- 1. Course Title :- TEXTILE MANAGEMENT
- 2. Course Code :- TT-601
- **3. Semester** :-6th (Sixth)
- 4. **Rationale of the Subject/Courses:-**Management concepts are universal and it is a multidisciplinary subject. They are equally applicable to different types industries like Manufacturing, Service and Trade as well as different kind of business activities like industry, army, school, hospital, retail shops etc. Also at the end of diploma course polytechnic students are expected to center in to the Industrial Environment. This environment is altogether different and new to the students. A proper introduction and understanding of management fundamentals is therefore essential for all these students.

Contents of this subject will enable the students to address various issues related to human resource, finance, materials, legislations etc. by use of basic principles of management. This will ensure that students will pay their role effectively to enhance the quality of business output in total.

Course Outcomes:

At the end of the course, students should be able to:

- CO-1 Define the business, industry and globalization.
- CO-2 Describe the different categories & process of management.
- CO-3 Illustrate the types of organization and its form.
- CO-4 Explain the types of industrial accidents and safety procedure.
- CO-5 Explain different types of taxes and GST.
- CO-6 Illustrate the applications of inventory concept, MRP and ERP.
- CO-7 Describe the concept and control of quality management.

5. Teaching Scheme (in hours):-

Lecture	Tutorial	Practical	Total
45(including 3 hrs class test)	0		45

6. Examination Scheme:

		Practical	_				
Examination Full Marks	Sessional Full Marks	Total Marks	Pass Marks	Practical	Practical Assessment	Total Marks	Pass Marks
70	30	100	33	-	-	-	-

7. Detailed Course Content:

Chapter No	Chapter Title	Content	Duration (in hours)
1	Overview of Business	 1.1 Type of Business * Service * Manufacturing * Trade 1.2. Industrial Sector Introduction to * Engineering industry * Process industry * Textile industry * Chemical industry * Ago industry * IT industry * Banking, Insurance, Retail, Hospitality, Health care 1.3. Globalization * Introduction * Advantages & Disadvantages with respect to India 	6hrs.
2	Management Process	 2.1 What is Management? * Evolution * Various definitions of management * Concept of management * Levels of management * Administration & management * Scientific management by F.W Taylor. 2.2. Principles of management (14 principles of Henry Fayol) 2.3. Functions of managements * Planning * Organizing * Directing * Controlling * Decision Making 	5hrs
3	Structure of Organization	3.1. Organization * Definition * Steps in organization 3.2. Types of organization * Line * Line & staff * Functional * Project * By Product * By process	8hrs

		* By Function	
		3.3. Principles of Organization	
		* Authority & responsibility	
		* Span of Control	
		* Effective Delegation	
		* Balance. Stability and flexibility	
		* Communication	
		3.4. Forms of ownership	
		* Proprietorship	
		* Partnership	
		* Joint Stock	
		* Co-operative Society	
		* Govt Sector	
		4.1. Safety Management	
		* Causes of accidents	
		* Types of industrial accidents	
		* Preventives measures	
		* Safety procedures	
4	Industrial Safety and	4.2 Industrial legislation- Necessity of Acts	5hrs
	Legislative Acts	Important definitions & Main provisions	omo
		of following acts:-	
		Indian Factory Act	
		Workman Compensation Act	
		Minimum Wages Act	
		5.1 Financial Management- Objective &	
		Functions	
		5.2 Capital Generation & Management	
		* Types of Capitals- Fixed & Working	
		* Sources of raising Canital- Features of	
		Short term Medium term & Long term	
		Sources	
		5.3 Budgets and accounts	
		* Types of Budgets	
	Financial	* Fixed & variable budget- Concept	
5	Management	* Production Budget- Sample format	6hrs
5	(No Numerical)	* I abour Budget- Sample Format	oms
	(1101(011000))	* Profit & Loss account & Balance Sheet-	
		Meaning- Sample format meaning of	
		different terms involved	
		5.4 Meaning & Examples of	
		* Excise Tax	
		* Service Tax	
		* Income Tax	
		* Value Added Tax	
		* Custom Duty	
		6.1 Inventory Concept its classification	6hrc
5	Financial Management (No Numerical)	 * Types of Budgets * Fixed & variable budget- Concept * Production Budget- Sample format * Labour Budget- Sample Format * Profit & Loss account & Balance Sheet- Meaning- Sample format, meaning of different terms involved. 5.4. Meaning & Examples of :- * Excise Tax * Service Tax * Income Tax * Value Added Tax * Custom Duty 6.1.Inventory Concept, its classification, 	6hrs 6hrs

	Materials	functions of inventory 6.2. ABC Analysis- Necessity & steps 6.3. Economic order quantity concept, graphical representation, determination of	
6	Management (No Numerical)	 EOQ. 6.4.Standard steps in purchasing 6.5. Modern Techniques of Material Management. Material Resources planning (MRP)- Functions of MRP, Input to MRP, Benefits of MRP. Enterprise Resource Planning (ERP)- Concept, 	
		list of modules, advantages & disadvantages of ERP.	
7	Quality Management	 7.1. Meaning of Quality * Quality Management system- Activities, Benefits * Quality Control- Objectives, functions, Advantages * Quality Circle – Concept, Characteristics & Objectives * Quality Assurance – Concept, Quality Assurance System. 7.2. Meaning of Total Quality and TQM * Components of TQM- Concept, Elements of TQM, Benefits 7.3. Modern Techniques and Systems of Quality Management like Kaizen, 5'S',^ Sigma 7.4. ISO 9001:2000- Benefits, Main Clauses 	6hrs

