

MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI

TEACHING AND EXAMINATION SCHEME

COURSE NAME : DIPLOMA IN TEXTILE TECHNOLOGY

COURSE CODE : TC

DURATION OF COURSE : SIX SEMESTERS/THREE YEARS

DURATION 16 WEEKS

SEMESTER : FIRST

WITH EFFECT FROM 2007-08

FULL TIME / PART TIME : FULL TIME

SCHEME – C

SR. NO.	SUBJECT TITLE	SUBJECT CODE	TEACHING SCHEME			EXAMINATION SCHEME											
			TH	TU	PR	PAPER HRS.	TH		TEST	TOTAL		PR		OR		TW	
							Max	Min		Max	Min	Max	Min	Max	Min		
1	Applied Physics	9567	03	--	02	03	80	28	20	100	40	50@	20	--	--	--	--
2	Physical Chemistry	9568	05	--	02	03	80	28	20	100	40	50@	20	--	--	--	--
3	Basic Mathematics \$	9003	04	01	-	03	80	28	20	100	40	--	--	--	--	--	--
4	English \$	9004	03	--	02	03	80	28	20	100	40	--	--	--	--	25@	10
5	Engineering Graphics	--	01	--	02	--	--	--	--	--	--	50#	20	--	--	50@	20
6	Computer Fundamentals \$	--	--	--	04	--	--	--	--	--	--	50* #	20	--	--	25@	10
7	Basic Workshop	--	--	--	02	--	--	--	--	--	--	--	--	--	--	50@	20
TOTAL			16	01	14	--	320	--	80	400	--	200	--	--	--	150	--

STUDENT CONTACT HOURS PER WEEK (FORMAL TEACHING) : 31 HRS

THEORY, TUTORIAL AND PRACTICAL PERIODS OF 60 MINUTES EACH

@ - INTERNAL ASSESSMENT, # - EXTERNAL ASSESSMENT, *# ONLINE EXAM

TOTAL MAKRS – 750. ,

\$ - COMMON WITH DIPLOMA IN MECHANICAL ENGINEERING

ABBREVIATIONS : TH – THEORY, TU – TUTORIAL , PR– PRACTICALS , OR – ORAL, TW – TERMWORK

All Practical , Oral & Term work assessment are to be done as per the prevailing norms implementation & assessment.

COURSE NAME : DIPLOMA IN TEXTILE TECHNOLOGY.
COURSE CODE : TC
SEMESTER : FIRST
SUBJECT TITLE : APPLIED PHYSICS.
SUBJECT CODE : 9567

Teaching and Examination Scheme:

Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS	TH	TEST	PR	OR	TW	TOTAL
03	--	02	03	80	20	50@	--	--	150

Rationale:

This subject develops the basic concepts and principles of Physics in the areas relevant to textiles field. This subject has been divided into two sections. The first section deals with basic or fundamental concepts and principles while the second section deals with yarn and fabric characteristics and its measurement, which is required in the industries for deciding the process parameters and product mix etc.

In the first part, the concepts, and principles of stress and strain, surface tension, viscosity, humidity, interference, diffraction, polarization, photo electricity, X-ray, echo and acoustics, etc. will be discussed. Here, the emphasis is given to develop the knowledge and skills for measurement of physical aspects of matter. The second section covers the sampling procedures and methods of testing for yarn and fabric. The physics plays a vital role in helping to measure, analyse, and predict the behavior of a whole lot of raw material and intermediate product during processing under different situations. This subject intends to impart necessary knowledge and skill in the area of testing.

OBJECTIVES:

Student will be able to:

- Measure given dimensions by using appropriate instruments accurately.
- Select proper measuring instrument on the basis of range, least count & precision required for measurement.
- Identify the effect of interference between light waves.
- Identify properties of light and photo electric effect for textile applications.
- Identify, analyze, discriminate and interpret logical sequence of field problems with the study of physics.
- To understand the basics of humidity, acoustics, optics ect. And to co relate these with textile applications.

Learning Structure:

Applications:

Enable to understand principles, laws, and concepts of Physics from nature and implement them to identify, analyze, discriminate, and interpret the logical sequence of events which further form basis for study of different Engineering work.

Procedures:

Elasticity- Y by Searl's method	Surface tension- capillary action	Viscosiy- Stoke's law	Procedure for calculating Humidity	Technique of determination of refractive index	Identification of Characteristics of photo electricity
--	--	--------------------------	---	---	--

Principals:

Properties of Aucostics	Properties Humidity	Properties of viscosity	Properties of Optics	Characteristics of photo electricity & X-ray
----------------------------	------------------------	----------------------------	-------------------------	--

Concepts:

echo, reverberation, resonance	Elasticity, Viscosity, Surface tension	Vapour pressure , absolute humidity, relative humidity,	Interference, Diffraction and polarization	Photo Emission Threshold frequency
--------------------------------------	---	---	--	--

Facts:

Sound Absorbing Textile Material	Elastic Materials, Diferent types of Liquids	Types of moisture measuring instruments	Types of Microscop es	Photo electric cell
---	--	--	-----------------------------	------------------------

CONTENTS: THEORY

Chapter	Name of the Topic	Hours	Marks
01	Elasticity Units and dimensions: Definitions of physical Quantities used in textiles, their units, and different systems of units. Definitions and formulae of load, breaking load, stress, mass stress, tenacity, strain, extension, breaking extension, load-elongation curve, stress- strain curve, yield strain, yield stress, initial young's modulus, yield point.	08	12
02	Surface Tension Concepts and definitions of cohesive and adhesive forces, surface tension, surface energy, angle of contact, shapes of liquid surface. Molecular theory of surface tension, derivation of capillary rise and its applications.	06	10
03	Viscosity Concept and definition of viscous force , Newton's law of viscosity, coefficient of viscosity, Poiseulle's method of viscosity measurement (no derivation), definitions of streamline and turbulent flow, Stoke's law with derivation and method to determine viscosity and its applications.	06	10
04	Optics Lenses, their types, construction and working of simple and compound microscope (its magnifying power), spectrometer (no derivation) and electron microscope. Concept and definition of refraction of light, prism formula, and its applications in textiles. Study of interference, diffraction, polarization and its applications in textiles.	10	12
05	Humidity Concept and definitions of vapour pressure , absolute humidity, relative humidity, standard atmosphere, and testing atmosphere. Study of wet and dry bulb hygrometer, hair hygrometer, electrolytic hygrometer, and moisture meter.	06	10
06	Photo Electric Effect Definition of photoelectric effect, its characteristics and Einstein's equation. Definition of threshold wavelength work function. Different types of photo emissive cells and its applications in textiles.	04	10
07	X-rays Definition, origin and production and properties of X-ray. Study of X-ray spectra and its applications in textiles.	04	10
08	Acoustics Definitions of echo, reverberation, resonance. Factors affecting the architectural acoustics and sound absorbing textile materials. Noise and its control in textile industry.	04	06
Total		48	80

Practical:**Skills to be developed:****1) Intellectual skills-**

- Proper selection of measuring instruments on the basis of range, least count, precision and accuracy required for measurement.
- Analyze properties of matter & their use for the selection of material.
- To verify the principles, laws, using given instruments under different conditions.
- To read and interpret the graph.
- To interpret the results from observations and calculations.
- To use these results for parallel problems.

