

NEW STRUCTURE W.E.F. :- JULY 2015

F.Y. B.TEXT. (TT) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
1.1	TT/MMTT/TPE/TC/FT	APPLIED PHYSICS	4	---	---	---	100	---	---	---	100
1.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-I	3	---	---	---	100	---	---	---	100
1.3	TT/MMTT/TPE/TC/FT	ELECTRICAL SCIENCE	3	---	---	2	100	50	---	---	150
1.4	TT/MMTT/TPE/FT	TEXTILE FIBRES	4	---	---	---	100	---	---	---	100
1.5	TT	YARN FORMING TECHNOLOGY - I	4	---	---	2	100	50	---	---	150
1.6	TT	FABRIC FORMING TECHNOLOGY - I	4	---	---	2	100	50	---	---	150
1.7	TT/MMTT/FT	COMPUTER LABORATORY	---	---	---	2	---	50	---	---	50
			22	---	---	8	600	200	---	---	800

L =LECTURES

T =TUTORIALS

DR=DRAWING

PR=PRACTICALS

TP=THEORY PAPER

TW=TERM WORK

OE=ORAL EXAMINATION

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F.Y.B.TEXT.(TT) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
2.1	TT/MMTT/TPE/TC/FT	APPLIED MECHANICS	3	---	---	---	100	---	---	---	100
2.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-II	3	---	---	---	100	---	---	---	100
2.3	TT/MMTT/TC	INDUSTRIAL CHEMISTRY FOR TEXTILES	4	---	---	2	100	25	---	---	125
2.4	TT/MMTT/TPE/TC/FT	ENGINEERING GRAPHICS	2	---	2	---	100	25	---	---	125
2.5	TT	YARN FORMING TECHNOLOGY - II	4	---	---	2	100	50	---	---	150
2.6	TT	FABRIC FORMING TECHNOLOGY - II	4	---	---	2	100	50	---	---	150
2.7	TT/MMTT	COMMUNICATION LABORATORY	---	---	---	2	---	50	---	---	50
			20	---	2	8	600	200	---	---	800

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			L	T	DR	PR	TP	TW	OE	PE	SUB.
3.1	TT/MMTT/TPE/TC	THERMAL AND AIR ENGINEERING	3	---	---	---	100	---	---	---	100
3.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-III	3	---	---	---	100	---	---	---	100
3.3	TT	TECHNOLOGY OF FIBRES OTHER THAN COTTON	3	---	---	---	100	---	---	---	100
3.4	TT	TEXTILE TESTING - I	4	---	---	3	100	50	---	50	200
3.5	TT	YARN FORMING TECHNOLOGY-III	4	---	---	2	100	25	---	---	125
3.6	TT	FABRIC FORMING TECHNOLOGY-III	4	---	---	2	100	25	---	---	125
3.7	TT/MMTT	TEXTILE DESIGN AND COLOUR	---	---	2	---	---	50	---	---	50
			21	---	2	7	600	150	---	50	800
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
4.1	TT/MMTT/TPE/TC	TEXTILE ELECTRONICS-I	3	---	---	2	100	50	---	---	150
4.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-IV	3	---	---	---	100	---	---	---	100
4.3	TT	TEXTILE TESTING - II	3	---	---	2	100	25	---	50	175
4.4	TT/MMTT	CHEMICAL PROCESSING OF TEXTILES-I	3	---	---	2	100	25	---	---	125
4.5	TT	YARN FORMING TECHNOLOGY-IV	4	---	---	2	100	25	---	50	175
4.6	TT	FABRIC FORMING TECHNOLOGY-IV	4	---	---	2	100	25	---	50	175
			20	---	---	10	600	150	---	150	900
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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T.Y.B.TEXT. (TT) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
5.1	TT/MMTT/TPE/TC	TEXTILE ELECTRONICS-II	3	---	---	2	100	---	---	50	150
5.2	TT	YARN FORMING TECHNOLOGY-V	4	---	---	2	100	50	---	---	150
5.3	TT	FABRIC FORMING TECHNOLOGY-V	4	---	---	2	100	50	---	---	150
5.4	TT/MMTT	CHEMICAL PROCESSING OF TEXTILES-II	3	---	---	2	100	25	---	50	175
5.5	TT	FIBRE SCIENCE	3	---	---	2	100	25	---	---	125
5.6	TT/MMTT	MECHANICS OF TEXTILE MACHINES	3	---	---	---	100	---	---	---	100
5.7	TT/MMTT/TPE/TC/FT	INPLANT TRAINING-I	---	---	---	---	---	50	---	---	50
			20	---	---	10	600	200	---	100	900

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NEW STRUCTURE W.E.F. :- JULY 2017

T.Y.B.TEXT. (TT) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
6.1	TT/MMTT/TPE/TC/FT	ADVANCED COMPUTER PROGRAMMING	3	---	---	2	100	50	---	50	200
6.2	TT	MANMADE FIBRES AND YARNS	3	---	---	---	100	---	---	---	100
6.3	TT/MMTT/TPE/TC/FT	INDUSTRIAL ENGINEERING	3	---	---	---	100	---	---	---	100
6.4	TT	STRUCTURAL MACHANICS OF YARNS	3	---	---	2	100	50	---	50	200
6.5	TT	UNCONVENTIONAL SPINNING TECHNOLOGY	4	---	---	3	100	50	---	---	150
6.6	TT	KNITTING TECHNOLOGY	4	---	---	3	100	50	---	---	150
			20	---	---	10	600	200	---	100	900

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NEW STRUCTURE W.E.F. :- JULY 2018

FINAL YEAR B.TEXT. (TT) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
7.1	TT/MMTT	NONWOVEN TECHNOLOGY	3	---	---	3	100	50	---	---	150
7.2	TT	GARMENT TECHNOLOGY	3	---	---	2	100	50	---	---	150
7.3	TT	FABRIC SCIENCE	3	---	---	3	100	25	---	50	175
7.4	TT/MMTT/TPE	TEXTILE MILL PLANNING AND ORGANISATION	4	---	---	---	100	25	---	---	125
7.5	TT/MMTT	UTILITY ENGINEERING IN TEXTILES	4	---	---	---	100	---	---	---	100
7.6	TT	ELECTIVE-I	3	---	---	---	100	---	---	---	100
7.7	TT/MMTT/TPE/TC/FT	SEMINAR-I	2	---	---	---	---	50	---	---	50
7.8	TT/MMTT/TPE/TC/FT	INPLANT TRAINING-II	---	---	---	---	---	50	---	---	50
			22	---	---	8	600	250	0	50	900

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LIST OF ELECTIVE-I

1. DENIM MANUFACTURING AND FINISHING
2. TOTAL QUALITY MANAGEMENT
3. TEXTILE PRODUCT ENGINEERING
4. ECONOMICS AND INDUSTRIAL LAWS
5. FIBER REINFORCED COMPOSITES

NEW STRUCTURE W.E.F. :- JULY 2018

FINAL YEAR B.TEXT. (TT) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
8.1	TT/MMTT	PROCESS MANAGEMENT IN YARN FORMING	3	---	---	3	100	50	---	50	200
8.2	TT/MMTT	PROCESS MANAGEMENT IN FABRIC FORMING	3	---	---	3	100	50	---	50	200
8.3	TT/MMTT/TPE/TC	TEXTILE MILL MANAGEMENT	3	---	---	---	100	---	---	---	100
8.4	TT/MMTT	TECHNICAL TEXTILES	4	---	---	---	100	---	---	---	100
8.5	TT	ELECTIVE -II	3	---	---	---	100	---	---	---	100
8.6	TT/MMTT/TPE/TC/FT	SEMINAR - II	2	---	---	---	---	50	---	---	50
8.7	TT/MMTT/TPE/TC/FT	DISSERTATION	---	---	---	6	---	50	100	---	150
			18	---	---	12	500	200	100	100	900

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LIST OF ELECTIVE-II

1. INFORMATION TECHNOLOGY FOR TEXTILES
2. HOME TEXTILES AND TERRY TOWEL MANUFACTURING
3. ENTERPRENEURSHIP
4. MAINTENANCE MANAGEMENT IN TEXTILE
5. ORGANIZATIONAL BEHAVIOUR AND HUMANITIES

NEW STRUCTURE W.E.F. : JULY 2015

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SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
1.1	TT/MMTT/TPE/TC/FT	APPLIED PHYSICS	4	---	---	---	100	---	---	---	100
1.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-I	3	---	---	---	100	---	---	---	100
1.3	TT/MMTT/TPE/TC/FT	ELECTRICAL SCIENCE	3	---	---	2	100	50	---	---	150
1.4	TT/MMTT/TPE/FT	TEXTILE FIBRES	4	---	---	---	100	---	---	---	100
1.5	MMTT	MAN MADE STAPLE YARN MANUFACTURE -I	4	---	---	2	100	50	---	---	150
1.6	MMTT	MAN MADE FABRIC FORMING TECHNOLOGY -I	4	---	---	2	100	50	---	---	150
1.7	TT/MMTT/FT	COMPUTER LABORATORY	---	---	---	2	---	50	---	---	50
			22	---	---	8	600	200	---	---	800

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SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
2.1	TT/MMTT/TPE/TC/FT	APPLIED MECHANICS	3	---	---	---	100	---	---	---	100
2.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-II	3	---	---	---	100	---	---	---	100
2.3	TT/MMTT/TC	INDUSTRIAL CHEMISTRY FOR TEXTILES	4	---	---	2	100	25	---	---	125
2.4	TT/MMTT/TPE/TC/FT	ENGINEERING GRAPHICS	2	---	2	---	100	25	---	---	125
2.5	MMTT	MAN MADE STAPLE YARN MANUFACTURE- II	4	---	---	2	100	50	---	---	150
2.6	MMTT	MAN MADE FABRIC FORMING TECHNOLOGY -II	4	---	---	2	100	50	---	---	150
2.7	TT/MMTT	COMMUNICATION LABORATORY	---	---	---	2	---	50	---	---	50
			20	---	2	8	600	200	---	---	800

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NEW STRUCTURE W.E.F. : JULY 2016