8. Distribution of Marks :

		Ту			
Chapter No	Chapter Title	Objective Type (Compulsory)	Short Questions	Descriptive Questions	Total Marks
1	Overview of Business	4	2	4	10
2	Management Process	3	2	4	9
3	Structure of Organization	4	4	5	13
4	Industrial Safety and Legislative Acts	3	0	5	8
5	Financial Management (No Numerical)	4	2	4	10
6	Materials Management (No Numerical)	3	2	5	10
7	Quality Management	4	2	4	10
		25	14	31	70

Table of	of Spe	cification
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S	Topic	O	BJE(TY	CTIV PE	VE	S	HOF	RT A TY	NSW PE	ΈR		ESS	AY T	YPE		G T
N	Topic	K	C	A	Т	K	C	A	H A	Т	K	С	А	H A	Т	
1	Overview of Business	3	1	0	4	0	2	0	0	2	4	0	0	0	4	10
2	Management Process	3	0	0	3	2	0	0	0	2	4	0	0	0	4	9
3	Structure of Organization	3	1	0	4	2	0	2	0	4	5	0	0	0	5	13
4	Industrial Safety and Legislative Acts	2	1	0	3	0	0	0	0	0	0	5	0	0	5	8
5	Financial Management (No Numerical)	3	1	0	4	2	0	0	0	2	0	4	0	0	4	10
6	Materials Management (No Numerical)	2	1	0	3	0	2	0	0	2	5	0	0	0	5	10
7	Quality Management	3	1	0	4	0	2	0	0	2	4	0	0	0	4	10
	Total=	19	6	0	25	6	6	2	0	14	22	9	0	0	31	70

Sr. No	Topic	Time allotted in hours	Percentage Weightage	K	С	А	HA	Total
1	Overview of Business	6	14	7	3	0	0	10
2	Management Process	8	19	10	1	2	0	13
3	Structure of Organization	5	12	9	0	0	0	9
4	Industrial Safety and Legislative Acts	6	14	5	5	0	0	10
5	Financial Management (No Numerical)	5	12	2	6	0	0	8
6	Materials Management (No Numerical)	6	14	7	3	0	0	10
7	Quality Management	6	14	7	3	0	0	10
	Total =	42	100	47	21	2	0	70

Chapter No.	Chapter Title	Specific Objectives
1	Overview of Business	 Understand concept of business. Know the concept of industrial sector Knowing the merits of globalization
2	Management Process	Understand the functions of managementUnderstand principles of management.
3	Structure of Organization	Understand the various forms of ownershipKnow the principles of organization
4	Industrial Safety and Legislative Acts	 Know the causes of industrial accident and its preventive measures. Know the Indian factory act. Understand the concept of minimum wages act
5	Financial Management (No Numerical)	Understand concept of budget and accounts.Know the examples of different taxes system
6	Materials Management (No Numerical)	 Know the classification of inventory concepts. Understand the uses of modern techniques of material management
7	Quality Management	Understand the objectives of quality managementKnow the component of total quality management

9. Suggested implementation Strategies :

10. Suggested learning Resource :

10.1 Books list

Sl.	Author	Name of Book	Publisher
No.			
1	Dr. O.P. Khanna	Industrial Engineering & Management	Dhanpat Rai & Sons, New Delhi
2	Banga & Sarma	Industrial Engineering & Management	Khanna Publication
3	Dr. S.C Saxena	Business administration and Management	SahityaBhavan, Agra
4	W.H. Newman	The Process of Management	Prentice Hall
	E. Kirby Warren		
	AndrewR. McGill		
5	M.C. Shukla	Business organization & Management	S Chand & Company
			Pvt. Ltd

1. COURSE TITLE :- ENVIRONMENTAL & POLLUTION MANAGEMENT

- 2. COURSE CODE :-TT-602
- 3. SEMESTER

:- 6TH

4. Rationale of the subject/ Courses:-Rationale: Environment essentially comprises of our living ambience, which gives us the zest and verve in all our activities. The turn of the twentieth century saw the gradual onset of its degradation by our callous deeds without any concern for the wellbeing of our surrounding we are today facing a grave environmental crisis. The unceasing industrial growth and economic development of the last 300 years or so have resulted in huge ecological problems such as overexploitation of natural resources, degraded land, disappearing forests, endangered species, dangerous toxins, global warming etc.

It is therefore necessary to study environmental issues to realize how human activities affect the environment and what could be possible remedies or precautions which need to be taken to protect the environment.

The curriculum covers the aspects about environment such as Environment and Ecology, Environmental impacts on human activities, Water resources and water quality, Mineral resources and mining, Forests, etc.

