: (any four)	
1	Study and operation of Bar code Generating Machine
2	Study and Operation of Numbering Machine
3	Study and Operation of Bar code Reader
4.	Creation of hot stamping foil
5.	Generation of alpha numeric sequential numbering on packaging by a) Lesser Marking b) Ink – let marking c) Ultra – Violet (UV) marking
6	Generation of Multimax security seals for a) Electric meters b) Pharmaceuticals Products

Name of the course: Professional Practice-IV	
Course Code: PT/PP-IV/S6	Semester: six
Duration: 17 weeks (Teaching-15 weeks + Internal Exam-2 weeks)	Maximum Marks: 50
Teaching Scheme:	**Examination Scheme :**
Theory: 1 contact hours/ week	Internal Teachers' Assessment: 50 Marks
Tutorial:	
Practical: 2 contact hours/ week	End Semester Examination: Nil
Credit: 2	
Rationale:	

In addition to the exposure both in theoretical and practical from an academic institution, it is desired that student should be familiar with the present day industry working environment and understand the emerging technologies used in these organization. Due to globalization and competition in the industrial and service sectors, acquiring overall knowledge will give student a better opportunity for placement facility and best fit in their new working environment.

In the process of selection, normal practice adopted is to see general confidence, positive attitude and ability to communicate, in addition to basic technological concepts.

The purpose of introducing professional practices is to provide opportunity to students to undergo activities which will enable them to develop confidence. Industrial visits, expert lectures, seminars on technical topics and group discussion are planned in a semester so that there will be increased participation of students in learning process.

Objectives:

The student will be able to- Student will be able to: 1. Acquire information from different sources. 2. Enhance creative skills 3. Prepare notes for given topic. 4. Present given topic in a seminar. 5. Interact with peers to share thoughts. 6. Acquire knowledge on Open Source Software and its utility 7. Understand application of technologies in industry scenario. 8. Prepare a report on industrial visit, expert lecture.

Content (Name of topic)		Periods	Marks
Group-A			
Unit 1	**Field Visits**	12	
	Structured field visits (minimum one) be arranged and report of the same should be submitted by the individual student, to form a part of the term work. The field visits may be arranged in the following areas / industries: i) Package printing unit ii) Pharmaceutical packaging unit iii) CENTRAL AIR CONDITIONING UNIT **iv)** Cold storage **v)** Bottle filling, sealing & caping unit. **vi)** Paper manufacturing unit. **vii)** **QUALITY CONTROL LAB OF ANY PACKAGING UNIT**		
Unit 2	**Aptitude and Reasoning PracticeGeneral Aptitude** **1.** Data Interpretation **2. Logical Reasoning**	10	
Unit 3	**Presentation of Seminar by each students on one of the following topic** 1. Plastic packaging & Environment 2. Quality control in packaging 3. Bar coding in packaging 4. Flexographic Printing Machine	10	

	5. Gravure Printing machine 6. Holograms in Packaging		
Unit 4	**Group Discussion** The student should discuss in a group of five students. Two topics (at least) for group discussions may be selected by the faculty members. Some of the suggested topics are- **1. Bio fuel vs Diesel** **2. Global Warming** **3. Education for all** **4. Food security for all**	10	
Unit 5	**2.** ✓ Introduction and Installation Of LaTeX and Compilation ✓ Letter Writing, Report Writing in LaTeX ✓ Maths, Equations, Tables and Figures in LaTeX documentation ✓ References and Beamer LaTeX documentation **Recommended Text Books:** **LaTeX: A Document Preparation System by Leslie Lamport** **The LaTeX Companion by Mittelbach and Goossens** **More information about LaTeX can be found on moudgalya**	10	
	TOTAL	50	

Reference book for OSCAD

Sl No.	Titles of Book	Name of Author	Name of Publisher
1.	OSCAD	Yogesh Save, Rakhi R, Shambhulingayyan N.D., Rupak M Rokade, Ambikeswar Srivastava, Manas Ranjan Das, Lavita Pereira, Sachin Patil, Srikant Patnaik, Kannan M. Moudgalya	Shroff Publisher & Distributor

Website: (i) http://oscad.in

(ii) http:/spoken-tutorial.org of Indian Institute of Technology, Bombay (for more detail about Open source Software such as Libre Office, OSCAD and the like) **which is a part of National Mission on Education through ICT, MHRD Govt. of India.**

Demo lectures with power point presentations using LCD projector should be arranged for developing concepts on various topics

Name of the course: **Industrial Project**	
Course Code: PT/ IP /S6	Semester: Sixth
Duration: One Semester (Teaching - 15 weeks + Internal Exam-2 weeks)	Maximum Marks: 100 Marks
Teaching Scheme:	**Examination Scheme**
Theory: nil	Internal Teachers' Assessment: 50 Marks External Assessment : 50 Marks
Tutorial: nil	
Practical: 6 contact hours/ week	
Credit: 3(Three)	

OBJECTIVE :Diploma holder need to be capable of doing self study throughout their life as the technology is developing with fast rate. Student will be able to find out various sources of technical information and develop self-study techniques to prepare a project and write a project report.

This subject is intended to teach students to understand facts, concepts and techniques of Packaging Materials, Packaging equipment & machinery, Design of primary and secondary packages for, foof products, Pharmaceutical products , Package for transit in ship, air, on road, Testing of packages ,standard and regulation of packages of different items, lebels on packaging its repairs, estimation of cost and procurement of material,& finally profitability. This will help the students to acquire skills and attitudes so as to discharge the function of supervisor in industry and can start his own small-scale enterprise

CONTENT :

The student should select the topic of the project based on the real life industrial application in the field of

Packaging Technology , Emphasis should be given on Package Printing Technology .Technical competence like comprehension , application, analysis , synthesis and evaluation should be in the project work.. It could be a team work . Student should prepare a detailed project report. .

Name of the course: **General Viva Voce**	
Course Code: PT/ GVV/ S6	Semester: Sixth
Duration: One Semester (Teaching - 15 weeks + Internal Exam-2 weeks)	Maximum Marks: 100 Marks
Teaching Scheme:	**Examination Scheme**
	The Final Viva-Voce Examination shall take place at the end of the Part – III Second Semester. It is to be taken by one External and one Internal Examiner. The **External Examiner** is to be from industry / engineering college / university / government organisation and he / she should give credit out of **50 marks;** whereas, the **Internal Examiner** should normally be the Head of the Department and he / she should give credit of **50 marks.** In the absence of the Head of the Department the senior most lecturers will act as the Internal Examiner.
Credit: 3 (Three)	

Course Content

The syllabi of all the theoretical and sessional subjects taught in the three years of diploma education.

Objectives:

The student will be able to:

1. Solve any technical problem from the knowledge acquired from the entire course.
2. Able to face any technical interviews in future for placement in various industries.