S.Y.B.TEXT. (MMTT) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
3.1	TT/MMTT/TPE/TC	THERMAL AND AIR ENGINEERING	3	---	---	---	100	---	---	---	100
3.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-III	3	---	---	---	100	---	---	---	100
3.3	MMTT/TC	POLYMER SCIENCE	3	---	---	---	100	---	---	---	100
3.4	MMTT	MANMADE FIBRE MANUFACTURE-I	4	---	---	3	100	50	---	50	200
3.5	MMTT	MANMADE STAPLE YARN MANUFACTURE-III	4	---	---	2	100	25	---	---	125
3.6	MMTT	MAN MADE FABRIC FORMING TECHNOLOGY -III	4	---	---	2	100	25	---	---	125
3.7	TT/MMTT	TEXTILE DESIGN AND COLOUR	---	---	2	---	---	50	---	---	50
			21	---	2	7	600	150	---	50	800
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
4.1	TT/MMTT/TPE/TC	TEXTILE ELECTRONICS-I	3	---	---	2	100	50	---	---	150
4.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-IV	3	---	---	---	100	---	---	---	100
4.3	MMTT	MANMADE FIBRE MANUFACTURE-II	3	---	---	2	100	25	---	50	175
4.4	TT/MMTT	CHEMICAL PROCESSING OF TEXTILES-I	3	---	---	2	100	25	---	---	125
4.5	MMTT	MANMADE STAPLE YARN MANUFACTURE-IV	4	---	---	2	100	25	---	50	175
4.6	MMTT	MAN MADE FABRIC FORMING TECHNOLOGY -IV	4	---	---	2	100	25	---	50	175
			20	---	---	10	600	150	---	150	900
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
5.1	TT/MMTT/TPE/TC	TEXTILE ELECTRONICS-II	3	---	---	2	100	---	---	50	150
5.2	MMTT	TEXTURED YARN MANUFACTURING	3	---	---	3	100	50	---	---	150
5.3	MMTT	MAN MADE FABRIC FORMING TECHNOLOGY -V	4	---	---	2	100	50	---	---	150
5.4	TT/MMTT	CHEMICAL PROCESSING OF TEXTILES-II	3	---	---	2	100	25	---	50	175
5.5	MMTT	MAN MADE FIBRE TESTING	3	---	---	2	100	25	---	---	125
5.6	TT/MMTT	MECHANICS OF TEXTILE MACHINES	3	---	---	---	100	---	---	---	100
5.7	TT/MMTT/TPE/TC/FT	INPLANT TRAINING-I	---	---	---	---	---	50	---	---	50
			19	---	---	11	600	200	---	100	900

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SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
6.1	TT/MMTT/TPE/TC/FT	ADVANCED COMPUTER PROGRAMMING	3	---	---	2	100	50	---	50	200
6.2	MMTT	MANMADE FIBRE SCIENCE	4	---	---	---	100	50	---	---	150
6.3	TT/MMTT/TPE/TC/FT	INDUSTRIAL ENGINEERING	3	---	---	---	100	---	---	---	100
6.4	MMTT	YARN AND FABRIC TESTING	4	---	---	3	100	50	---	50	200
6.5	MMTT	HIGH PERFORMANCE FIBRES AND COMPOSITES	4	---	---	---	100	---	---	---	100
6.6	MMTT	MANMADE STAPLE YARN MANUFACTURE-IV	4	---	---	3	100	50	---	---	150
			22	---	---	8	600	200	---	100	900

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SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
			TOTAL								
7.1	TT/MMTT	NONWOVEN TECHNOLOGY	3	---	---	3	100	50	---	---	150
7.2	MMTT	KNITTING TECHNOLOGY	3	---	---	3	100	50	---	---	150
7.3	MMTT	YARN AND FABRIC SCIENCE	3	---	---	2	100	25	---	50	175
7.4	TT/MMTT/TPE	TEXTILE MILL PLANNING AND ORGANISATION	4	---	---	---	100	25	---	---	125
7.5	TT/MMTT	UTILITY ENGINEERING IN TEXTILES	4	---	---	---	100	---	---	---	100
7.6	MMTT	ELECTIVE -I	3	---	---	---	100	---	---	---	100
7.7	TT/MMTT/TPE/TC/FT	SEMINAR-I	2	---	---	---	---	50	---	---	50
7.8	TT/MMTT/TPE/TC/FT	INPLANT TRAINING-II	---	---	---	---	---	50	---	---	50
			22	---	---	8	600	250	0	50	900

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LIST OF ELECTIVE-I

1. FIBRE REINFORCED COMPOSITES
2. GARMENT TECHNOLOGY
3. TEXTILE PRODUCT ENGINEERING
4. TOTAL QUALITY MANAGEMENT
5. ECONOMICS AND INDUSTRIAL LAWS

NEW STRUCTURE W.E.F. : JULY 2018

FINAL YEAR B.TEXT. (MMTT) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
8.1	TT/MMTT	PROCESS MANAGEMENT IN YARN FORMING	3	---	---	3	100	50	---	50	200
8.2	TT/MMTT	PROCESS MANAGEMENT IN FABRIC FORMING	3	---	---	3	100	50	---	50	200
8.3	TT/MMTT/TPE/TC	TEXTILE MILL MANAGEMENT	3	---	---	---	100	---	---	---	100
8.4	TT/MMTT	TECHNICAL TEXTILES	4	---	---	---	100	---	---	---	100
8.5	MMTT	ELECTIVE -II	3	---	---	---	100	---	---	---	100
8.6	TT/MMTT/TPE/TC/FT	SEMINAR - II	2	---	---	---	---	50	---	---	50
8.7	TT/MMTT/TPE/TC/FT	DISSERTATION	---	---	---	6	---	50	100	---	150
			18	---	---	12	500	200	100	100	900

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LIST OF ELECTIVE-II

1. SPECIALITY FIBRES
2. NANO FIBRES TECHNOLOGY
3. ENTERPRENEURSHIP
4. INFORMATION TECHNOLOGY IN TEXTILES
5. ORGANIZATIONAL BEHAVIOUR AND HUMANITIES

NEW STRUCTURE W.E.F. : - JULY 2015

F.Y. B.TEXT. (TPE) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
1.1	TT/MMTT/TPE/TC/FT	APPLIED PHYSICS	4	---	---	---	100	---	---	---	100
1.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-I	3	---	---	---	100	---	---	---	100
1.3	TT/MMTT/TPE/TC/FT	ELECTRICAL SCIENCE	3	---	---	2	100	50	---	---	150
1.4	TT/MMTT/TPE/FT	TEXTILE FIBRES	4	---	---	---	100	---	---	---	100
1.5	TPE	YARN MANUFACTURING MACHINERY-I	4	---	---	2	100	50	---	---	150
1.6	TPE	FABRIC MANUFACTURING MACHINERY-I	4	---	---	2	100	50	---	---	150
1.7	TPE/TC	COMMUNICATION LABORATORY	---	---	---	2	---	50	---	---	50
			22	---	---	8	600	200	---	---	800

L =LECTURES

T =TUTORIALS

DR=DRAWING

PR=PRACTICALS

TP=THEORY PAPER

TW=TERM WORK

OE=ORAL EXAMINATION

PE=PRACTICAL EXAMINATION

NEW STRUCTURE W.E.F. : - JULY 2015

F.Y.B.TEXT.(TPE) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
2.1	TT/MMTT/TPE/TC/FT	APPLIED MECHANICS	3	---	---	---	100	---	---	---	100
2.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-II	3	---	---	---	100	---	---	---	100
2.3	TPE	MANUFACTURING PROCESSES-I	3	---	---	3	100	25	---	----	125
2.4	TT/MMTT/TPE/TC/FT	ENGINEERING GRAPHICS	2	---	2	---	100	25	---	---	125
2.5	TPE	YARN MANUFACTURING MACHINERY-II	4	---	---	2	100	50	---	---	150
2.6	TPE	FABRIC MANUFACTURING MACHINERY-II	4	---	---	2	100	50	---	---	150
2.7	TPE/TC	COMPUTER LABORATORY	---	---	---	2	---	50	---	---	50
			19	---	2	9	600	200	---	---	800

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NEW STRUCTURE W.E.F. : - JULY 2016

S.Y.B.TEXT. (TPE) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
3.1	TT/MMTT/TPE/TC	THERMAL AND AIR ENGINEERING	3	---	---		100		---		100
3.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-III	3	---	---	---	100	---	---	---	100
3.3	TPE	MATERIAL ENGINEERING	3	---	---	---	100	---	---	---	100
3.4	TPE	MANUFACTURING PROCESSES-II	4	---	---	3	100	50	---	50	200
3.5	TPE	YARN MANUFACTURING MACHINERY-III	4	---	---	2	100	25	---	---	125
3.6	TPE	FABRIC MANUFACTURING MACHINERY-III	4	---	---	2	100	25	---	---	125
3.7	TPE	TEXTILE MACHINE DRAWING	---	---	2	---	---	50	---	---	50
			21	---	2	7	600	150	---	50	800
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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NEW STRUCTURE W.E.F. : - JULY 2016

S.Y.B.TEXT. (TPE) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
4.1	TT/MMTT/TPE/TC	TEXTILE ELECTRONICS-I	3	---	---	2	100	50	---	---	150
4.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-IV	3	---	---	---	100	---	---	---	100
4.3	TPE	ELECTRICAL TECHNOLOGY	3	---	---	2	100	25	---	25	150
4.4	TPE	PHYSICAL TESTING OF TEXTILE- I	3	---	---	2	100	50	---	---	150
4.5	TPE	YARN MANUFACTURING MACHINERY-IV	4	---	---	2	100	25	---	50	175
4.6	TPE	FABRIC MANUFACTURING MACHINERY-IV	4	---	---	2	100	25	---	50	175
			20	---		10	600	175	---	125	900
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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NEW STRUCTURE W.E.F. : - JULY 2017

T.Y.B.TEXT. (TPE) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
5.1	TT/MMTT/TPE/TC	TEXTILE ELECTRONICS-II	3	---	---	2	100	---	---	50	150
5.2	TPE	YARN MANUFACTURING MACHINERY-V	4	---	---	2	100	50	---	---	150
5.3	TPE	FABRIC MANUFACTURING MACHINERY-V	4	---	---	2	100	50	---	---	150
5.4	TPE	PHYSICAL TESTING OF TEXTILE- II	3	---	---	2	100	---	---	50	150
5.5	TPE	ANALYSIS OF MECHANICAL ELEMENTS	3	---	---	2	100	50	---	---	150
5.6	TPE	METALLURGY	3	---	---	---	100	---	---	---	100
5.7	TT/MMTT/TPE/TC/FT	INPLANT TRAINING-I	---	---	---	---	---	50	---	---	50
			20	---	---	10	600	200	---	100	900

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NEW STRUCTURE W.E.F. : - JULY 2017