5. Teaching Scheme (in hours):-

Lecture	Tutorial	Practical	Total
42	3		45

6. Examination Scheme:

	Theory		Practical					
Examination Full Marks	Sessional Full Marks	Total Marks	Pass Marks	Practical	Practical Assessment	Total Marks	Pass Marks	
70	30	100	33	-	-	-	-	

7. <u>Course Outcomes</u>:

1. State about the nature, environmental impacts on nature and public awareness towards environmental effects.

2. Measure the environmental impact due to population growth, industrialization and urbinaisation.

3. Describe the concept of ecosystem, energy flow in an ecosystem and food chain.

4. Relate the meaning of water pollution, its sources and adverse effects.

5. Express the air pollutants, sources of air pollution and its effects and minimum standards.

6. Define about the noise pollution, describe the sources and their effects and analyse the water parameters before using in Textile Industries

Chapter			Duration
No	Chapter Title	Content	(in
110			hours)
1		1.1. Nature and Scope of environmental problems-	2
	General Concepts	definition, Interaction of	
		system, environmental disturbance, public	
		awareness and action.	
		2.1. Population growth, industrialisation and urbanisation,	4
2		environmental impact, future consumption and	
	Population and	availability of energy	
	Economic Growth	sources and environmental impact of	
		energy development.	
		3.1. Concepts of ecosystem- biosphere and its	2
		components, examples of ecosystem,	
3	Ecology	energy flow in ecosystem, Food chain.	
		3.2. Natural resources	
		cycle(C.N.P. WATER CYCLE)	
		4.1. Water pollution- pollutant types and sources, their	10
		effects. Natural recovery	
4	Environmental	process of water bodies, Minimum National standard	
	pollution	4.2. Air pollution-types of Pollutantsand sources,	
	-	(MINAS) their effects, Minimum standards.	
		4.3. Radio Active pollution-types of pollutants, sources	
		and theireffects, Minimum Standards.	
		4.4. Environmental pollution- related to textile industrial	
		process- Sources & types of	
		pollutants, impact on environment.	
		5.1. Epidemiology- Water born diseases, vectors and	4
5	Environmental	sources, Sanitary protection	
	Sanitation	measures.	
		5.2. Occupational health hazards related to textile industry	
		process. 5.3. Solid waste-	
		Sources and characteristics, disposal system.	

8. Detailed Course Content :

9. Distribution of Marks :

		Т	Type of Question						
Chapter No	Chapter Title	Objective Type (Compulsory)	Short Questions	Descriptive Questions	Total Marks				
1	General Concepts	02	02	05	09				
2	Population and Economic Growth	02	03	08	13				
3	Ecology	04	03	10	17				

Sixth Semester, Textile Technology

4	Environmental pollution	03	02	05	10
5	Environmental Sanitation	02	02	05	09
6	Pollution Monitoring and Control	02	03	07	12
		15	15	40	70

K=Knowledge

C= Comprehension

A=Application

Ha= Higher Than Application.

TABLE OF SPECIFICATIONS FOR THEORY:- ANNEXURE-I

Sr No	Topic (a)	Time allotted in hours (b)	Percentage Weightage (c)	K	С	А	НА
1	General Concepts	3	7.1%	2	2	5	
2	Population and Economic Growth	4	9.5%	2	3	4	4
3	Ecology	4	9.5%	4	3	10	
4	Environmental Pollution	10	23.8%	3	2	5	
5	Environmental Sanitation	7	16.6%	2	2	5	
6	Pollution Monitoring and Control	14	33.3%	2	3	7	
		42	100%	15	15	36	4
K=Kn	owledge C= Comprehension	A=Applicatio	n HA=	Highe	r Thar	n Appli	cation.

A=Application

HA= Higher Than Application.

DETAILED TABLE OF SPECIFICATIONS

Sr No	Торіс	Ot ,	ojecti Type	ive e		Sho	ort A	nsw	er T	ype		Es	say T	Гуре	
		K	C	A	Т	K	С	A	H A	Т	K	C	A	H A	Т
1	General Concepts		2		2		2			2		5			5
2	Population and Economic Growth			2	2			3		3		4		4	8
3	Ecology			4	4		3			3		5	5		10
4	Environmental Pollution		3		3		2			2		5			5
5	Environmental		2		2		2			2		5			5

	Sanitation								
6	Pollution Monitoring and Control	2	2		3	3	7		7
			15			15			40

K= Knowledge C= Comprehension HA= Higher Than Application A= Application T=Total

- 10. Suggested implementation Strategies :
- 11. Suggested learning Resource :

11.1 Books list

Sl. No	Title	Author		
1	Concept of Environmental Science	R.R. DAS		
2	A text book of Environmental Studies	S. Sinha		
3	Environmental Science	S.C. Santra.		

List of Journals :- .

- 1. Textile Research Journal,
- 2. Textile Trend
- 3. Textile Asia
- 4. Indian Textile Journal

12. INTENDED LEARNING OUTCOME (ILO):

The Students will be able to:-

- 1. Describe about the nature, natural environment, public awareness.
 - a) State about the structure of nature.
 - b) Relate the impact of nature on Environment.
 - c) Express the public awareness for safety of the environment.
- 2. Cite the environmental impact due to population growth, industrialisation and urbanisation.
 - a) List the population growth and its effect to the nature.
 - b) Site the industrialisation and its effects to the environment.
 - c) Outline the urbanisation and its serious effects to the environment.
- 3.Describe the concept of ecosystem, energy flow in an ecosystem and food-chain.
 - a) State the concept of ecosystem.
 - b) Cite the way of energy flow in an ecosystem.
 - c) Outline the structure of food-chain in aquatic and Land ecosystem.
- 4. State about the water pollution and its source and effects.
 - a) Define the water pollution act.
 - b) Cite the man made and natural sources of water pollution.