2) Motor skills-

- Proper handling of instruments.
- Measuring physical quantities accurately.
- To observe the phenomenon and to list the observations in proper tabular form.
- To adopt proper procedure while performing the experiment .
- To plot the graphs.

List of Practical:

1. To determine young's modulus of elasticity by Searle's method.
2. To find percent error using veneer caliper and micrometer screw gauge.
3. Determination of surface tension by capillary rise method.
4. Stoke's method to determine viscosity of given liquid .
5. Poiseuilles method to determine viscosity.
6. Refractive index of liquid, by liquid lens method.
7. To determine refractive index of prism by using spectrometer.
8. Diffraction grating to find wavelength.
9. Study of psychometric charts, determination of relative humidity using dry bulb and wet bulb thermometer.
10. Determination of moisture content and regain in cotton.
11. Study of characteristics of photoelectric cell.

Learning Resources:**Books:**

Sr.No	Author	Title	Edition	Year Of Publication	Address of Publisher
1	R. K. Gaur, S.L. Gupta	Engineering Physics	8 th	2000	Dhanpatrai Pubjlication (P) Ltd, 67/4, Madras House, Dariyaganj, New Delhi.
2	D. S. Mathur	Elements of Properties of Matter	1 st	1990	S. Chand & Company Ltd., Ramnagar, New Delhi.
3	Bhandarkar	Applied Physics	10 th	1990	Vrinda Publications, M.G. Road, Jalgaon 425 001

COURSE NAME : DIPLOMA IN TEXTILE TECHNOLOGY.
COURSE CODE : TC
SEMESTER : FIRST
SUBJECT TITLE : PHYSICAL CHEMISTRY
SUBJECT CODE : 9568

Teaching and Examination Scheme

Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS	TH	TES T	PR	OR	TW	TOTAL
05	--	02	03	80	20	50@	--	--	150

Rationale:

Chemistry, one of the pure sciences, in a broader sense, is the study of composition, properties, structure and uses of matters. It also includes the study of various changes that matter undergoes. It is the most relevant subject to the textile field. Therefore knowledge of the subject is essential especially for the third and the value-adding sector of textiles viz. chemical processing of textiles.

Physical chemistry deals with various principles and theories governing the chemical changes of matter. The subject is involved at each and every stage in the chemical processing of textiles. Preparation of dye liquors, printing pastes, different solutions requires understanding of basic concepts like the concepts of adsorption, absorption, solubility, distribution etc.

The desizing of textiles requires the understanding of extraction theory. The assessment of bleaching process requires the knowledge of reaction kinetics. The process of dyeing and finishing of textiles is based on diffusion theory. To know the rheology of sizing materials, printing pastes, the concept of viscosity is very important. While preparing different solutions of various concentrations, the concepts of equivalent weights, normality, molarity etc. are very much required. Therefore it is customary for the students and technocrats of this sector to acquire the thorough knowledge of the subject.

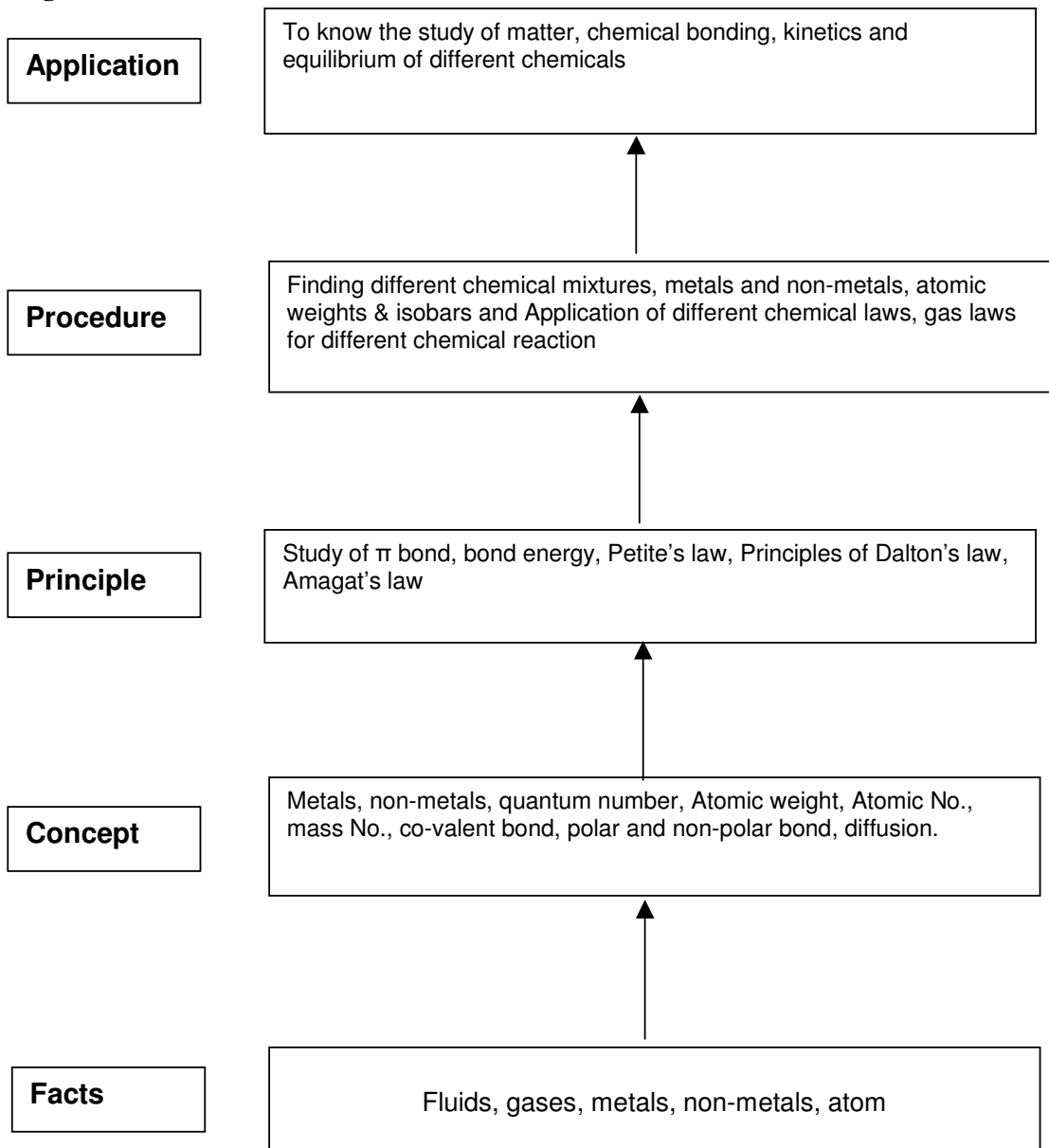
Therefore this subject is devised in such a way that it will impart all this knowledge of fundamentals of chemistry.

Objectives:

The students will be able to:

1. Draw the atomic structure of different elements.
2. Understand the laws of chemical combination and the gas laws.
3. Learn the concepts of acids, bases, PH, POH and buffers etc.
4. Correlate the fundamental concepts of thermodynamics, thermo chemistry and the extraction theory to textile wet processing.
5. Understand the relevance of study of solutions, chemical kinetics and equilibrium to wet processing of textiles.