T.Y.B.TEXT. (TPE) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
6.1	TT/MMTT/TPE/TC/FT	ADVANCED COMPUTER PROGRAMMING	3	---	---	2	100	50	---	50	200
6.2	TPE	THEORY OF TEXTILE MACHINES-I	4	---	---	2	100	50	---	---	150
6.3	TT/MMTT/TPE/TC/FT	INDUSTRIAL ENGINEERING	3	---	---	---	100	---	---	---	100
6.4	TPE	ENGINEERING DESIGN OF TEXTILE MACHINES-I	3	---	---	3	100	50	50	---	200
6.5	TPE	TRIBOLOGY	3	1	---	---	100	---	---	---	100
6.6	TPE	CHEMICAL PROCESSING MACHINERY	3	---	---	3	100	50	---	---	150
			19	1	---	10	600	200	50	50	900

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NEW STRUCTURE W.E.F. : - JULY 2018

FINAL YEAR B.TEXT. (TPE) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
7.1	TPE	ENGINEERING DESIGN OF TEXTILE MACHINES-II	3	---	---	3	100	25	50	---	175
7.2	TPE	THEORY OF TEXTILE MACHINES-II	3	---	---	3	100	25	---	---	125
7.3	TPE	MAINTENANCE OF TEXTILE MACHINES	3	---	---	3	100	25	---	50	175
7.4	TT/MMTT/TPE	TEXTILE MILL PLANNING AND ORGANISATION	4	---	---	---	100	25	---	---	125
7.5	TPE	ACTM	3	---	---	---	100	---	---	---	100
7.6	TPE	ELECTIVE -I	3	---	---	---	100	---	---	---	100
7.7	TT/MMTT/TPE/TC/FT	SEMINAR-I	2	---	---	---	---	50	---	---	50
7.8	TT/MMTT/TPE/TC/FT	INPLANT TRAINING-II	---	---	---	---	---	50	---	---	50
			21	---	---	9	600	200	50	50	900

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LIST OF ELECTIVE-I

1. MECHATRONICS
2. ECONOMICS AND INDUSTRIAL LAWS
3. GARMENT TECHNOLOGY
4. NONWOVEN TECHNOLOGY
5. PROCESS CONTROL IN SPINNING

NEW STRUCTURE W.E.F. : - JULY 2018

FINAL YEAR B.TEXT. (TPE) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
8.1	TPE	FLUID FLOW SYSTEMS AND CONTROLS	3	---	---	3	100	50	---	50	200
8.2	TPE	INSTRUMENTATION AND METROLOGY	3	---	---	3	100	50	---	50	200
8.3	TT/MMTT/TPE/TC	TEXTILE MILL MANAGEMENT	3	---	---	---	100	---	---	---	100
8.4	TPE	MAINTENANCE MANAGEMENT	4	---	---	---	100	---	---	---	100
8.5	TPE	ELECTIVE -II	3	---	---	---	100	---	---	---	100
8.6	TT/MMTT/TPE/TC/FT	SEMINAR - II	2	---	---	---	---	50	---	---	50
8.7	TT/MMTT/TPE/TC/FT	DISSERTATION	---	---	---	6	---	50	100	---	150
			18	---	---	12	500	200	100	100	900

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LIST OF ELECTIVE-II

1. CONDITON BASED MONITORING TECHNIQUES
2. PROCESS CONTROL IN WEAVING
3. ENERGY CONSERVATION IN TEXTILES
4. INFORMATION TECHNOLOGY IN TEXTILES
5. ORGANIZATIONAL BEHAVIOUR AND HUMANITIES

NEW STRUCTURE W.E.F. :- JULY 2015

F.Y. B.TEXT. (TC) SEMESTER-I

SR. NO.	COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB. TOTAL
1.1	TT/MMTT/TPE/TC/FT	APPLIED PHYSICS	4	---	---	---	100	---	---	---	100
1.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-I	3	---	---	---	100	---	---	---	100
1.3	TT/MMTT/TPE/TC/FT	ELECTRICAL SCIENCE	3	---	---	2	100	50	---	---	150
1.4	TC	ORGANIC CHEMISTRY-I	4	---	---	2	100	50	---	---	150
1.5	TC	PHYSICAL CHEMISTRY	3	---	---	2	100	25	---	---	125
1.6	TC	INORGANIC CHEMISTRY	3	---	---	2	100	25	---	---	125
1.7	TPE/TC	COMMUNICATION LABORATORY	---	---	---	2	---	50	---	---	50
			20	---	---	10	600	200	---	---	800
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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NEW STRUCTURE W.E.F. :- JULY 2015

F.Y.B.TEXT. (TC) SEMESTER-II

R. No	COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
			TOTAL								
2.1	TT/MMTT/TPE/TC/FT	APPLIED MECHANICS	3	---	---	---	100	---	---	---	100
2.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-II	3	---	---	---	100	---	---	---	100
2.3	TT/MMTT/TC	INDUSTRIAL CHEMISTRY FOR TEXTILES	4	---	---	2	100	25	---	---	125
2.4	TT/MMTT/TPE/TC/FT	ENGINEERING GRAPHICS	2	---	2	---	100	25	---	---	125
2.5	TC	ORGANIC CHEMISTRY-II	4	---	---	2	100	50	---	---	150
2.6	TC	CHEMISTRY OF TEXTILE FIBRES-I	4	---	---	2	100	50	---	---	150
2.7	TPE/TC	COMPUTER LABORATORY	---	---	---	2	---	50	---	---	50
			20	---	2	8	600	200	---	---	800
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

L =LECTURES

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NEW STRUCTURE W.E.F. :- JULY 2016

S.Y.B.TEXT. (TC) SEMESTER-I

R. No	COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
			TOTAL								
3.1	TT/MMTT/TPE/TC	THERMAL AND AIR ENGINEERING	3	---	---		100	---	---	---	100
3.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-III	3	---	---	---	100	---	---	---	100
3.3	MMTT/TC	POLYMER SCIENCE	3	---	---	---	100	---	---	---	100
3.4	TC	CHEMISTRY OF TEXTILE FIBRES-II	4	---	---	3	100	25	---	50	175
3.5	TC	SPINNING TECHNOLOGY	4	---	---	2	100	50	---	---	150
3.6	TC	TECHNOLOGY OF PRETREATMENTS- I	3	---	---	3	100	25	---	50	175
3.7	TC	PRINTED TEXTILE DESIGN AND COLOUR	---	---	2	---	---	50	---	---	50
			20	---	2	8	600	150	---	100	850

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NEW STRUCTURE W.E.F. :- JULY 2016

S.Y.B.TEXT. (TC) SEMESTER-II

R. No	COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
			TOTAL								
4.1	TT/MMTT/TPE/TC	TEXTILE ELECTRONICS-I	3	---	---	2	100	50	---	---	150
4.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-IV	3	---	---	---	100	---	---	---	100
4.3	TC	CHEMISTRY OF TEXTILE FIBRES-III	3	---	---	---	100	---	---	---	100
4.4	TC	CHEMISTRY OF DYES AND PIGMENTS	4	---	---	3	100	25	---	50	175
4.5	TC	WEAVING AND KNITTING TECHNOLOGY	4	---	---	2	100	25	---	50	175
4.6	TC	TECHNOLOGY OF PRETREATMENTS- II	3	---	---	3	100	50	---	---	150
			20	---	---	10	600	150	---	100	850

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NEW STRUCTURE W.E.F. :- JULY 2017

T.Y.B.TEXT. (TC) SEMESTER-I

R. No	COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
			TOTAL								
5.1	TT/MMTT/TPE/TC	TEXTILE ELECTRONICS-II	3	---	---	2	100	---	---	50	150
5.2	TC	TECHNOLOGY OF DYEING-I	3	---	---	3	100	25	---	50	175
5.3	TC	TECHNOLOGY OF PRINTING-I	3	---	---	3	100	25	---	50	175
5.4	TC	TECHNOLOGY OF FINISHING-I	3	---	---	2	100	25	---	---	125
5.5	TC	CHEMICAL ENGINEERING OPERATIONS	3	---	---	---	100	---	---	---	100
5.6	TC	PHYSICAL PROPERTIES OF TEXTILE FIBRES	3	---	---	2	100	25	---	---	125
5.7	TT/MMTT/TPE/TC/FT	INPLANT TRAINING-I	---	---	---	---	---	50	---	---	50
			18	---	---	12	600	150	---	150	900

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NEW STRUCTURE W.E.F. :- JULY 2017

T.Y.B.TEXT. (TC) SEMESTER-II

R. No	COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
			TOTAL								
6.1	TT/MMTT/TPE/TC/FT	ADVANCED COMPUTER PROGRAMMING	3	---	---	2	100	50	---	50	200
6.2	TC	TECHNOLOGY OF DYEING-II	3	---	---	3	100	25	---	50	175
6.3	TT/MMTT/TPE/TC/FT	INDUSTRIAL ENGINEERING	3	---	---	---	100	---	---	---	100
6.4	TC	TECHNOLOGY OF PRINTING-II	3	---	---	3	100	25	---	50	175
6.5	TC	TECHNOLOGY OF FINISHING - II	3	---	---	2	100	25	---	---	125
6.6	TC	PHYSICAL PROPERTIES OF YARNS AND FABRICS	3	---	---	2	100	25	---	---	125
			18	---	---	12	600	150	---	150	900

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NEW STRUCTURE W.E.F. :- JULY 2018

FINAL YEAR B.TEXT. (TC) SEMESTER-I

R. No	COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB. TOTAL
7.1	TC	TEXTILE PROCESS PLANNING AND MANAGEMENT	4	---	---	---	100	50	---	---	150
7.2	TC	FLUID FLOW AND HEAT TRANSFER	3	---	---	3	100	50	---	---	150
7.3	TC	TESTING AND ANALYSIS OF TEXTILES	3	---	---	3	100	50	---	50	200
7.4	TC	MANUFACTURING ASPECTS OF TECHNICAL TEXTILES	3	---	---	---	100	---	---	---	100
7.5	TC	TEXTILE PROCESSING MACHINERY	3	---	---	---	100	---	---	---	100
7.6	TC	ELECTIVE -I	3	---	---	---	100	---	---	---	100
7.7	TT/MMTT/TPE/TC/FT	SEMINAR-I	2	---	---	---	---	50	---	---	50
7.8	TT/MMTT/TPE/TC/FT	INPLANT TRAINING-II	---	---	---	---	---	50	---	---	50
			21	---	---	6	600	250	0	50	900