- c) Describe the bad effects of water pollution to the human being.
- 5.Relate the air pollution, sources and its effects.
 - a)Define the air pollution act 1981.
 - b) List the sources of air pollution.
 - c) Outline the bad effects of air pollution to the human being.
- 6. Express about the noise pollution, its sources and effects.
 - a) Define noise pollution and its decibel.
 - b) List the different sources of noise pollution.
 - c) Outline the bad effects of noise pollution and its preventive measures.
- 7. Relate about the radioactive pollution and its effects on nature.
 - a) Express about the radioactive pollution.
 - b) List the different sources of radioactive pollution.
 - c) Express the bad effects of radioactive pollution to the living beings.
- 8. Explain the solid wastes disposal system.
 - a) List the sources of solid waste.
 - b) Outline hazardous effects due to solid wastes.
 - c) State the way of solid waste disposal system.
- 9. Explain about the industrial waste, effluent and dye house treatment plant of textile industries.
 - a) Illustrate about the industrial waste treatment plant.
 - b) State about the effluent treatment plant in industries.
 - c) Outline the dye house treatment plant in textile industries.
- 10. Analyse the water parameters before using in textile industries.
 - a) State different laboratory tests for water parameters.
 - b) Describe the suitability of standard water for using in textile industries.
- 11. Explain about the air pollution effects in textile industries.
 - a) List the sources of air pollution in running textile industries.
 - b) Outline the preventive measures for reducing air pollution in textile industries.

- **1. Course Title** :-Textronics
- 2. Course Code :-TT-603
- 3. Semester :- 6th

4. Rationale of the subject/ Courses:-Textile Technology has been advanced by leaps and bounds. The present day situation needs the textile machinery, which can produce the best quality fabrics with very high production rates. To keep the cost production the lowest is the order of day. For this textile machinery manufacturers have introduced many electronic devices to indicate measure and control various aspects of process. It has been possible to monitor process by use of microprocessors. This subject intends to impart basic knowledge regarding the electronic components used in machines, principles and their carry out function.

5. Teaching Scheme (in hours):-

Lecture	Tutorial	Practical	Total
45 (Including 3 hrs class test & 5 Tutorials)	5	45	90

6. Examination Scheme:

	Theory		Practical					
Examination Full Marks	Sessional Full Marks	Total Marks	Pass Marks	Practical	Practical Assessment	Total Marks	Pass Marks	
70	30	100	33	-	-	-	-	

7. Detailed Course Content :

Chapter	Chapter Title	Content	Duration				
No	1		(in hours)				
		1.0.Introduction: active and passive components					
1	Passive	1.1. Resistors: Principle, specifications, types, color	6+1				
	Components coding.						
		1.2. Capacitors: Property, specifications, types					
		1.3. Inductors: Property, specifications, types.					
		2.0. Classification of material	6+1				
2	Semiconductor	Conductors, Semi-conductors, insulators.					
	Devices	2.1. Semiconductor Types: Intrinsic, extrinsic, P&N					
		type, PN junction diode, unbiased, forward & reverse					
		bias, VI characteristics of diode, Application, full					
		wave rectifiers, Transistors- Construction, Types-					
		PNP & NPN, working operating regions- active, cut-					
		off, saturation, Application- amplifier, transistor as a					
		switch Op-amp- introduction, block diagram, 741 pin					
		out, Applications- inverting, non-inverting &					

		differential amplifier.	
		3.0. Optical Sensor- LDR, photodiode,	6+1
3	Sensors,	phototransistor, LED, opto-coupler. Displacement	
	Actuators and	sensor- LVDT capacitive sensor- level	
	Signal	measurement, force & weight measurement-strain	
	Conditioning	gauge, humidity sensors, Temperature sensors-	
		RTD, thermister, thermocouple, Pressure sensor-	
		bourdon tubes, bellows, Actuators-relays,	
		contractors, solenoids, electric & pneumatic, Signal	
		conditioning- principle, need of bridges, data	
		converters.	
4	Control	4.0. Introduction, open loop & closed loop control	7+1
	Systems	system4.1. Automatic textile control system	
		4.2. Combined loop control system	
		5.0. Difference between analog and digital	7+1
5	Digital	electronics.	
	Electronics,	5.1. Binary number system, digital gates, flip flops-	
	Microcontrolle	RS, D&JK	
	r and PLC	5.2. Counter- asynchronous up and down counter	
		5.3. Memory- ROM & RAM (in brief, only basic	
		concepts)	
		5.4. Introduction to microcontroller, features of 8051	
		5.5. Architecture of 8051(Programming, instruction	
		set not included)	
		5.6. Programmable logic controller- introduction,	
		block diagram	
6	Applications	6.0. Applications- Blow room, card autoleveller, yarn	7+1
		evenness tester, tensile testing, sizing, automatic weft	
1	1	strengthening	

8. Distribution of Marks :

			Type of Question					
Chapter No	Chapter Title	Objective Type (Compulsory)	Short Questions	Descriptive Questions	Total Marks			
1	Passive Components	1	1	5	7			
2	Semiconductor Devices	4	3	9	16			
3	Sensors, Actuators and Signal Conditioning	3	4	8	15			
4	Control Systems	1	2	4	7			
5	Digital Electronics, Microcontroller and PLC	5	4	9	18			
6	Applications	1	1	5	7			
		15	15	40	70			