Learning Structure:



CONTENTS – THEORY

Chapter	Name of the Topic	Hours	Marks
01	Matter and its Classification The concept of matter, detailed classification of matter. Definitions of element, compound, mixture, metal, and non-metal. Study of physical changes of matter.	06	06
02	Structure of Atom Concept of atom. Brief review of various theories of atom. Introduction of Bohr's model of atom. Concept of mass number, atomic number, atomic weight, isotopes, isobars. Definitions of quantum numbers. Electronic configuration of elements.	08	08
03	Laws of Chemical Combination Chemical formulae and empirical formulae substances. Statements and explanations of different laws of chemical combination like law of conservation of mass, law of fixed proportion, law of multiple proportions, law of reciprocal proportion, and law of equivalent proportions. Avagadro's hypothesis and its importance, the concepts of Avagadro number, mole, molar volume, equivalent weights.	10	10
04	Properties of Gases and Gas Laws Study of properties of gases. Statements and explanation of Boyle's law, Charle's law, and pressure law. General gas equation. Distinction between ideal gas and real gas. Universal gas constant with different values in different fields of application. Statement and explanation of Amagat's law of component volumes and Dalton's law of partial pressures. The concept of gaseous diffusion. Meaning of the terms: Rate of diffusion, Statement of Graham's law of diffusion.	08	08
05	Chemical Kinetics and Equilibrium The meaning of kinetics and equilibrium of chemical reactions. Study of the types of reactions e.g. reversible, irreversible, exothermic, and endothermic. Definition of rate of a chemical reaction, rate constant of a chemical reaction. Statement of the law of mass action, the definition of equilibrium constants, order of reaction .The study of factors affecting the rate of chemical reactions, the state of equilibrium.	10	10
06	Distribution and Extraction Theory The statement, explanation, and limitations of distribution law. Definitions of dissociation and association. Applications of the distribution law. Theory of extraction.	08	06
07	Acids and Bases Definitions, classification, and properties of acids, bases and salts. Definitions of basicity of an acid, and acidity of a base. Concept of equivalent weight. The concept of strengths of acids and bases. Study of common ion effect with its applications, ionic product of water with its significance. The concept of pH and study of pH scale. Definition and use of buffers, indicators. Study of choice of indicators. Numerical examples on above topics. Definitions of oxidation, reduction, oxidizing agent, reducing agent. Equivalent weights of oxidizing and reducing agents.	14	16
	Solutions	08	08

08	The concept of solution. Need for the preparation of the solutions. Definitions of normality, molarity, and molality. Different types of solutions. Concept of mole fraction. Colligative properties of solutions. Lowering of vapour pressure, Raoult's Law. Elevation in boiling point, depression in freezing point, study of osmosis and osmotic pressure, study of viscosity of solutions. The concept of solubility curve and solubility product.		
09	Thermodynamics and Thermo chemistry The meaning of thermodynamics and thermo chemistry. First and second law of thermodynamics. Laws of thermo chemistry. Heats of reactions like formation, combustion, solution, dilution, and heat of neutralization.	08	08
Total		80	80

Practical:

Intellectual Skills: 1. Identify given solutions and substances.
2. Interpret the results

Motor Skills: 1. Observe Chemical Reactions
2. Measure the quantities Accurately
3. Handle the apparatus carefully

List of Practical:

- 1) Demonstration of few of the common substances in our day-to-day uses, their compositional study.
- 2) Description of important features of chemical laboratory safety precautions, laboratory discipline, commonly used apparatus etc.
- 3) Investigation of hydrolysis of given ester in presence of acid.
- 4) To study effect of (a) concentration (b) temperature on the rate of reaction between sodium thiosulphate and hydrochloric acid.
- 5) Partition coefficient of benzoic acid between CCl_4 / C_6H_6 and water.
- 6) To determine the molecular state of benzoic acid in benzene by the method of partition coefficient.
- 7) Preparation of normal solutions
- 8) Measurement of pH of different solutions by pH meter and universal indicator.
- 9) Measurement of viscosities of different liquids by Ostwald's viscometer.
- 10) Determination of heat of displacements of copper by iron and zinc by iron.
- 11) Determination of heat of neutralization of strong acid by a strong base.

Learning Resources:

Books:

Sr. No.	Author	Title	Edition	Year of Publication	Address of Publisher
1	Jain & Jain	Engineering Chemistry	13 th	2001	Danpatrai Publishing Co., 4787/23, Ansari Road, Dariyaganj, New Delhi
2	P. C. Rakshit	Physical Chemistry	2 nd	1995	Sarat Book House, Kolkota
3	Dr I.R. Gambhir	Physical Chemistry	1 st	1990	Kedarnath Ramnath, 132, College Road, Meerut 250001.

COURSE NAME : DIPLOMA IN TEXTILE TECHNOLOGY.

COURSE CODE : TC

SEMESTER : FIRST

SUBJECT TITLE : BASIC MATHEMATICS

SUBJECT CODE : 9003

Teaching and Examination Scheme:

Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS	TH	TEST	PR	OR	TW	TOTAL
04	01	--	03	80	20	--	--	--	100

Notes: 1. This subject is common for all courses.

2. For smooth implementation and uniformity, the schedule for tutorial is given separately.

RATIONALE:

The subject is classified under basic sciences and intends to teach students Basic facts, concepts and principles of mathematics as a tool to analyze Engineering problems. Mathematics lay down the foundation for understanding core technology subjects.

OBJECTIVE:

This subject helps the students to develop logical thinking, which is useful in comprehending the principles of all other subjects. Analytical and systematic approach towards any problem is developed through learning of this subject. Mathematics being a versatile subject can be used at every stage of human life.

Application

To understand the techniques and methods for solving Engg. Problems such as simultaneous equations involved in vibrations, ckts. Laws of friction, projections, Lami's theorem, Stress-strain curves etc. Work done moment of force about a point and line

Procedure

To explain use of Cramer's rule, matrix inversion, partial fraction of proper and improper fractions, Binomial theorem for positive and negative index.	To explain use of formulae from trigonometry for solving engineering problem.	To explain formulae from co-ordinate geometry for finding distance between two points, Equation of straight line, condition of parallel and perpendicular lines. Equation of circle.	To explain algebra of vectors, dot & cross products, finding workdone, moment of force
---	---	--	--

Concept

Cramer's Rule, Algebra of matrices, Inverse of a matrix, cases of finding partial fractions, permutation-combination, Binomial expansion for positive and negative index.	Trigonometric ratios of any angle, their relations, trig. Ratios of allied, compound and multiple angles, inverse trig. Ratios. Sine, cosine rules.	Distance formula, section formula, centroid, area of triangle, different forms of equation of straight line and circle.	Laws of parallelogram, triangle. Scalar and vector product
---	---	---	--

Facts

Definitions of determinant, matrix, polynomial, polynomial fractions, definition of permutation and combination.	Angle, positive and negative angle, measurement of an angle, definition of trig. Ratios, fundamental identities.	Co-ordinate of a point, slope and intercept of a line. Centre and radius of a circle.	Definition of vector, magnitude of a vector
--	--	---	---

CONTENTS:

Chapter No.	NAME OF TOPICS	Hours	Marks
I.	ALGEBRA	02	
	1.1 REVISION 1.1.1 Laws of Indices 1.1.2 Formula of factorization and expansion (a^2-b^2), $(a+b)^2$ etc.) 1.1.3 Laws of logarithm with definition of Natural and Common logarithm.		
	1.2 PARTIAL FRACTION 1.2.1 Definition of polynomial fraction proper & improper fractions and definition of partial fractions. 1.2.2 To Resolve proper fraction into partial fraction with denominator containing non repeated linear factors, repeated linear factors and irreducible non repeated quadratic factors. 1.2.3 To resolve improper fraction into partial fraction.	04	08
	1.3 DETERMINANT AND MATRICES. Determinant ----- 4 Marks 1.3.1 Definition and expansion of determinants of order 2 and 3. 1.3.2 Cramer's rule to solve simultaneous equations in 2 and 3 unknowns. Matrices----- 12Marks 1.3.3 Definition of a matrix of order m X n and types of matrices. 1.3.4 Algebra of matrices such as equality, addition, Subtraction, scalar multiplication and multiplication. 1.3.5 Transpose of a matrix. 1.3.6 Minor, cofactor of an element of a matrix, adjoint of matrix and inverse of matrix by adjoint method. 1.3.7 Solution of simultaneous equations containing 2 and 3 unknowns by matrix inversion method.	12	16
	1.4 BINOMIAL THEOREM 1.4.1 Definition of factorial notation, definition of permutation and combinations with formula. 1.4.2 Binomial theorem for positive index. 1.4.3 General term. 1.4.4 Binomial theorem for negative index. 1.4.5 Approximate value (only formula)	04	04

02	TRIGONOMETRY.	02	04		
	2.1 REVISION 2.1.1 Measurement of an angle (degree and radian). Relation between degree and radian. 2.1.2 Trig ratios of 0° , 30° , 45° etc. 2.1.3 Fundamental identities.				
	2.2 TRIGONOMETRIC RATIOS OF ALLIED, COMPOUND, MULTIPLE & SUBMULTIPLE ANGLES (Questions based on numerical computations, which can also be done by calculators, need not be asked particularly for allied angles).			08	08
	2.3 FACTORIZATION AND DEFACTORIZATION FORMULAE			04	04
	2.4 INVERSE TRIGONOMETRIC RATIOS 2.4.1 Definition of inverse trigonometric, ratios, Principal values of inverse trigonometric ratios. 2.4.2 Relation between inverse trigonometric ratios.			02	04
	2.5 PROPERTIES OF TRIANGLE 2.5.1 Sine, Cosine, Projection and tangent rules (without proof) 2.5.2 Simple problems.			02	04
03	COORDINATE GEOMETRY	04	04		
	3.1 POINT AND DISTANCES 3.1.1 Distance formula, Section formula, midpoint, centroid of triangle. 3.1.2 Area of triangle and condition of collinearity.				
	3.2 STRAIGHT LINE 3.2.1 Slope and intercept of straight line. 3.2.2 Equation of straight line in slope point form, slope-intercept form, two-point form, two-intercept form, normal form. General equation of line. 3.2.3 Angle between two straight lines condition of parallel and perpendicular lines. 3.2.4 Intersection of two lines. 3.2.5 Length of perpendicular from a point on the line and perpendicular distance between parallel lines.			06	10
	3.3 CIRCLE 3.3.1 Equation of circle in standard form, centre – radius form, diameter form, two – intercept form. 3.3.2 General equation of circle, its centre and radius.			06	06

04	VECTORS	04	04
	4.1 Definition of vector, position vector, Algebra of vectors (Equality, addition, subtraction and scalar multiplication) 4.2 Dot (Scalar) product with properties. 4.3 Vector (Cross) product with properties.		
	4.4 Applications 4.4.1 Workdone and moment of force about a point & line	04	04
TOTAL		64	80

LEARNING RESOURCES:

Sr. No.	Title	Authors	Publications
1	Mathematics for polytechnic	S. P. Deshpande	Pune Vidyarthi Griha
2	Trigonometry	S. L. Loney	S. Chand Publication
3	Higher Algebra	H. S. Hall & S. R. Knight	Metric edition, Book Palace, New Delhi
4	College Algebra	Frc.G. Valles	Charotar Publication
5	Matrices	Ayres	Schuum series, McGraw hill
6	Higher Engineering Mathematics	B. S. Grewal	Khanna publications New Dehli
7	Engineering Mathematics	S. S. Sastry	Prentice Hall of India

Tutorial:

Tutorial No.	Topic on which tutorial is to be conducted
1	Partial fractions
2	Determinants
3	Matrices
4	Solution of simultaneous equation by Matrix inversion method.
5	Binomial theorem
6	Trigonometry- fundamental identities-revision only
7	Trigonometry-allied, compound and multiple angles
8	Trigonometry-factorization and defactorization formulae.
9	Trigonometry-inverse trigonometric ratios.
10	Point and distances
11	Straight line
12	Circle.
13.	Vectors
14.	Vectors' applications

Note:

Maximum 5 questions are to be given in each tutorial, in which two 2 marks questions (based on basic concept and formulae with one/two step calculations) and three 4 marks questions are expected.

COURSE NAME : DIPLOMA IN TEXTILE TECHNOLOGY.

COURSE CODE : TC

SEMESTER : FIRST

SUBJECT TITLE : ENGLISH

SUBJECT CODE : 9004

Teaching and Examination Scheme:

Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS.	TH	TEST	PR	OR	TW	TOTAL
03	--	02	03	80	20	--	--	25@	125

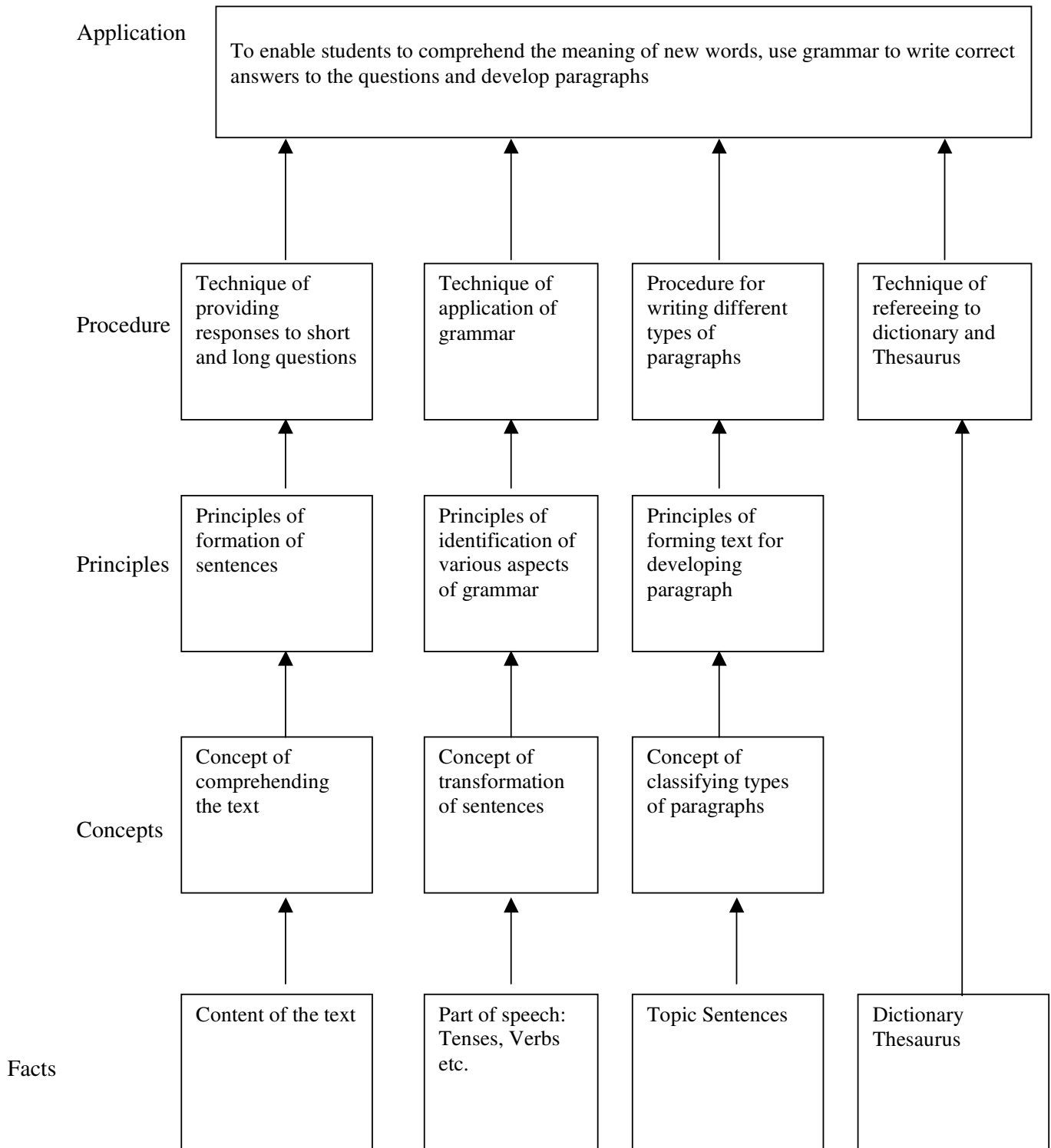
RATIONALE:

The snap study conducted for the role of technicians in industry revealed that diploma pass outs lack in grammatically correct written and oral communication. In order to develop the abilities in students a text has been introduced. The practical have been incorporated to provide practice to the students to develop writing skills. Further exercises have been included for improving oral communication.

OBJECTIVES:

1. Comprehend the given passage
2. Answer correctly the questions on seen and unseen passages
3. Increase the vocabulary
4. Apply rules of grammar for correct writing

Learning Structure:



CONTENTS: Theory

Name of Topic	Hours	Marks
PART I: TEXT <ul style="list-style-type: none">Vocabulary - Understanding meaning of new words from textComprehension – Responding to the questions from textIdentifying parts of speech	24	40
PART II -Application of grammar <ul style="list-style-type: none">VerbsTenses Do as directed (active /passive, Direct/indirect, affirmative/negative/assertive, question tag, remove too, use of article, preposition ,conjunctions, interjections, punctuation)	16	20
PART III - Paragraph writing <ul style="list-style-type: none">Definition – Types of paragraphsHow to write a paragraph	03	10
PART IV - Vocabulary building <ul style="list-style-type: none">Word formationTechnical jargonUse of synonyms /antonyms/Homonyms/paronymsOne word substitute	05	10
Total	48	80

Text will consist of 10 articles/Lessons

The term work will consist of 9 assignments:

The assignments should be written in A4 size note books (100 pages ruled)

Skills to be developed for practical:

Intellectual Skills:

- 1 Skills of speaking in correct English.
- 2 Searching information.
- 3 Reporting skills.

Motor Skills:

- 1 Use of appropriate body language.
- 2 Use of mouth organs

List of Assignments:

- 1 Building of Vocabulary -- (4 Hours) (2 assignments)
 - a) 25 words for each assignment from the glossary given in the text book at the end of each chapter
 - b) Technical Jargons -- (2 Hours) (1 assignment)
Identify 10 technical words from the respective branches.

Resource -- (Encyclopedia/Subject Books)

- 2** Grammar (4 Hours) 2 assignments.
- a)** Insert correct parts of speech in the sentences given by the teachers.
(16 sentences--Two each, from the different parts of speech)
- b)** Punctuate the sentences given by the teachers. (10 sentences)
- 3** Conversational skills: Role plays (8 hours)
- a)** Students are going to perform the role on any 6 situations, by the teacher.
- b)** Dialogue writing for the given situations. (2 assignments)
- 4** Write Paragraphs on given topics (6 hours) (2 assignments)
- a)** Four types of paragraphs to be written in **two assignments** covering two types in one assignment.
- 5** News paper report writing (4hours) (2 assignments)
- a)** Write any two events from the news paper as it is.
- b)** Write any two events on the situations given by the teacher.
- 6** Errors in English (4 hours) (2 assignments)
- a)** Find out the errors and rewrite the sentences given by the teacher. (20 sentences)

Learning Resources:

Books:

Sr. No.	Title	Author	Publisher
01	Contemporary English grammar, structures and composition	David Green	Macmillan
02	English grammar and composition	R. C. Jain	Macmillan
03	Thesaurus	Rodgers	Oriental Longman
04	Dictionary	Oxford	Oxford University
05	Dictionary	Longman	Oriental Longman
06	English for practical Purposes	Z. N. Patil et el	Macmillan
07	English at Workplace	Editor – Mukti Sanyal	Macmillan

COURSE NAME : DIPLOMA IN TEXTILE TECHNOLOGY.

COURSE CODE : TC

SEMESTER : FIRST

SUBJECT TITLE : COMPUTER FUNDAMENTALS

SUBJECT CODE :

Teaching and Examination Scheme:

Teaching Scheme			Examination Scheme					
TH	TU	PR	TH	TEST	PR	OR	TW	TOTAL
--	--	4	--	--	50* #	--	25@	75

*** #On line examination**

RATIONALE:

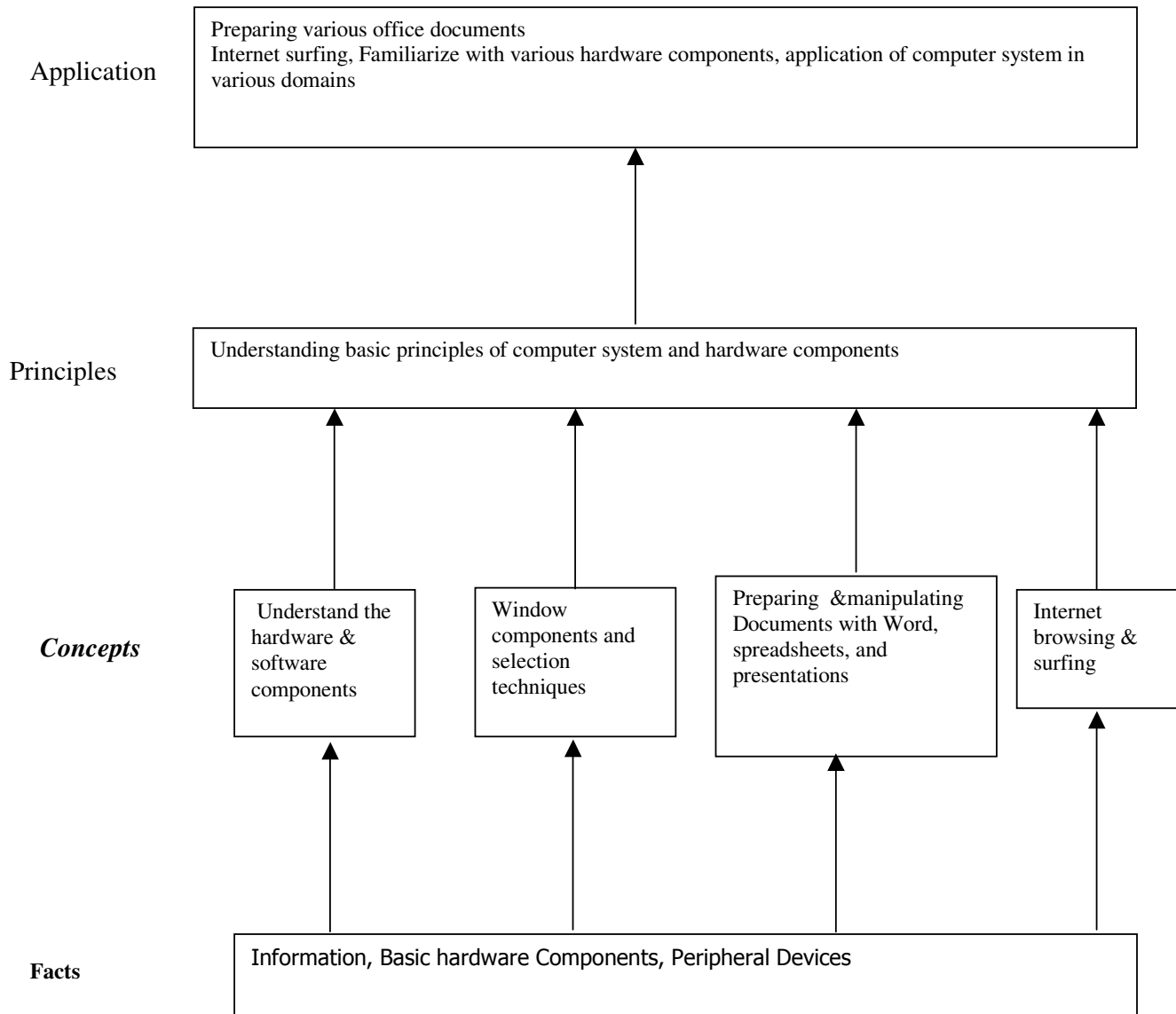
Computer plays an important role in human lives. The primary purpose of using a computer is to make life easier. It is a gateway to a wonderful world of information and various applications. Computers have established an indispensable part in a business, academics, defense, budgeting, research, engineering, medicine, space. This subject introduces the fundamentals of computer system focusing various hardware and software components. It also provides biblical worldview regarding computer ethics by means of Internet.

OBJECTIVES:

Students will be able to:

1. Understand a computer system that has hardware and software components, which controls and makes them useful.
2. Understand the operating system as the interface to the computer system.
3. Use the basic functions of an operating system.
4. Set the parameter required for effective use of hardware combined with and application software's
5. Compare major OS like Linux and MS-Windows
6. Use file managers, word processors, spreadsheets, presentation software's and Internet.
7. Have hands on experience on operating system and different application software
8. Use the Internet to send mail and surf the World Wide Web.

Learning Structure:



CONTENTS: Theory

Note: Contents of theory are to be taught in Practical Period

Chapter	Name of the Topic
1	Fundamentals Of Computer Introduction Components of PC The system Unit Front part of system Unit Back part of system Unit CPU Memory of computer Monitor Mouse, Keyboard, Disk, Printer, Scanner, Modem, Video, Sound cards, Speakers
2	Introduction To Windows 2000/Xp Working with window Desktop Components of window Menu bar option Starting window Getting familiar with desktop Moving from one window to another Reverting windows to its previous size Opening task bar buttons into a windows Creating shortcut of program Quitting windows
3	GUI Based Editing, Spreadsheets, Tables & Presentation Application Using MS Office 2000 & Open Office.Org Menus Opening of menus, Toolbars: standard toolbars, formatting toolbars & closing of menus Quitting Document, Editing & designing your document Spreadsheets Working & Manipulating data with Excel Changing the layout Working with simple graphs & Presentation Working With PowerPoint and Presentation
4	Introduction To Internet What is Internet Equipment Required for Internet connection Sending &receiving Emails Browsing the WWW Creating own Email Account Internet chatting
5	Usage of Computer System in various Domains Computer application in Offices, books publication, data analysis ,accounting , investment, inventory control, graphics, database management, Instrumentation, Airline and railway ticket reservation, robotics, artificial intelligence, military, banks, design and research work, real-time, point of sale terminals, financial transaction terminals.

Chapter	Name of the Topic
6	<p align="center"><i>Information technology for benefits of community</i></p> Impact of computer on society Social responsibilities Applications of IT Impact of IT Ethics and information technology Future with information technology

Sr. No	List of Practicals
1.	Working with Windows 2000 desktop ,start icon, taskbar, Recycle Bin, My Computer icon ,The Recycle Bin and deleted files Creating shortcuts on the desktop
2.	The Windows 2000 accessories WordPad – editing an existing document Use of Paint – drawing tools The Calculator, Clock
3.	The Windows Explorer window, concept of drives, folders and files? Folder selection techniques, Switching drives, Folder creation Moving or copying files, Renaming, Deleting files ,and folders
4.	Printing Installing a printer driver Setting up a printer Default and installed printers Controlling print queues Viewing installed fonts
	The clipboard and ‘drag and drop’ Basic clipboard concepts Linking vs. embedding
5.	Moving through a Word document menu bar and drop down menus toolbars
6.	Entering text into a Word 2000 document, selection techniques Deleting text
7.	Font formatting keyboard shortcuts
8.	* Paragraph formatting Bullets and numbering
9.	* Page formatting What is page formatting? Page margins Page size and orientation Page breaks, Headers and footers
10.	Introducing tables and columns
11.	Printing within Word 2000 Print setup Printing options Print preview
12.	* Development of application using mail merge Mail merging addresses for envelopes Printing an addressed envelope and letter
13.	Creating and using macros in a document
14.	* Creating and opening workbooks Entering data
15.	Navigating in the worksheet Selecting items within Excel 2000 Inserting and deleting cells, rows and column Moving between worksheets, saving worksheet, workbook
16.	Formatting and customizing data
17.	Formulas, functions and named ranges
18.	Creating, manipulating & changing the chart type

19.	Printing, Page setup, Margins Sheet printing options, Printing a worksheet
20.	* Preparing presentations with Microsoft Power Point. Slides and presentations, Opening an existing presentation , Saving a presentation
21.	Using the AutoContent wizard ,Starting the AutoContent wizard Selecting a presentation type within the AutoContent wizard Presentation type Presentation titles, footers and slide number
22.	* Creating a simple text slide Selecting a slide layout Manipulating slide information within normal and outline view Formatting and proofing text Pictures and backgrounds drawing toolbar AutoShapes Using clipart Selecting objects Grouping and un-grouping objects The format painter
23.	* Creating and running a slide show Navigating through a slide show Slide show transitions Slide show timings Animation effects
24.	* Microsoft Internet Explorer 5 & the Internet Connecting to the Internet The Internet Explorer program window The on-line web tutorial Using hyper links Responding to an email link on a web page
25.	Searching the Internet Searching the web via Microsoft Internet Explorer Searching the Internet using Web Crawler Searching the Internet using Yahoo Commonly used search engines
26.	Favorites, security & customizing Explorer Organizing Favorite web sites Customizing options – general, security, contents, connection, programs, advanced
27.	* Using the Address Book Adding a new contact Creating a mailing group Addressing a message Finding an e-mail address
28.	Using electronic mail Starting Outlook Express Using the Outlook Express window Changing the window layout Reading file attachment Taking action on message-deleting, forwarding, replying