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LIST OF ELECTIVE-I

1. TOTAL QUALITY MANAGEMENT
2. ENERGY MANAGEMENT IN CHEMICAL PROCESSING
3. POLYMERS AND COMPOSITES
4. ECONOMICS AND INDUSTRIAL LAWS

NEW STRUCTURE W.E.F. :- JULY 2018

FINAL YEAR B.TEXT. (TC) SEMESTER-II

R. No	COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
			TOTAL								
8.1	TC	GARMENT MANUFACTURING AND PROCESSING	4	---	---	3	100	50	---	50	200
8.2	TC	PROCESS CONTROL AND SAFETY IN CHEMICAL PROCESSING	3	---	---	---	100	50	---	---	150
8.3	TT/MMTT/TPE/TC	TEXTILE MILL MANAGEMENT	3	---	---	---	100	---	---	---	100
8.4	TC	THEORY OF DYEING AND COLOUR MEASUREMENTS	3	---	---	3	100	50	---	---	150
8.5	TC	ELECTIVE -II	3	---	---	---	100	---	---	---	100
8.6	TT/MMTT/TPE/TC/FT	SEMINAR - II	2	---	---	---	---	50	---	---	50
8.7	TT/MMTT/TPE/TC/FT	DISSERTATION	---	---	---	6	---	50	100	---	150
			18	---	---	12	500	250	100	50	900

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LIST OF ELECTIVE-II

1. ADVANCED CHEMICAL PROCESSING
2. INFORMATION TECHNOLOGY IN TEXTILES
3. ORGANIZATIONAL BEHAVIOUR AND HUMANITIES
4. MERCHANDISING

NEW STRUCTURE W.E.F. : - JULY 2015

F.Y. B.TEXT. (FT) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
1.1	TT/MMTT/TPE/TC/FT	APPLIED PHYSICS	4	---	---	---	100	---	---	---	100
1.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-I	3	---	---	---	100	---	---	---	100
1.3	TT/MMTT/TPE/TC/FT	ELECTRICAL SCIENCE	3	---	---	2	100	50	---	---	150
1.4	TT/MMTT/TPE/FT	TEXTILE FIBRES	4	---	---	---	100	---	---	---	100
1.5	FT	FUNCTIONAL ENGLISH-I	4	---	---	2	100	50	---	---	150
1.6	FT	INTRODUCTION TO TEXTILE MANUFACTURING-I	4	---	---	2	100	50	---	---	150
1.7	TT/MMTT/FT	COMPUTER LABORATORY	---	---	---	2	---	50	---	---	50
			22	0	0	8	600	200	0	0	800

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NEW STRUCTURE W.E.F. : - JULY 2015

F.Y.B.TEXT. (FT) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
2.1	TT/MMTT/TPE/TC/FT	APPLIED MECHANICS	3	---	---	---	100	---	---	---	100
2.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-II	3	---	---	---	100	---	---	---	100
2.3	FT	CONCEPTS OF FASHION AND DESIGN	4	---	---	3	100	25	---	---	125
2.4	TT/MMTT/TPE/TC/FT	ENGINEERING GRAPHICS	2	---	2	---	100	25	---	---	125
2.5	FT	INTRODUCTION TO TEXTILE MANUFACTURING-II	4	---	---	2	100	50	---	---	150
2.6	FT	BASICS OF APPAREL TECHNOLOGY	4	---	---	---	100	50	---	---	150
2.7	FT	FUNCTIONAL ENGLISH-II	---	---	---	3	---	50	---	---	50
			20	0	2	8	600	200	0	0	800

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NEW STRUCTURE W.E.F. : - JULY 2016

S.Y.B.TEXT. (FT) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
3.1	FT	BASICS OF ELECTRONICS	3	---	---	2	100	25	---	50	175
3.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-III	3	---	---	---	100	---	---	---	100
3.3	FT	FABRIC STRUCTURE AND DESIGN	4	---	---	2	100	25	---	---	125
3.4	FT	TESTING OF FIBRES AND YARNS	3	---	---	2	100	50	---	---	150
3.5	FT	TEXTILE MANUFACTURE	4	---	---	2	100	25	---	---	125
3.6	FT	PATTERN ENGINEERING-I	3	---	---	2	100	25	---	50	175
			20	---	---	10	600	150	---	100	850
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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NEW STRUCTURE W.E.F. : - JULY 2016

S.Y.B.TEXT. (FT) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
			TOTAL								
4.1	FT	YARNS AND FABRICS FOR FASHION APPLICATIONS	4	---	---	2	100	---	---	50	150
4.2	TT/MMTT/TPE/TC/FT	TEXTILE MATHEMATICS-IV	3	---	---	---	100	---	---	---	100
4.3	FT	CHEMICAL PROCESSING OF TEXTILES	3	---	---	2	100	25	---	---	125
4.4	FT	PATTERN ENGINEERING-II	3	---	---	2	100	25	---	50	175
4.5	FT	TESTING OF TEXTILES AND APPARELS	3	---	---	2	100	25	---	---	125
4.6	FT	FASHION ILLUSTRATION	2	---	---	2	100	25	---	---	125
4.7	FT	TEXTILE DESIGN AND COLOUR	---	---	2	---	---	50	---	---	50
			18	---	2	10	600	150	---	100	850
	TT/MMTT/TPE/TC/FT	ENVIRONMENTAL STUDIES	2				Theory	Project			TOTAL
							70	30			100

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NEW STRUCTURE W.E.F. : - JULY 2017

T.Y.B.TEXT. (FT) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
5.1	FT	INTELLECTUAL PROPERTY RIGHTS	3	---	---	---	100	---	---	---	100
5.2	FT	KNITTING TECHNOLOGY	3	---	---	2	100	25	---	---	125
5.3	FT	GARMENT PROCESSING	4	---	---	2	100	25	---	---	125
5.4	FT	EMBROIDERY AND SURFACE ORNAMENTATION	3	---	---	2	100	25	---	50	175
5.5	FT	APPAREL MACHINERY AND EQUIPMENTS	4	---		2	100	25	---	50	175
5.6	FT	FASHION ART AND DESIGN	3	---	---	2	100	50	---	---	150
5.7	TT/MMTT/TPE/TC/FT	INPLANT TRAINING - I	---	---	---	---	---	50	---		50
			20	0	0	10	600	200	0	100	900

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NEW STRUCTURE W.E.F. : - JULY 2017

T.Y.B.TEXT. (FT) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
6.1	TT/MMTT/TPE/TC/FT	ADVANCED COMPUTER PROGRAMMING	3	---	---	2	100	50	---	50	200
6.2	FT	ADVANCED STYLING AND FORCASTING	3	---	---	---	100	25	---	---	125
6.3	TT/MMTT/TPE/TC/FT	INDUSTRIAL ENGINEERING	3	---	---	---	100	----	---	---	100
6.4	FT	CAD – CAM FOR APPAREL MANUFACTURING	3	---	---	3	100	25	---	---	125
6.5	FT	APPAREL MERCHANDISING	4	---	---	----	100	---	---	---	100
6.6	FT	MEN, WOMEN AND CHILDREN'S WEAR	3	---	---	3	100		---	50	150
6.7	FT	DESIGN COLLECTION AND PRESENTATION	---	---	---	3	---	50	50	---	100
			19	---	---	11	600	150	50	100	900

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NEW STRUCTURE W.E.F. : - JULY 2018

FINAL YEAR B.TEXT. (FT) SEMESTER-I

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
											TOTAL
7.1	FT	GARMENT PROJECT PLANNING AND IMPLEMENTATION	4	---	---	---	100	50	---	---	150
7.2	FT	ECONOMICS AND COSTING IN APPAREL INDUSTRY	4	---	---	---	100	---	---	---	100
7.3	FT	ADVANCED GARMENT CONSTRUCTION	4	---	---	3	100	50	---	50	200
7.4	FT	FASHION COMMUNICATION	3	---	---	---	100	----	---	---	100
7.5	FT	APPAREL PRODUCTION PLANNING AND CONTROL	4	---	---	3	100	50	---	---	150
7.6	FT	ELECTIVE-I	3	---	---	---	100	---	---	---	100
7.7	TT/MMTT/TPE/TC/FT	SEMINAR-I	2	---	---	---	---	50	---	---	50
7.8	TT/MMTT/TPE/TC/FT	INPLANT TRAINNING - II	---	---	---	---	---	50	---	---	50
			24	---	---	6	600	250	---	50	900

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LIST OF ELECTIVE-I

1. FASHION ACCESSORIES

2. APPAREL AND FASHION BUSINESS MANAGEMENT

3. HOME TEXTILES IN FASHION

4. APPAREL PRODUCT ENGINEERING

REVISED SYLLABUS W.E.F.01ST JULY, 2018

FINAL YEAR B.TEXT. (FT) SEMESTER-II

SR. NO.	COMMITTON TO COURSES	SUBJECTS	TEACHING SCHEME				EXAMINATION SCHEME				
			L	T	DR	PR	TP	TW	OE	PE	SUB.
8.1	FT	APPAREL FINISHING AND CARE	4	---	---	3	100	50	---	50	200
8.2	FT	APPAREL EXPORT MANAGEMENT	4	---	---	---	100	50	---	--	150
8.3	FT	FASHION RETAIL MANAGEMENT	4	---	---	---	100	---	---	---	100
8.4	FT	SMART TEXTILES AND SPECIALITY GARMENTS	4	---	---	---	100	50	---	---	150
8.5	FT	ELECTIVE -II	3	---	---	---	100	---	---	---	100
8.6	TT/MMTT/TPE/TC/FT	SEMINAR-II	2	---	---	---	---	50	---	---	50
8.7	TT/MMTT/TPE/TC/FT	DISSERTATION	---	---	---	6	---	50	100	---	150
			21	---	---	9	500	250	100	50	900

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LIST OF ELECTIVE-II

1. FASHION PHOTOGRAPHY
2. CONSUMER BEHAVIOUR IN FASHION INDUSTRY
3. OPERATIONAL RESEARCH
4. CAPM FOR MEN'S AND WOMEN'S WEAR

FIRST YEAR B. TEXT. – SEMESTER - I

1.1 APPLIED PHYSICS (TT/MMTT/TPE/TC/FT)

Lectures: 4 Hours / Week.

Theory paper: 100 Marks.

Subject Total: 100 Marks.