9. Suggested learning Resource:

Books list

Sl. No.	Author	Title	Publication		
1	R.S Sedha	A Text Book of Applied Electronics	S. Chand & Co		
2	Madhuri Joshi	Electronics components	A.H. Wheeler Publicaton		
3	A.K. Sawhney	Electrical & Electronics measurements	Dhanpat Rai Publication		
		& instrumentation			
4	Dr. S.D. Bhide	Feed Back Control System	Technova Publication,		
	S. Satyanarayan		Pune		
	N.A Jalgaonkar				
5	Ramakant Gaikwad	OP-amp & Linear Integrated Circuit	Pearson Publication		
6	R.P. Jain	Modern Digital Electronics	TATA McGraw Hill		
7	Kennth Ayala	The 8051 Microcontroller	Cengage Learning, India		
			Edition		
8	Mitsubishi, Messung	PLC Hardware/ Instruction Manual	Mitsubishi, Messung		
	Company		Company		
9	Hiren Joshi	Electronics Controls in Textile Machines	NCUTE training Program		
	Gauri Joshi				

- 1. Course Title :
 - :-Textronics (Practical) :-TT-603
- 2. Course Code 3. Semester

:- 6th

4. Marks Distribution:

	Theory			Practical				
Examination Full Marks	Sessional Full Marks	Total Marks	Pass Marks	Practical	Practical Assessment	Total Marks	Pass Marks	
_	_	-	-	25	25	50	17	

Practical List:

- 1. To read the values of resistors with colour codes and verification of the value by measuring with multimeter.
- 2. To read the values of ceramic, mica and electrolyte capacitors and measuring with L.C.R. meter.
- 3. To study the different types of inductive coils.
- 4. To study LDR, LED, Photodiode, relays and different types of sensors.
- 5. To study the V-I characteristics of Forward and Reverse bias PN junction diode.
- 6. To study the Half Wave rectifier.
- 7. To study the Full Wave Centre tapped and Bridge rectifier.
- 8. To study the filters e.g. Capacitor filter, Choke input filter and π filter
- 9. To study different types of transistors and identification of leads.
- 10. To study the CE, CB and CC configuration of transistors.
- 11. To study Single stage Transistor amplifier.
- 12. To study IC-741 Op-Amp as Inverting and Non-Inverting amplifier.
- 13. To study basic logic gates and verification of their truth tables.
- 14. To study the RS flip flop and verification of the logic table.

XXXX

- 1. Course Title :-ENGINEERING ECONOMICS & ACCOUNTANCY
- 2. Course Code :-TT-604
- 3. Semester

4. Aim of the Course:

1. To introduce the students to some important economic and accounting terms.

2. To acquaint the students with some economic laws and with the functions of money, bank etc.

3. To make the students capable of recording business transaction under double entry system.

4. To introduce the students about financial statements.

5. Course Outcomes:

On completion of the course on EEA, students will be able to

:- 6th

CO 1 = Define some important economic and accounting terms.

CO 2 = explain some basic economic laws.

CO 3 = Describe overall economic environment.

CO 4 = explain double entry system of book keeping.

CO 5 = record business transactions under double entry system of book keeping \neg

CO 6 = define financial statements.

6. Teaching Scheme(In hours)

0	<u>, , , , , , , , , , , , , , , , , , , </u>		
Lecture	Tutorial	Practical	Total
42 Hrs	3 Hrs	-	45 Hrs

6. Examination Scheme

	Theory		Practical				
Examination	Sessional	Total	Pass	Dractical	Practical	Total	Pass
Full Marks	Full Marks	Marks	Marks	Flactical	Assessment	Marks	Marks
70	30	100	33	-	-	-	-

7. Details course content

Chapter No.	Chapter Title	Chapter Title Content		
PART-A	: ENGINEERING	ECONOMICS (21 HOURS)		
Ι	Introduction to Economics :	 i) Definition of Economics, its utility and scope of study ii) Definition of Engineering Economics iii) Meaning and concepts of Utility, Consumption, Value, Price, Goods and National Income, inflation iv) Wants – Definition and characteristics iv) Wealth& Welfare– Definition, meaning and types. 	5	
II	Demand and	i) Meaning and factors of production	4	