29.	* Email & newsgroups Creating and sending emails Attached files Receiving emails Locating and subscribing to newsgroups Posting a message to a newsgroup
30.	Chatting on internet Understating Microsoft chat environment Chat toolbar

Note : Term work will include printout of Exercises of practicals marked with asterisks (*)

Learning Resources Books

Sr. No.	Author	Title	Edition	Publisher
01	Vikas Gupta	Comdex Computer Course Kit	First	Dreamtech
02	Henry Lucas	Information Technology for management	7 th	Tata Mc-Graw Hills
03	B.Ram	Computer Fundamentals Architecture and Organisation	Revised 3 rd	New Age International Publisher

COURSE NAME : DIPLOMA IN TEXTILE TECHNOLOGY

COURSE CODE : TC

SEMESTER : FIRST

SUBJECT TITLE : ENGINEERING GRAPHICS

SUBJECT CODE :

Teaching and Examination Scheme

Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS	TH	TEST	PR	OR	TW	TOTAL
01	--	02	--	--	--	50#	--	50@	100

Rationale :

This brings in the need that the students should have some knowledge and elementary skills and be acquainted with the aspects of 'machine drawing'. He should be able to interpret the drawings and understand the functions, shapes, and sizes of the parts and mechanisms. If required, he should be able to explain the functions of such parts through sketches or drawings.

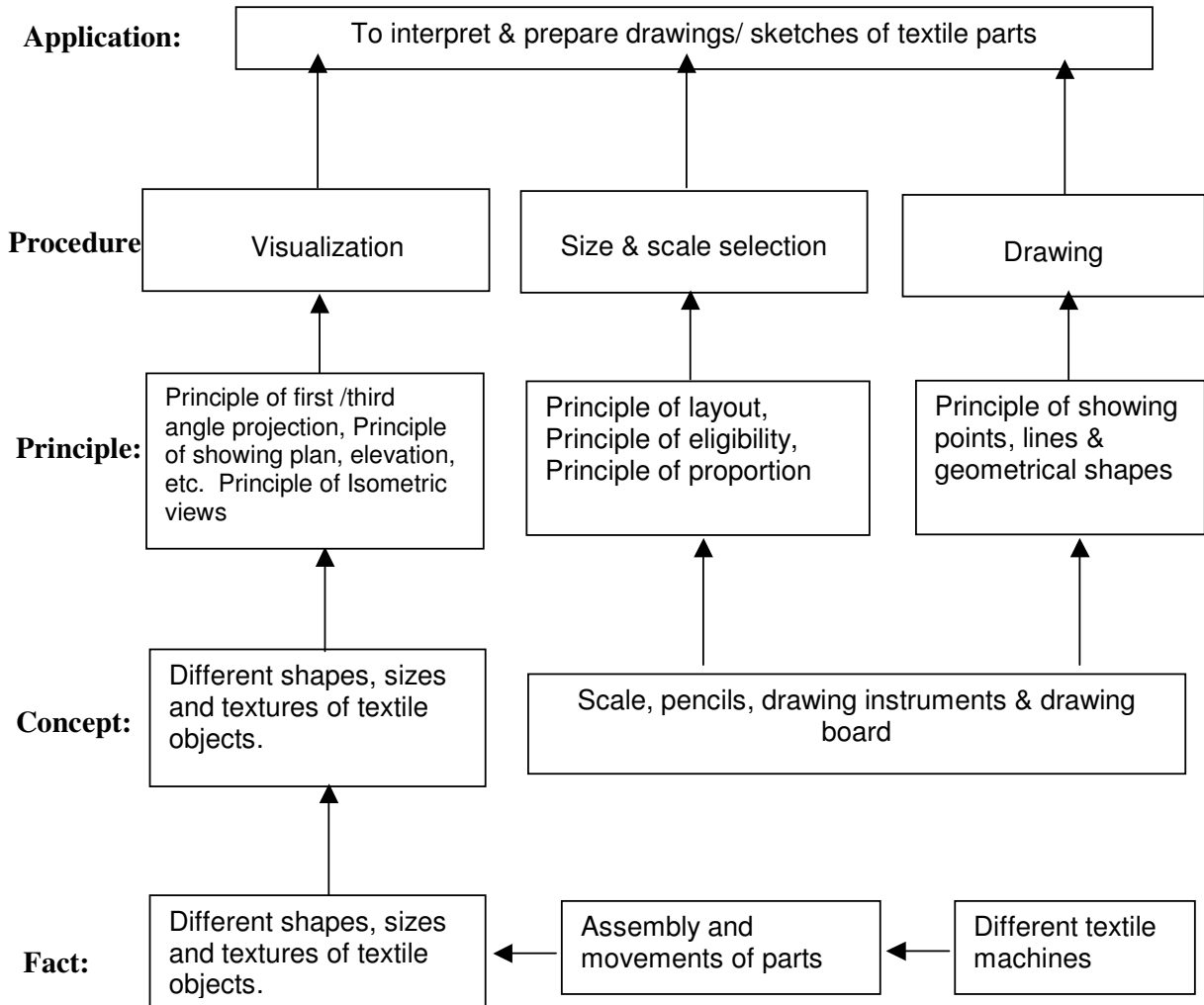
This kind of knowledge and skills are imparted through the subject of 'Textile Engineering Graphics'. This subject helps the student to visualize the parts and prepare their drawing as an individual part or an assembly. In this subject the students will be exposed to the various principles of machine drawing, points, lines and curves, letter and dimensioning in first and third angle projections. The students will also be able to develop three dimensional- isometric views. Sufficient practice as well as assignments will be done for the parts used in textile machinery, this will reinforce the engineering drawing skills needed for the textile industry.

OBJECTIVES:

The student should be able to:

1. Draw different engineering curves and know their applications.
2. Draw orthographic projections of different objects.
3. Visualize three dimensional objects and draw Isometric Projections.
4. Use the techniques and able to interpret the drawing in Engineering field.
5. Use computer aided drafting packages.

LEARNING STRUCTURE:



CONTENTS – THEORY

Chapter	Name of the Topic	Hours
01	Introduction Use and care of instruments for engineering drawing, line conventions. Lettering single stroke, gothic, Inclined type Dimensioning, use of engineering scales. Conventions used in engineering and machine drawing.	04
02	General Principles of Projections Orthographic first angle method. Orthographic third angle method.	04
03	Isometric Projections Making isometric views of simple objects from given orthographic views.	04
04	Free Hand Sketches-I Sketching of simple coupling, bearings, pulleys, bolts and nuts, locking arrangement like Key, cotters, threads, foundation bolts and other fasteners.	02
05	Free Hand Sketches-II Plaiting mechanism for stenter chain Link clip of stenter chain, Jigger machine Bowl mangle, Immersion roller drive in sizing machine	02
	Total	16

Practical:

Skills to be developed

Intellectual skills:

1. Develop ability to interpret first angle projection method.
2. To interpret and able to solve problem on orthographic projection of given object.
3. Develop ability to differentiate between isometric view and isometric projections.
4. To differentiate between Isometric scale and true scale.