Course Objectives:

1. To introduce the concept of Elasticity, understand different moduli of elasticity and to develop to calculate moduli of elasticity for different material.
2. Prepare students so that they can understand concepts like Viscosity, Streamline flow, turbulent flow, terminal velocity etc.
3. To introduce concepts related to Surface Tension. To apply the knowledge of capillary action and angle of contacts to textile materials.
4. To understand friction and its applications if textile field.
5. Introduce the various phenomenons of light and to understand the working of light and electron microscope.
6. To understand the concept of polarization, and develop to calculate polarizing angle, thickness of quarter wave and half wave plates.
7. To introduce the concept of photo-electric effect. To apply knowledge of photocells to textile industry.
8. To understand and apply use of X-rays to study textile material.

1. **Elasticity:** stress, strain, Hooke's Law of elasticity. Some peculiar traits, working stress and factor of safety. Factors affecting elasticity. Youngs modulus, bulk Modulus and Nodulus of rigidity. Relation between Y , η and K . Poission's ratio, relation between K , η and Poission's ratio. Twisting couple on a cylinder.
2. **Viscosity:** Newton's Law of viscosity, streamline & turbulent flow, critical velocity, significance of Reynold's number, Poiseuille's equation for flow of liquid through a tube. Experimental determination of η for a liquid - Poiseuille's method, Stokes law. Terminal velocity and its expression. Ostwald's viscometer, Applications of viscosity.
3. **Surface Tension:** Molecular theory of surface tension. Free energy of a surface. Excess pressure inside a liquid drop & soap bubble. Relation between radii of curvature, pressure & surface tension. Shape of liquid meniscus in a capillary. Measurement of surface tension by capillary rise method. Applications of surface tension.

4. **Friction:** Laws of friction, Angle of friction, Sliding & Rolling friction. Necessity of friction. Derivation of relation $T_2/T_1 = e^{\mu\theta}$. Mechanism of friction. Applications of friction.
5. **Optics:** Introduction to reflection, refraction, Laws of refraction, refractive index, total internal. Simple & compound microscope, expression for their magnifying & resolving power. Principle, Construction & working of electron microscope and its applications.
6. **Polarisation:** Polarisation, production of plane, circularly & elliptically polarised light. Brewsters law, Double refraction, Nicol prism. Quarter & half wave plate.
7. **Photoelectric Effect:** Concept, Einstein's equation of photoelectric effect. Factors affecting the photoelectric effect. Study of various photocells. Use of photo sensors.
8. **X-ray:** Origin of continuous & characteristic x-ray spectrum, properties, production of x-rays. X-ray diffraction - Bragg's law, Bragg's spectrometer.

Reference Books:-

1. Elements of Properties of Matter by D.S. Mathur
2. Engineering Physics by B.L. Theraja
3. Engineering Physics by R.K. Gour & Gupta
4. Physics for Engineers by M.R. Srinivasan.
5. Text Book of Optics by Brijlal & Subramanyam
6. Optics by A.K. Ghatak

Course Outcomes

1. Students are able to calculate stress, strain, and Breaking strength of material, also identify nature of material.
2. Apply the knowledge Viscosity for spinning, sizing and finishing of textile material.
3. Prepare water proof agents and apply this knowledge for dyeing of textile material.
4. Solve the problems related to friction of textile material.
5. Use microscopes to study structure, its maturity and Blending percentage of textile materials.

6. Use polarized light microscope and to calculate thickness of QWP & HWP.
7. Predict threshold frequency and work function of a material and use photo cells in testing machines.
8. Understand the use of x rays in study of fibre structure.

FIRST YEAR B. TEXT. – SEMESTER - I

1.2 TEXTILE MATHEMATICS - I (TT/MMTT/TPE/TC/FT)

Lectures:3 Hours / Week.

Theory paper: 100 Marks.

Subject Total: 100 Marks.

Course Objectives:

1. Introduce students to mathematical methods which suits to solve the problems of matrices.
2. Prepare students so that they can understand mathematical treatments used in tracing the curves.
3. Develop an ability to use the techniques, skills & modern engineering mathematical tools necessary for engineering practices.
4. Develop ability to identify, formulate & solve textile engineering problems mathematically.
5. Introduce students to statistical methods which suits to statistical applications needs of Textile Math's III & IV of textile engineering.
6. Develop ability to collect, formulate & analyze textile testing data.

1. Matrix:

Rank of matrix (Normal form of matrix, Echelon form of Matrix)
Solution of simultaneous linear equations (Homogeneous & Non Homogeneous) Characteristic equation, eigen values, eigen vectors.
Caley Hamilton's theorem.

2. Successive Differentiation:

Introduction, standard results, Leibnitz rule.

3. Partial Differentiation:

Introduction, total differentiation, Euler's theorem on homogeneous function.
Jacobean ($J.J'=1$) only, Errors & approximation.

4. Curve Tracing:

Rules & examples of curve tracing in Cartesian and Polar Equations only.

5. Introduction of Statistics:

Definitions of Population, Variable, Attribute, Census Survey, Sample Survey, Random sample. Raw statistical data, collection, classification, Frequency distribution, class limits & boundary, class width, mid point. Histogram,

Frequency polygon, Frequency curve.

6. Measures of central tendency:

Arithmetic Mean (A.M.), Median, Mode, Combined Mean & Computation
Partition values : Quartiles deciles and percentiles & Computation

7. Measures of dispersion:

Range, Quartile deviation, Mean deviation, Standard deviation as Absolute measures of dispersion, Coefficient of range, quartile deviation, mean deviation, coefficient of variation as Relative measures of dispersion, consistency of data & computation

8. Measures of Skewness& kurtosis:

Skewness, types, Karl Pearson's & Bow ley's coefficient of skewness& Computation. Kurtosis definition and types only. (No Examples of Kurtosis)

9. Probability:

Random experiment, sample space, event, types of events, Venn diagram
Definition, laws of probability & examples.

Reference Books:

1. A textbook of applied mathematics Vol.-I & II by P.N. & J.N. Wartikar.
2. Higher engineering mathematics by B.S. Grewal.
3. A textbook of applied mathematics by Bali, Saxena&lyangar.
4. Mathematical Statistics by J.E. Freund.
5. Probability & Statistics for engineers by Johnson.
6. Statistical methods by Kumbhojkar.

Course outcomes:

1. Students are able to solve problems related to matrices, successive differentiation, partial differentiation and its application.
2. Students are able to collect textile testing data & classify and represent graphically.
3. Students are able to evaluate and interpret measures of central tendency, dispersion, skewness and kurtosis.
4. Students can understand mathematical models used in textile engineering.

FIRST YEAR B. TEXT. – SEMESTER - I

1.3 ELECTRICAL SCIENCE (TT/MMTT/TPE/TC/FT)

Lectures: 3 Hours / Week

Practical: 2 Hours / Week

Theory paper: 100 Marks

Term Work: 50 Marks

Subject Total: 150 Marks

Course Objectives:

1. To understand various definitions, laws and concepts involved in electrical & magnetic circuits.
2. To understand concepts of elements & parameters in single phase & three phase AC circuits
3. To realize importance of electromagnetic induction in regards to machines and power system.
4. To understand working of electrical equipments like Transformer & Three phase induction Motors
5. To explain concept of energy audit, power quality & modern methods.

Section- I

1) D.C. Circuits

Definition of EMF, current, resistance, power, energy. Factors affecting resistance, Series parallel circuits, current division rule. Kirchhoff's Laws – KCL, KVL. (Numerical based on two variables) Numerical based on energy conversion between electrical, mechanical and thermal quantities.

2) Magnetic Circuits

Concept of magnetic circuit, MMF, reluctance, flux, flux density, magnetic field strength, Comparison between electrical and magnetic circuits, B-H curve, magnetic leakage and fringing. Simple examples on series magnetic circuit.

3) A.C. Fundamentals

Faraday's laws, Lenz's law, Types of induced EMF's, Generation of single phase alternating EMF. Cycle, frequency, time period, amplitude, average value, RMS value, form factor, peak factor, phase, phase difference, phasor representation.

4) A.C. Circuits

Analysis of purely resistive, inductive and capacitive circuits. R-L, R-C, R-L-C series circuits, (No Mathematical Derivations) impedance triangle, power factor and its significance. Different powers in A.C. circuits. Simple numerical on X_L , X_C , Z & power factor.

Section- II

5) Single Phase Transformers

Operating principle, Construction, types of transformer, EMF equation, transformation ratio. Working of transformer at no load and with load. Losses in transformer, efficiency and voltage regulation Direct loading Test. (Numerical Treatment only on EMF equation & Transformation ratio).

6) Three phase A.C. Circuits

Introduction to 3 phase supply and its necessity, Generation of three phase A.C. voltage, Balanced three phase system, Relation between line and phase quantities in star & delta. (No mathematical derivation).

7) Three Phase Induction Motor

Working Principle, Constructional Details, Types, Rotating Magnetic Field Theory, Torque Equation, Torque – Slip Characteristics, Speed Control Methods, Necessity of starters, Types of Starters, Variable Frequency Drive (VFD), application in Textile Industry.

8) Energy Audit

Introduction of energy audit, power quality, concept of energy efficient lighting system & motors.

List of Experiments:

1. Introduction to Electrical Engineering Lab.
2. Verification of Ohm's Law.
3. Verification of Kirchhoff's Current Law.
4. Verification of Kirchhoff's Voltage Law.
5. Determination of power factor of R L series circuit.
6. Determination of R & L of a choke coil.
7. Study of Phasor Relationship of RLC circuit.

8. Direct load test on Single Phase Transformer.
9. Reversal of Rotation of Three Phase Induction Motor.
10. Speed control of Three Phase Induction Motor.
11. Direct load test on Three Phase Induction Motor.
12. Study of starters.

Reference Books

1. Elements of electrical Engineering by U.A.Bakshi
2. Electrical Technology by U.A.Bakshi
3. Basic Electrical Engineering by B. H. Deshmukh.
4. A text book in electrical technology by B.L.Thareja
5. Fundamentals of Electrical Engineering by Ashfaq Husain

Course Outcomes

1. Understand fundamental principles of electrical & magnetic circuit.
2. Understand to predict the behavior of any element with respect to AC supply.
3. Analyze the characteristics behavior and applications of electrical machines.
4. Design and conduct experiments, as well as to calculate the ratings & parameters of electrical machines.
5. Understand concept of energy audit & its content related to saving.

FIRST YEAR B. TEXT. – SEMESTER - I

1.4 TEXTILE FIBRES (TT/MMTT/TPE/FT)

Lectures: 4 Hours / Week.