	Supply :	ii)Factors determining efficiency of labour	
		iii) Savings, investment and capital formation	
		iv)Meaning of production function	
		i) Meaning and factors of production	
ш	Production	ii)Factors determining efficiency of labour	5
111	Tioduction	iii) Savings, investment and capital formation	5
		iv)Meaning of production function	
	Money	i) Meaning of money	
IV	winney	ii) Types of money	2
		iii) Functions of money	
V	Banking	i) Central Bank – its functions	3
•	Organisation :	ii) Commercial banks – its functions	5
	Pricing	i) Objectives of pricing policy	
VI	Themg	ii) price determinants	2
		iii) Price discrimination	
PART-	B ACCOUNTANC	CY (21 HOURS)	
		i) Definition & objectives of Bookkeeping	
		ii) Need and advantages of Bookkeeping	
	Introduction to	iii) Definition of Accounting	
VII	Book-Keeping	iv) Difference between Book-keeping and Accounting	3
	and Accounting:	v) Double Entry System – main features	
		vi) Advantages and disadvantages of Double Entry	
		System	
	Introduction to	i) Components of Computerised Accounting Software	
VIII	Computerised	ii) Need for Computerised Accounting	2
V III	Accounting	iii) Difference between Manual Accounting and	2
	System:	Computerised Accounting	
		i) Definition	
		ii) Meaning of Account	
IX	Transaction:	iii) Classification of Accounts: - Traditional Approach -	2
		Modern Approach iv) Meaning of Debit and Credit	
		v) Rules of Debit and Credit	
		i) Meaning Journal	
		ii) Recording of Transactions in Journal	
	Journal and	iii) Meaning of Ledger	
X	Ledger	iv) Objectives and utility of Ledger	4
	200801	v) Posting and balancing of Ledger	
		vi) Distinction between Journal and Ledger	
		vii) Names of different Books of Accounts	
		i) Meaning and importance of Cash Book	
		11) Characteristics and advantages of Cash Book	
377		111) Discount – Trade Discount and Cash Discount	4
	Cash Book	1V) Different types of Cash Book: - Single Column Cash	4
		Book - Double Column Cash Book - Triple Column Cash	
		BOOK	
		v) Bank Reconciliation Statement – Basic idea	
	Trial Balance &	1) Meaning and objects of Trial Balance	
XII	Errors in	11) Main features and advantages of Trial Balance	3
	Accounting:	iii) Preparation of Trial Balance	
	2	(iv) Types of errors in Accounting	

XIII	Components of Final Accounts:	 i) Meaning and objectives of Trading Account ii) Contents of Trading Account iii) Meaning and objectives of Profit and Loss Account iv) Contents of Profit and Loss Account v) Meaning of depreciation, revenue expenditure and capital expenditure vi) Contents of Balance Sheet 	3
	Class Test		3 Hrs
	Total		45 Hrs.

8. Table of Specification

SI. No	Topic (a)	Time allotted in hours (b)	Percentage Weightage (c)	Knowledge	Compre- hension	Application	НА
1	Introduction to Economics	5	12	5	3	0	0
2	Demand & Supply	4	9	2	4	0	0
3	Production	5	12	6	2	0	0
4	Money	2	5	4	0	0	0
5	Banking Organisation	3	7	3	2	0	0
6	Pricing	2	5	2	2	0	0
	(A) Introduction to Book-Keeping	3	7	5	0	0	0
7	(B) Introduction to Computerised Accounting System	2	5	3	0	0	0
8	Transaction	2	5	2	1	0	0
9	Journal & Ledger	4	9.5	2	2	3	0
10	Cash Book	4	9.5	0	5	2	0
11	Trial Balance & Errors in Accy	3	7	5	0	0	0
12	Components of Final Accounts	3	7	2	3	0	0
	Total	42hrs	100	41	24	5	0

9. Distribution of Marks

SI.	Topic	C	BJE	СТІ	'E	S	HOR	T AN	ISWE	R		ESS	AY T	YPE		Grand
No			Т	ΈE				ТҮРІ	E							
		к	С	Α	Т	к	С	Α	HA	Т	к	С	Α	HA	Т	Total
1	Introduc	3	1	0	4	2	2	0	0	4	0	0	0	0	0	8
2	Demand	0	0	0	0	0	0	0	0	0	2	4	0	0	6	6
	&Suppl	-	-	-	-	-	-	-		-	-		-	-	-	•
3	Production	1	0	0	1	2	0	0	0	2	3	2	0	0	5	8
4	Money	2	0	0	2	2	0	0	0	2	0	0	0	0	0	4
5	Banking	1	0	0	1	0	0	0	0	0	2	2	0	0	4	5
	Organis		-			-	-	-		-	-	-	-	-		•
6	Pricing	2	2	0	4	0	0	0	0	0	0	0	0	0	0	4
	Introdu	2	0	0	2	3	0	0	0	3	0	0	0	0	0	5
7	to B K		-					-		-	-		-		-	-
	Introduc to	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
	Comput															
8	Transact	2	0	0	2	0	1	0	0	1	0	0	0	0	0	3
9	Journal &	1	0	0	1	0	0	0	0	0	1	2	3	0	6	7
	Ledge															
10	Cash	0	2	0	2	0	0	0	0	0	0	3	2	0	5	7
	Book	-		-			-	-		-	-	-		-	-	
11	Trial	3	0	0	3	2	0	0	0	2	0	0	0	0	0	5
	Balance															-
12	Componts	0	0	0	0	0	0	0	0	0	2	3	0	0	5	5
	F/Ac															
	Total	20	5	0	25	11	3	0	0	14	10	16	5	0	31	70

K = Knowledge C = Comprehension A = Application HA = Higher Than ApplicationT = Total

10. Suggested Learning Resources

SL No.	Title of Book	Name of Author(s)	Publisher		
1	Introductory Micro Economics	Sandeep Garg	DhanpatRai Publication Pvt. Ltd. New Delhi		
2	Introductory Macro Economics	Sandeep Garg	DhanpatRai Publication Pvt. Ltd.New Delhi		
3	Theory and Practice of Accountancy	B. B. Dam R. A. Sarda R. Barman B. Kalita	Capital Publishing Company, Guwahati – 5		
4	Book-Keeping & Accountancy	Juneja, Chawla &Saksena	Kalyani Publisher, New Delhi - 110002		
5	Tally. ERP 9 For Beginners	Tally Solutions Pvt. Ltd.	Sahaj Enterprises, Bangalore		

a. Book list

XXXX

1.COURSE TITLE: ADVANCE HANDLOOM (PRACTICAL) (OPTIONAL)2.COURSE CODE: TT-6053.SEMESTER: SIXTH

4.Rationale of the course : The importance of this paper lies in the fact that it introduces the students with different varieties of fabric production techniques and practical experience in producing varieties of structural and decorative designed fabric production. Computers are being used for design and information processing in all branches of engineering. In textile also, there are various computer aided textile designing software along with the card punching techniques. So, an opportunity will be given to the students in developing the CATD and its application in fabric manufacturing.