Motor Skill:

1. Develop ability to draw orthographic projections by first angle projection method
2. Develop ability to draw isometric views and isometric projections from given orthographic views of an object.
3. Draw free hand sketches of Engineering parts and textile mechanisms

List of Practical:

- 1) Lettering and conventions.
- 2) Orthographic projections of simple textile machine components in both angles.
- 3) Isometric projections of simple textile machine components.
- 4) Free hand sketching of different types of threading, fasteners such as nuts and bolts, keys, pulleys, foundation bolts, locking arrangements.
- 5) Free hand sketching of textile processing machine mechanisms.

- **References Books**

Sr. No.	Author	Title	Edition	Year of Publication	Address of Publisher
1	A.M.Chandra and Satish Chandra	Engineering Graphics	2 nd	1996	Vnarsa Publishing House, New Delhi
2	K.L. Narayana, P. Kanniah, K. Venkatareddy	Machine Drawing	Copy right	1998	New Age Itrenational Publishers, New Delhi

COURSE NAME : DIPLOMA IN TEXTILE TECHNOLOGY

COURSE CODE : TC

SEMESTER : FIRST

SUBJECT TITLE : BASIC WORKSHOP

SUBJECT CODE :

Teaching and Examination Scheme

Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS	TH	TEST	PR	OR	TW	TOTAL
--	--	02	--	--	--	--	--	50@	50

Rationale :

Textile manufacturing is characterised by a variety of large numbers of machines having different parts. These parts are made out of any of the materials like, wood, steels and their alloys, non-ferrous metals and their alloys, plastics, leather, etc. As a supervisor at the shop floor level, the expected responsibilities are-

- To use the machines and work force optimally for the production and maintenance.
- In case of any break down of machines, the concerned affected part is repaired or replaced at the earliest.

This may require the knowledge and skills in the area of carpentry, smithy, metal joining / rebuilding by gas or arc welding, manual metal cutting using hand tools, metal cutting by machines, drilling, tapping, etc. Such knowledge and skills for repairing or preparing an alternative parts could be attained with the help of workshop experiences.

Beside the technical experience, the workshop practice will also help in understanding the extent and nature of various works and related time requirements. This will help the technicians to plan and monitor the shop floor works efficiently and effectively through their work force.

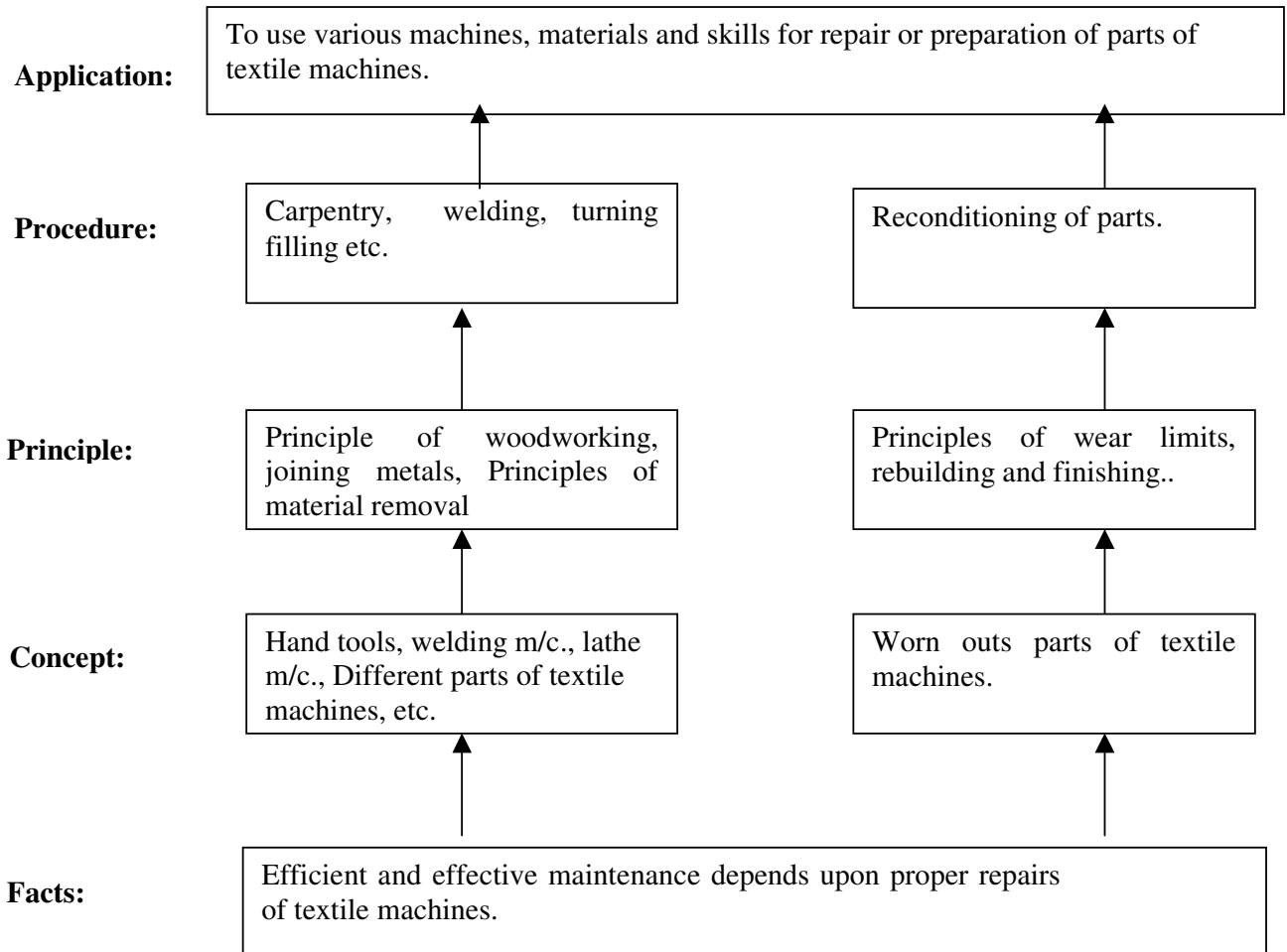
The workshop experiences have been included keeping in view these requirements of textile industry.

Objectives:

The students will be able to:

1. Know basic workshop processes
2. Understand various workshop processes in the maintenance of Textile machine

Learning Structure:



Practical:**Skills to be developed:****Intellectual skills:**

- 1 Ability to read job drawings.
- 2 Ability to identify and select proper material, tools and equipment, machines
- 3 Ability to select proper parameters (like speed, feed etc) in machines

Motor Skills:

- 1 Ability to set tools , work piece, machines for desired operations
- 2 Ability to complete the job as per job drawing in allotted time
- 3 Ability to use safety equipment and follow safety procedures during operations
- 4 Ability to inspect the job for confirming the desire dimensions and shape.

List of Practical:

1	Carpentry Shop- To make one useful job in teak wood/ soft wood involving some joints using different hand tools.
2	Welding Shop- To join two metal pieces/parts by manual metal arc and gas welding process.
3	Turning Shop- 3.1 To hold the concentric and eccentric work pieces and find centres. 3.2 To make small diameter pins from large diameter rod. 3.3 To make studs having 2 to 3 different diameters in same job with threading.
4	Fitting shop- 4.1 To prepare a job using hand tools involving manual material removal by chipping and filing, drilling, tapping, etc. 4.2 Fitting of two parts with help of slot & key arrangement.