Theory paper: 100 Marks.

Subject Total: 100 Marks.

Course Objectives:

1. To explain characteristics of fiber forming polymers,
2. To explain classification of Textile fibres.
3. To describe morphology of natural fibres.
4. To illustrate different manufacturing processes for manmade fibres.
5. Discuss the physical and chemical properties of natural and manmade fibres and their applications.

1) Introduction:

Definition of fibre, Difference between staple fibre and filament, Classification of fibres, Essential and desirable properties of textile fibres, Concepts of molecular weight, Degree of polymerization, Orientation and Crystallinity, Characteristics of fibre forming polymer, Advantages and Disadvantages of natural & man made fibres,

2) Natural fibres:

2.1 Vegetable Fibres:

- i. Cotton – Cultivation and harvesting, Development of fibre in seed, Morphological structure, Physical & chemical properties, applications and cotton varieties.
- ii. Jute- Retting and extraction process, Structure of jute fibre, Physical & Chemical properties, applications
- iii. Introduction to other natural fibres like Flax, Banana, Bamboo, Pineapple fibres & their applications.

2.2 Animal Fibres:

- i. Wool- Types of wool, Grading of wool, Morphological structure, chemical composition, Physical & chemical properties, applications
- ii. Silk - Types of silk, Production of silk, Chemical composition of silk, Physical & chemical properties, applications.

3) Man Made fibres:-

Definitions of Regenerated & Synthetic fibres, Introduction to methods of fibre formation – Melt spinning, Dry spinning and Wet spinning.

3.1 Synthetic fibres:

- i. Polyamide: Nylon 6 & Nylon 66 fibres – Brief Manufacturing process, Physical & chemical properties and, applications.
- ii. Polyester (Polyethylene Terephthalate): Brief Manufacturing process, Physical & chemical properties and, applications.
- iii. Polypropylene: Brief Manufacturing process, Physical & chemical properties and, applications.
- iv. Polyacrylonitrile Fibre: Acrylic and Modacrylic fibres - Brief Manufacturing process, Physical & chemical properties and, applications.
- v. Polyurethane Fibre: Brief Manufacturing process, Physical & chemical properties and, applications.

3.2 Regenerated Fibres:

- i. Viscose rayon: Brief Manufacturing process, Physical & chemical properties and, applications.
- ii. Introduction to Acetate, Triacetate fibres.

Reference Books

1. Textile Fibres – Vol.-I by V.A.Shenai, Sevak Publications, Bombay, 1971
2. Textile Fibres – H V S Murthy, Textile Association Publication, 1995
3. A Text book of Fibre Science and Technology by S.P. Mishra, New age International (p) limited, 2000
4. Hand book of Textile Fibres Vol. I & II by Gorden & Cook, Merrrow Publication Ltd, England
5. Man Made Fibres – R.W. Moncrieff, Heywood Books, London, 1998
6. Polymer science- V.Govariker, Wiley Eastern Ltd, New Delhi, 1990

Course outcomes:

1. Understand the characteristics of fiber forming polymers.
2. Understand the classification of Textile fibres.
3. Draw and explain morphology of natural fibres.
4. Understand manufacturing process of various manmade fibres

5. Understand the physical and chemical properties of fibres and their applications.

FIRST YEAR B. TEXT. – SEMESTER - I
1.5 YARN FORMING TECHNOLOGY I (TT)

Lectures : 4 Hours / Week.

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total : 150 Marks.

Course Objectives

1. To describe basic terms of textiles and yarn forming process.
 2. To illustrate essential and desirable properties of fibres.
 3. To explain classification of yarns as per application, properties or manufacturing techniques.
 4. To explain the calculation of yarn count by using different count numbering systems
 5. Describe the cotton production and cotton varieties of national and world wide.
 6. Explain pre and post ginning machines and different types of ginning with objectives and layout of ginning.
 7. Describe the various factors affecting ginning performance and relationship of fiber properties and ginning operations.
 8. To describe the objectives, different zone and components of blow room.
 9. To explain need for development of blow room machines.
 10. Describe the material handling, dust, contamination removal utility systems at blow room.
1. Definition of terms – ‘Textiles’, ‘Fibres’, ‘Yarns’ and ‘Fabric’, process flow chart for carded & combed yarn manufacturing.
 2. Essential and desirable properties of fibres.
 3. Yarn classification, yarn numbering systems and related calculations.
 4. **Cotton Cultivation & Harvesting in India:**
 - Indian Cotton Production, producing regions in India
 - Evolution of Indian Cottons, and varieties produced.
 - Details of foreign Cottons varieties
 5. **Cotton Ginning:-**

- Introduction of ginning process, Functions ginning machines
- Types of Ginning machines.
- Pre and post ginning machines used and their objects.
- Factors affecting ginning performance
- Influence of ginning on fibre, yarn and fabric quality
- Pressing and bailing of Indian and foreign cotton, dimensions.

6 **Blow room :-**

Object of blow room machines, evolution of opening and cleaning principles. Various components of blow room machines, Different zones in blow room, Conventional blow room machines. Reasons of developments in blow room machinery, Research findings and developments of modern blow room, Modern blow room machines

- Automatic bale opener
- Mild openers— Maxi-flow/ Uni-clean/Vario-clean
- Blenders
- Intensive openers, cleanomat, flexiclean

Method used for - material transport in modern blow room- Waste removal- Dust removal- Contamination removal. , Waste recycling machines and methods, Fire protection / Safety arrangements in blow room, Utilities required for blow room machines. Humidification system used in blow room

List of Experiments:-

- 1 Study of different types of drives and calculations based on the same. Belt drive
2. Study of various types of bearings used on spinning machines and their lubrication.
Application of each type of bearing is demonstrated on machine
Preparation of cut models of different bearings, Advantages & limitations
3. Processing of material on Blow Room, Carding, Draw frame, Comber, Speed-Frame & Ring Frame. Testing of out put material for hank calculation
4. Introduction to spinning process, sequence, machines (carded/combed).
- 5 Study of ginning machine -Dimension, Construction, Working, Driving arrangement, calculations.
- 6 Study of Blow-room line - Flow chart - Machine positioning in Blow-room.
- 7 Study of Bale Opening machine - Dimensions, Driving arrangement, speed calculations.

- 8 Dimension and driving arrangement study of coarse cleaning machines. Speed calculations.
- 9 Study of Fine cleaning machine – Dimension, Driving arrangement used, Speed calculations.(ERM)
- 10 Study of De-dusting machines – Working, Dimension, Driving arrangement and calculations.

Reference Books:-

1. The Textile Institute Publication - Manual of Textile Technology – Short Staple Spinning Series by W. Klein
2. 'The Characteristics of Raw Cotton' by P. Lord. The Textile Institute
3. Publication, Manual of Cotton Spinning Vol.II, Part-I.
4. 'Opening and Cleaning' by Shirley. The Textile Institute Publication, Manual of Cotton Spinning Vol. II, Part-II.
5. 'Opening Cleaning and Picking' by Dr.Zoltan S.Szaloki, Institute of Textile Technology, Virginia.
6. 'Cotton Ginning' Textile Progress, The Textile Institute Publication.
7. Blowroom and Carding- Training Programme conducted by NCUTE, IIT, Delhi.
8. Essential calculations of practical cotton spinning by T.K. Pattabhiraman.

Course Outcomes

1. Understand basic terms used in textiles.
2. Understand different processes for conversion of fiber into yarn
3. Understand essential and desirable properties of fibres for yarn manufacturing.
4. Classify yarn as per application, properties or manufacturing techniques.
5. Calculate yarn count by using different count numbering systems.
6. Understand the cotton production and cotton varieties of national and world wide.
7. Understand the pre and post ginning machines and ginning machines, objectives and draw the layout of ginning.
8. Analyze the various factors affecting ginning performance and relate fiber properties and ginning operations.
9. Understand the objectives, various zones and components of blowroom.
10. Analyze the reasons and development for blow room such as Automatic bale opener, maxiflow/uniclean/ vario clean, blenders, fine openers and clenomat. Compare conventional and modern blow room

11. Understand the material handling and dust, contamination removal system and the utility required for blow room

FIRST YEAR B. TEXT. – SEMESTER - I

1.6 FABRIC FORMING TECHNOLOGY - I (TT)

Lectures : 4 Hours / Week.

Practical : 2 Hours / Week

Theory Paper: 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total: 150 Marks.

Course Objectives:

1. To describe the Textile Industry in India and explain the object of all weaving preparatory processes
2. To explain need, manufacturing technology of ordinary winding process
3. To explain technology of pirn winding process
4. To explain and demonstrate various methods of fabric forming
5. To explain and demonstrate primary, secondary and auxiliary motions of a plain loom.
6. To explain the calculations related to production of loom, fabric weight in grams per square meter and weft consumption per loom /day
7. To explain the method of fabric analysis for representation of design, draft and peg plan
8. To describe the identification and construction of basic weaves such as plain, twill and satin

I) Introduction

1. Nature of textile industry in India
2. Applications/classification of fabrics
3. Yarn numbering systems: cotton counts, metric count, Tex, denier, calculations
4. Weaving processes: objects of all processes. Different kinds of fabrics: Grey, mono-colour, multi-colour, warp or weft stripes, checks.
5. Process flow charts for various fabrics

II) Ordinary Winding

1. Need: - Limitation of ring spinning to make big packages and good yarn, yarn faults in spinning, their consequences on subsequent processes and fabric quality, objects of winding process
2. Machines: - Types of winding machine, precision winding, drum winding, merits and demerits.
3. Machine Details: - Construction and working of winding machine, yarn path, details of machine zones such as creel, knotting, clearing, winding, functions and details of important accessories such as unwinding accelerator, pre-clearers, tensioners, yarn clearers, kink remover, cradle weighting, drum drive, types of packages produced.
4. Knotting: types of knots, characteristics of good knot, comparison, applications,
5. Classimat classification of yarn faults, its use.
6. Common package faults: - patterning, conditions for patterning, anti-patterning devices, soft packages, wild yarn, snarls etc.
7. Geometrical aspects: - Cone angle, angle of wind, wind per double traverse, surface speed, traverse speed, winding speed, calculations
8. Calculations: winding speed, production/spindle & per machine, and efficiency.

III) Pirn Winding

1. Objectives: - rewind weft, its advantage, need
2. Details semi-automatic and automatic pirn winding machines w. r. t drive to spindles, traverse, tensioning yarn path.
3. Pirn build: - length of wind, chase length, diameter, bunch, tail ends etc. their importance during weaving process.
4. Calculations: - Average pirn diameter, winding speed, production / spindle / & per machine, efficiency, number of looms fed by spindle.