5.Teaching scheme (in hours)

Lecture	Tutorial	Tutorial Practical			
-	-	60	60		

1. Examination Scheme

Theory				Practical			
Examination	Sessional	Total	Pass	Dractical	Practical	Total	Pass
Full Marks	Full Marks	Marks	Marks	Flactical	Assessment	Marks	Marks
-	-	-	-	50	50	100	33

7. Detailed Course Content:

Chapter No	Chapter Title	Content	Hrs
Unit-I	Know, Check and ensuring the pre- loom activities	 A brief introduction to different looms: pit loom, through shuttle and fly shuttle frame loom. Draw, label, measure and write down the function of various loom parts and accessories: Reed, beams, shuttle, sley, temple, lease rod, pirn, fly shuttle frame loom, passage of warp through the loom. Practice of bobbin winding, pirn winding, drawing, denting, knotting etc. An introduction to different warping machine, practice of Warping, Beaming, Denting, Drafting & looming and gaiting-up. 	6

Unit-II	Fabric production technique	 Introduction to various fabric production techniques in Handloom: Pulley, Jack & Lam, Draw boy, dobby and jacquard arrangement. Calculation of warp and weft yarn required for production of structural and decorative design. Fabric Production cost calculation. 	14
Unit-III	Practice of Handloom weaving	 Transfer of design to point paper - various steps in transferring designs from sketch to point paper. Preparation of Design, draft, denting and tie-up plan of different weaves and practice of: Plain, Twill, Sateen, derivative twill etc. Extra weft design in Draw boy (Phony making, Sirash building, Overheald mounting etc.), dobby attachment and Jacquard attachment. Extra warp design. 	28
Unit-IV	Practice of Computer Aided Textile Design	 Principle of creating motifs in computer, drawing tools- motifs scanning, scanning parameters, colours and attributes, editing the image for graph making- scaling, rotating, reversing, dropping etc. Practice in card cutting machine. 	12

8. Distribution of Marks:

Chapter		Г	Total			
No	Chapter Title	Objective	Sort	Descriptive	Marks	
140		Туре	Questions	Questions	IVIAI KS	
	Know, Check and					
Unit I	ensuring the pre-loom				5	
	activities					
Unit II	Fabric production				10	
	technique				10	
Unit III	Practice of Handloom				25	
Ont m	weaving				23	
Unit IV	Practice of Computer				10	
	Aided Textile Design				10	

- 9. Suggested Implementation Strategies: The syllabus can be completed by regular classes. Every students have to prepare at least four fabric samples along with all necessary pre-activities, calculation etc..
- 10. Suggested learning Resource: Reference books and journals available in the library.

1. COURSE TITLE : APPAREL CONSTRUCTION (OPTIONAL
--

2. COURSE CODE : TT-606

- 3. SEMESTER : SIXTH
- 4. Rationale of the course
- 5. Examination Scheme

Theory				Practical			
Examination	Sessional	Total	Pass	Drastical	Practical	Total	Pass
Full Marks	Full Marks	Marks	Marks	Flactical	Assessment	Marks	Marks
-	-	-	-	50	50	100	33

Course Outcome: After completion of this course student will be able to-

:

- Introduction to the Garment industry and the process of garment manufacturing- Various technical departments involved and their respective roles.
 --Lecture.
- 2) Types of machines and equipments available for use. Types of seams, their uses, stitch diagrams, SPI, thread consumption, Garment process flowchart (sequence of operations in manufacturing a garment)

--Lecture/ Hand-outs + Audio-Visuals + fabric samples.

3) Introduction to basic terms such as Pattern making, Pattern Grading, Marker making, Lay plans, Pattern grain lines and their importance, Production patterns, Working patterns, Master pattern set.

--Lecture/Hand-outs.

4) Pattern aids- their uses.

Introduction to various Trims, Accessories used during Garment manufacturing.

--Demo.

5) Introduction to the Basic patterns -

- Basic bodice
- Basic skirt
- Basic sleeve
- Basic torso
- Basic trouser
- Basic Casual Shirt

--Demo.

6) Seam allowances - how to prepare Production ready patterns, Test fit/Muslin fit of the patterns (only half garment)

--Demo.

7) Practice stitching straight lines, circles, zig zag etc. on paper and then on muslin.

Stitch a Casual Shirt and a Basic Trouser (Sir, will discuss this again. I have another suggestion). --Demo.

8) Ergonomics - Introduction only. It's importance in achieving efficiency.

Time & Motion study and its relevance to the industry.

Production planning and Control.

--Lecture/ Hand-outs

- 9) Efficient Plant Layout, Material handling systems
 - --Lecture + audio visuals.
- 10) Importance of quality in Garment manufacturing at various stages, quality inspection of garments.