IV) Fabric Forming

1. Various methods of fabric forming: - Weaving, knitting, braiding, non-woven, brief description of all methods and processes involved in it. Applications of fabrics from various methods,
2. Outline of weaving mechanisms: - Classification of weaving machines, Basic motions, primary, secondary and auxiliary, objects,

3. Primary motions: Detailed study of -shedding, picking, and beat-up
4. Secondary motions: Detailed study of take up and negative let-off.
5. Auxiliary motions: - Detailed study of weft fork, anti-crack, oscillating backrest, and warp-protecting motions (loose and fast reed), ring, roller and full width temples.
6. Calculations: warp weight, weft weight, fabric weight per sq.m fabric production/loom, weft consumption per loom /day etc.

V) Fabric Structure

1. Constructional details: - Warp and weft count, thread densities, width, length, selvedge; light, medium, & heavy constructions, warp and weft cover, cloth cover, crimp, contraction in warp and weft way during weaving, introduction to interlacement of thread.
2. Presentation of weaves: - Design, draft & its types, peg plan, need and importance.
3. Study of weaves: - plain, twill and satin (basic weaves)

List of Experiments:-

1. Study of Weaving preparatory and weaving Processes
2. Study of various types of tools and gauges used in weaving
3. Study of loom drive, loom timing, passage of material and primary motions.
4. Study of secondary motions and setting of take up motion
5. Study of auxiliary motions.
6. Study of precision and drum winding machine.
7. Study of weaving accessories and drawing-in
8. Study of pirn winding machine
9. To Study method of fabric analysis
10. Fabric analysis of given fabric sample
11. Fabric analysis of given fabric sample
12. Visit to ordinary weaving machine unit

Term Work -

Term work assessment will be on the basis of regularity of attendance, satisfactory completion of experiments, regular submission of journal and tests conducted.

Reference Books:-

1. Principles of weaving By Marks A.T.C. & Robinson.
2. Textile Colour and Design By Watson.
3. Weaving By Prof.D.B.Ajgaonkar, Prof.Sriramalu&Prof.M.K.Talukdar.
4. Weaving Mechanism by K.T. Aswani.
5. Winding &Warping byTalukdar M.K.
6. Yarn Preparation-Vol-I bySengupta.
7. Weaving Calculation bySengupta.
8. Textile Mathematics-Vol.I by J.E. Booth.
9. Fibre to Fabric by P.R. Lord

Course outcomes:

1. Understand nature of the Textile Industry and objects of all weaving preparatory processes.
2. Understand and demonstrate ordinary winding technology
3. Understand pirn winding technology
4. Understand and demonstrate various methods of fabric forming
5. Understand primary, secondary and auxiliary motions of a plain loom
6. Calculate production of loom, fabric weight in grams per square meter and weft consumption per loom /day
7. Understand and demonstrate method of fabric analysis
8. Identify and understand method of construction of basic weaves

FIRST YEAR B. TEXT. – SEMESTER - I

1.7 COMPUTER LABORATORY (TT/MMTT/FT)

Practical: 2 Hours/week

Term Work: 50 Marks

Subject Total: 50 Marks

Course Objectives:

1. To describe basic Computer architecture and Generation of computers.
2. To explain classification of Programming Language and number system.
3. To explain operating system concept with its structure and features.
4. To illustrate scripting language and programming structure.
5. To explain basic structure of 'C' programming and formation
6. To write programs using 'C' Language.

I Introduction to Computers

Introduction, Characteristics of Computers, Block diagram of computer. Types of computers and features, Mini Computers, Micro Computers, Mainframe Computers, Super Computers. Types of Programming Languages (Machine Languages, Assembly Languages, High Level Languages). Data Organization, Drives, Files, Directories. Types of Memory (Primary And Secondary) RAM, ROM, PROM, and EPROM. Secondary Storage Devices (FD, CD, HD, Pen drive) I/O Devices (Scanners, Plotters, LCD, Plasma Display) Number Systems Introduction to Binary, Octal, Hexadecimal system Conversion, Simple Addition, Subtraction, Multiplication.

II Computer Software

Operating System: Types of operating system, Functions, Unix/Linux, Windows 7/Windows 8-structures & features, Unix/Linux commands: Listing, changing, copying, moving files & directories (LS, CD, CAT, MKDIR, RMDIR, and other commands), any editor in Linux. Application Software's: Word processor, spreadsheets, presentation, application, DBMS, etc.

III Dynamic Web Page Design

HTML: use of commenting, headers, text styling, images, formatting text with, special characters, horizontal rules, line breaks, table, forms,

image maps, <META> tags, <FRAMESET> tags, file formats including image formats. Introduction to VB script, basics of VB scripting, Java script.

IV Programming with 'C' Language

Introduction, Algorithm & flowchart, keywords, statements, Loops, Array representation, one dimensional array, structure, define structure variable, accessing structure member, pointer, pointer arithmetic, pointer & array

Term work: Computer Laboratory

1. Study of basic structure of computer system – Internal Components & peripherals.
2. Study of windows/Linux commands & create a file using any editor in Linux.
3. Create a document using any word processor (In Linux (open office) /Windows (Microsoft office)).
4. Use any spreadsheet application to manipulate numbers, formulae and graphs (In Linux/Windows).
5. Use any power point presentation application and create a professional power point Presentation using text, image, animation etc. (In Linux/Windows).
6. Create a simple web page using HTML/VB Script
7. Create a simple web page using Java Script.
8. Five programs of 'C' Language on Linux/Windows platform.

Reference Books

1. Fundamentals of Computers by V. Rajaram, PHI Publications.
2. Introduction to Information Technology, ITL Education Solutions LTD. Pearson Education
3. Let us C by Y.P. Kanetkar
4. Beginning Java Script ,4Ed by Jeremy Mcpeak Paul Wilton

Course outcomes:

1. Understand basic architecture of computer.
2. Understand the basic number system.
3. Illustrate basic structure of Program.
4. Understand the concept of operating system.
5. Understand the scripting language
6. Design and develop 'C' program.

FIRST YEAR B. TEXT. – SEMESTER - I

1.5 MANMADE STAPLE YARN MANUFACTURE - I (MMTT)

Lectures : 4 Hours / Week.

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total : 150 Marks.

Course Objectives

1. To describe basic terms of textiles and yarn forming process.
 2. To illustrate essential and desirable properties of fibres.
 3. To explain classification of yarns as per application, properties or manufacturing techniques.
 4. To explain the calculation of yarn count by using different count numbering systems
 5. Describe the cotton production and cotton varieties of national and world wide.
 6. Explain pre and post ginning machines and different types of ginning with objectives and layout of ginning.
 7. Describe the various factors affecting ginning performance and relationship of fiber properties and ginning operations.
 8. To describe the objectives, different zone and components of blow room.
 9. To explain need for development of blow room machines.
 10. Describe the material handling, dust, contamination removal utility systems at blow room.
-
1. Definition of terms – ‘Textiles’, ‘Fibres’, ‘Yarns’ and ‘Fabric’, process flow chart for carded & combed yarn manufacturing.
 2. Essential and desirable properties of Textile fibres.
 3. Yarn classification, yarn numbering systems and related calculations.
 - 4 Cotton Cultivation& Harvesting in India:**
 - Indian Cotton Production, producing regions in India
 - Evolution of Indian Cottons, and varieties produced.
 - Details of foreign Cottons varieties

5 Cotton Ginning:-

- Introduction of ginning process, Functions ginning machines
- Types of Ginning machines.
- Pre and post ginning machines used and their objects.
- Factors affecting ginning performance
- Influence of ginning on fibre, yarn and fabric quality
- Pressing and baling of Indian and foreign cotton, dimensions.

6 Blow Room:-

Object of blow room machines, evolution of opening and cleaning principles. Various components of blow room machines, Different zones in blow room, Conventional blow room machines. Reasons of developments in blow room machinery, Research findings and developments of modern blow room,

Modern blow room machines

- Automatic bale opener
- Mild openers– Maxi-flow/ Uni-clean/Vario-clean
- Blenders
- Intensive openers, cleanomat, flexiclean

Method used for - material transport in modern blow room- Waste removal- Dust removal- Contamination removal. , Waste recycling machines and methods, Fire protection / Safety arrangements in blow room, Utilities required for blow room machines. Humidification system used in blow room

List of Experiments:-

- 1 Study of different types of drives and calculations based on the same. Belt drive
- 2 Study of various types of bearings used on spinning machines and their lubrication.
Application of each type of bearing is demonstrated on machine
Preparation of cut models of different bearings, Advantages & limitations
- 3 Processing of material on Blow Room, Carding, Draw frame, Comber, Speed-Frame & Ring Frame. Testing of output material for hank calculation
- 4 Introduction to spinning process, sequence, machines (carded/combed).
- 5 Study of ginning machine -Dimension, Construction, Working, Driving arrangement, calculations.
- 6 Study of Blow-room line - Flow chart - Machine positioning in Blow-room.

- 7 Study of Bale Opening machine - Dimensions, Driving arrangement, speed calculations.
- 8 Dimension and driving arrangement study of coarse cleaning machines. Speed calculations.
- 9 Study of Fine cleaning machine – Dimension, Driving arrangement used, Speed calculations.(ERM)
- 10 Study of De-dusting machines – Working, Dimension, Driving arrangement and calculations.

Reference Books:-

- 1 The Textile Institute Publication - Manual of Textile Technology – Short Staple Spinning Series by W. Klein
- 2 'The Characteristics of Raw Cotton' by P. Lord. The Textile Institute
- 3 Publication, Manual of Cotton Spinning Vol.II, Part-I.
- 4 'Opening and Cleaning' by Shirley. The Textile Institute Publication, Manual of Cotton Spinning Vol. II, Part-II.
- 5 'Opening Cleaning and Picking' by Dr.Zoltan S. Szaloki, Institute of Textile Technology, Virginia.
- 6 'Cotton Ginning' Textile Progress, The Textile Institute Publication.
- 7 Blowroom and Carding- Training Programme conducted by NCUTE, IIT, Delhi.
- 8 Essential calculations of practical cotton spinning by T.K. Pattabhiraman.