--Lecture / Demo.

- 1. Course Name: Project
- 2. Course Code : TT-607
- 3. Semester : VI
- 4. Teaching Scheme (in hours) :-

Lecture	Tutorial	Practical	Total
		135	135

5. Examination Scheme:

Theory				Practical			
Examination	Sessional	Total	Pass	Dractical	Practical	Total	Pass
Full Marks	Full Marks	Marks	Marks	Flactical	Assessment	Marks	Marks
-	-	-	-	100	100	66	200

General Description:

Seminar/Project is the most action oriented teaching methods which demand a great measure of independence from the students- covering actual working situation; covering the interests of all participants; self organization and responsibility and developing practical results. Every student will meet for an hour or so every week in the seminar period for a full term of an academic semester. By project /seminar the students will learn to understand complex and working situations of textile and related industry and to realize and interpret them.

Learning Objectives:

Intention is that the students gain the following skills through the process of seminar / project

- 1. Skills of Group Interaction.
- 2. Skills of Integrative Discussion.
- 3. Skills of critical evaluation.
- 4. Skills of exploring literature.

Nature of the project:

Project should be based on any one of the following areas and related to any one specific textile processes (spinning, weaving, chemical processing, knitting & garment manufacturing).

- 1. Manufacturing
- 2. Innovations
- 3. Effect of change in parameters on quality and performance.

Expected outcomes of the Project / Seminar:

- 1. Shy or reserved students get confidence for oral communication.
- 2. Students experience diverse views on a topic.
- 3. Discussion helps to clarify students' own views.
- 4. Students gain a clearer understanding of the topic.
- 5. Students are highly motivated to research and prepare for discussion / presentations.
- 6. Group sharing provides a more in depth understanding of the material.

1. COURSE TITLE

- 2. COURSE CODE
- **3. SEMESTER**
- : PROFESSIONAL PRACTICE IV : TT-608
- : SIXTH SEMESTER
- 4. Rationale of the course
- 5. Examination Scheme

Theory				Practical			
Examination	Sessional Full	Total	Pass	Drastical	Practical	Total	Pass
Full Marks	Marks	Marks	Marks	Practical	Assessment	Marks	Marks
-	-	-	-	25	25	17	50

Rational:

To develop general confidence, ability to communicate and attitude, in addition to basic technological concepts through Industrial visits, expert lectures, seminars on technical topics and group discussion.

Aim

- Student will be able to:
- Acquire information from different sources.
- Prepare notes for given topic.
- Present given topic in a seminar.
- Interact with peers to share thoughts.
- Prepare a report on industrial visit, expert lecture

Contents

1. INDUSTRIAL VISITS

Structured industrial visits be arranged and report of the same shall be submitted by the individual student, to form a part of the term work. (2 visits) Following are the suggested types of Industries/ Fields –

Activities

- a) Visit to textile industry, machinery manufacturing unit.
- b) Visit to Bombay Textile Research Association /ATIRA/SITRA etc for analytical study.
- c) Visit to machine manufacturing unit for learning erection process of machinery.
- d) Study of fibre & yarn testing machines and its parameters of textile mill.
- e) Silk industry in Assam.

2. THE GUEST LECTURE

From field/industry experts, professionals to be arranged (2 Hrs duration), minimum 4 nos. from the following or alike topics. The brief report to be submitted on the guest lecture by each student as a part of Term work

- a) Study of Nano technology in case of textile manufacturing.
- b) TQM
- c) Environmental pollution & control

8

Hours

8

d) Pollution evolved in textile industry

- e) Study of electronic control panel of textile industry.
- f) Natural dye and its sustainability
- g) Fabric Value addition techniques.

3. GROUP DISCUSSION:

The students should discuss in group of six to eight students and write a brief report on the same, as a part of term work. The topic of group discussions may be selected by the faculty members. Some of the suggested topics are (**any one**) –

- a) Assamese Gamucha and its uses.
- b) Handloom product and its diversification.
- c) Prospects of Textile Industries in Assam.
- d) Cost calculation of a product.

4. SEMINAR: (ANY 2 TOPICS)

Seminar topic should be related to the subjects of fifth semester / topics from guest lectures. Students shall submit a report of at least 10 pages and deliver a seminar (Presentation time - 10 minutes for a group of 2 students)

- a) Nano technology
- b) Disaster management
- c) Rain water harvesting
- d) Energy saving in the textile industries
- e) Rapid technological development and its advantages/disadvantages.

5. MINI PROJECTS: (IN A GROUP OF 4-5 STUDENTS)

- a) Layout of small spinning or weaving unit.
- b) Infrastructure of workshop of the institute

6. Prepare a detail procedure to be followed for setting up a Handloom / Powerloom / Spinning / Processing / Garment manufacturing unit. (MIN 10): 6

7. STUDENT ACTIVITIES:

Students in a group of 3 to 4 shall perform **any two** of the following activities (Other similar activities may be considered) and write a report as a part of term work.

ACTIVITIES:-

- 1. Collection of data regarding loan facilities or other facilities available through different organizations / banks to budding entrepreneurs
- 2. Survey and interviews of successful entrepreneurs in nearby areas
- 3. Survey of opportunities available in thrust areas identified by Government or DIC.
- 4. Prepare a detail steps to be followed for production of a sample in handloom/Powerloom spinning/ processing section.

4

8

6

5