Course Outcomes

- 1 Understand basic terms used in textiles.
- 2 Understand different processes for conversion of fiber into yarn
- 3 Understand essential and desirable properties of fibres for yarn manufacturing.
- 4 Classify yarn as per application, properties or manufacturing techniques.
- 5 Calculate yarn count by using different count numbering systems.
- 6 Understand the cotton production and cotton varieties of national and world wide.
- 7 Understand the pre and post ginning machines and ginning machines, objectives and draw the layout of ginning.
- 8 Analyze the various factors affecting ginning performance and relate fiber properties and ginning operations.

- 9 Understand the objectives, various zones and components of blowroom.
- 10 Analyze the reasons and development for blow room such as Automatic bale opener, maxi flow /uniclean/ vario clean, blenders, fine openers and clenomat. Compare conventional and modern blow room
- 11 Understand the material handling and dust, contamination removal system and the utility required for blow room

FIRST YEAR B. TEXT. – SEMESTER - I

1.6 MAN MADE FABRIC FORMING TECHNOLOGY - I (MMTT)

Lectures : 4 Hours / Week.

Practical : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total : 150 Marks.

Course Objectives:

1. To describe the Textile Industry in India and explain the object of all weaving preparatory processes
2. To explain need, manufacturing technology of ordinary winding process
3. To explain technology of pirn winding process
4. To explain and demonstrate various methods of fabric forming
5. To explain and demonstrate primary, secondary and auxiliary motions of a plain loom.
6. To explain the calculations related to production of loom, fabric weight in grams per square meter and weft consumption per loom /day
7. To explain the method of fabric analysis for representation of design, draft and peg plan
8. To describe the identification and construction of basic weaves such as plain, twill and satin

I) Introduction

1. Nature of textile industry in India
2. Applications/classification of fabrics
3. Yarn numbering systems: cotton counts, metric count, Tex, denier, calculations
4. Weaving processes: objects of all processes. Different kinds of fabrics: Grey, mono-colour, multi-colour, warp or weft stripes, checks.
5. Process flow charts for various fabrics

II) Ordinary Winding

1. Need: - Limitation of ring spinning to make big packages and good yarn, yarn faults in spinning, their consequences on subsequent processes and fabric quality, objects of winding process

2. Machines: - Types of winding machine, precision winding, drum winding, merits and demerits.
3. Machine Details: - Construction and working of winding machine, yarn path, details of machine zones such as creel, knotting, clearing, winding, functions and details of important accessories such as unwinding accelerator, pre-clearers, tensioners, yarn clearers, kink remover, cradle weighting, drum drive, types of packages produced.
4. Knotting: types of knots, characteristics of good knot, comparison, applications,
5. Classimat classification of yarn faults, its use.
6. Common package faults: - patterning, conditions for patterning, anti-patterning devices, soft packages, wild yarn, snarls etc.
7. Geometrical aspects: - Cone angle, angle of wind, wind per double traverse, surface speed, traverse speed, winding speed, calculations
8. Calculations: winding speed, production/spindle & per machine, and efficiency.

III) Pirn Winding

1. Objectives: - rewind weft, its advantage, need
2. Details semi-automatic and automatic pirn winding machines w. r. t drive to spindles, traverse, tensioning yarn path.
3. Pirn build: - length of wind, chase length, diameter, bunch, tail ends etc. their importance during weaving process.
4. Calculations: - Average pirn diameter, winding speed, production / spindle / & per machine, efficiency, number of looms fed by spindle.

IV) Fabric Forming

1. Various methods of fabric forming: - Weaving, knitting, braiding, non-woven, brief description of all methods and processes involved in it. Applications of fabrics from various methods,
2. Outline of weaving mechanisms: - Classification of weaving machines, Basic motions, primary, secondary and auxiliary, objects,
3. Primary motions: Detailed study of -shedding, picking, and beat-up
4. Secondary motions: Detailed study of take up and negative let-off.
5. Auxiliary motions: - Detailed study of weft fork, anti-crack, oscillating backrest, and warp-protecting motions (loose and fast reed), ring, roller and full width temples.

6. Calculations: warp weight, weft weight, fabric weight per sq.m fabric production/loom, weft consumption per loom /day etc.

V) Fabric Structure

1. Constructional details: - Warp and weft count, thread densities, width, length, selvedge; light, medium, & heavy constructions, warp and weft cover, cloth cover, crimp, contraction in warp and weft way during weaving, introduction to interlacement of thread.
2. Presentation of weaves: - Design, draft & its types, peg plan, need and importance.
3. Study of weaves: - plain, twill and satin (basic weaves)

List of Experiments:-

1. Study of Weaving preparatory and weaving Processes
2. Study of various types of tools and gauges used in weaving
3. Study of loom drive, loom timing, passage of material and primary motions.
4. Study of secondary motions and setting of take up motion
5. Study of auxiliary motions.
6. Study of precision and drum winding machine.
7. Study of weaving accessories and drawing-in
8. Study of pirn winding machine
9. To Study method of fabric analysis
10. Fabric analysis of given fabric sample
11. Fabric analysis of given fabric sample
12. Visit to ordinary weaving machine unit

Term Work -

Term work assessment will be on the basis of regularity of attendance, satisfactory completion of experiments, regular submission of journal and tests conducted.

Reference Books:-

1. Principles of weaving By Marks A.T.C. & Robinson.
2. Textile Colour and Design By Watson.
3. Weaving By Prof. D. B. Ajgaonkar, Prof. Sriramalu & Prof. M. K. Talukdar.
4. Weaving Mechanism by K.T. Aswani.
5. Winding & Warping by Talukdar M.K.

6. Yarn Preparation-Vol-I by Sengupta.
7. Weaving Calculation by Sengupta.
8. Textile Mathematics-Vol.I by J.E. Booth.
9. Fibre to Fabric by P.R. Lord.

Course Outcomes:

1. Understand nature of the Textile Industry and objects of all weaving preparatory processes.
2. Understand and demonstrate ordinary winding technology
3. Understand pirn winding technology
4. Understand and demonstrate various methods of fabric forming
5. Understand primary, secondary and auxiliary motions of a plain loom
6. Calculate production of loom, fabric weight in grams per square meter and weft consumption per loom /day
7. Understand and demonstrate method of fabric analysis
8. Identify and understand method of construction of basic weaves

FIRST YEAR B. TEXT. – SEMESTER - I

1.5 YARN MANUFACTURING MACHINERY I (TPE)

Lectures : 4 Hours / Week.

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total : 150 Marks.

Course Objectives

1. To describe basic terms of textiles and yarn forming process.
 2. To illustrate essential and desirable properties of fibres.
 3. To explain classification of yarns as per application, properties or manufacturing techniques.
 4. To explain the calculation of yarn count by using different count numbering systems
 5. Describe the cotton production and cotton varieties of national and world wide.
 6. Explain pre and post ginning machines and different types of ginning with objectives and layout of ginning.
 7. Describe the various factors affecting ginning performance and relationship of fiber properties and ginning operations.
 8. To describe the objectives, different zone and components of blow room.
 9. To explain need for development of blow room machines.
 10. Describe the material handling, dust, contamination removal utility systems at blow room.
-
1. Definition of terms – ‘Textiles’, ‘Fibres’, ‘Yarns’ and ‘Fabric’, process flow chart for carded & combed yarn manufacturing.
 2. Essential and desirable properties of fibres.
 3. Yarn classification, yarn numbering systems and related calculations.
 - 4 **Cotton Cultivation & Harvesting in India:**
 - Indian Cotton Production, producing regions in India
 - Evolution of Indian Cottons, and varieties produced.
 - Details of foreign Cottons varieties

5 Cotton Ginning:-

- Introduction of ginning process, Functions ginning machines
- Types of Ginning machines.
- Pre and post ginning machines used and their objects.
- Factors affecting ginning performance
- Influence of ginning on fibre, yarn and fabric quality
- Pressing and bailing of Indian and foreign cotton, dimensions.

6 Blow room :-

Object of blow room machines, evolution of opening and cleaning principles. Various components of blow room machines, Different zones in blow room, Conventional blow room machines. Reasons of developments in blow room machinery, Research findings and developments of modern blow room,

Modern blow room machines

- Automatic bale opener
- Mild openers– Maxi-flow/ Uni-clean/Vario-clean
- Blenders
- Intensive openers, cleanomat, flexiclean

Method used for - material transport in modern blow room- Waste removal- Dust removal- Contamination removal. , Waste recycling machines and methods, Fire protection / Safety arrangements in blow room, Utilities required for blow room machines. Humidification system used in blow room

List of Experiments:-

- 1 Study of different types of drives and calculations based on the same. Belt drive
- 2 Study of various types of bearings used on spinning machines and their lubrication.
Application of each type of bearing is demonstrated on machine
Preparation of cut models of different bearings, Advantages & limitations
- 3 Processing of material on Blow Room, Carding, Draw frame, Comber, Speed-Frame & Ring Frame. Testing of output material for hank calculation
- 4 Introduction to spinning process, sequence, machines (carded/combed).

- 5 Study of ginning machine - Dimension, Construction, Working, Driving arrangement, calculations.
- 6 Study of Blow-room line - Flow chart - Machine positioning in Blow-room.
- 7 Study of Bale Opening machine - Dimensions, Driving arrangement, speed calculations.
- 8 Dimension and driving arrangement study of coarse cleaning machines. Speed calculations.
- 9 Study of Fine cleaning machine – Dimension, Driving arrangement used, Speed calculations.(ERM)
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7. Blowroom and Carding- Training Programme conducted by NCUTE, IIT, Delhi.
8. Essential calculations of practical cotton spinning by T.K. Pattabhiraman.

Course Outcomes

1. Understand basic terms used in textiles.
2. Understand different processes for conversion of fiber into yarn
3. Understand essential and desirable properties of fibres for yarn manufacturing.
4. Classify yarn as per application, properties or manufacturing techniques.
5. Calculate yarn count by using different count numbering systems.
6. Understand the cotton production and cotton varieties of national and world wide.

7. Understand the pre and post ginning machines and ginning machines, objectives and draw the layout of ginning.
8. Analyze the various factors affecting ginning performance and relate fiber properties and ginning operations.
9. Understand the objectives, various zones and components of blowroom.
10. Analyze the reasons and development for blow room such as Automatic bale opener, maxi flow / uniclean/ vario clean, blenders, fine openers and clenomat. Compare conventional and modern blow room
11. Understand the material handling and dust, contamination removal system and the utility required for blow room

FIRST YEAR B. TEXT. – SEMESTER - I

1.6 FABRIC MANUFACTURING MACHINERY - I (TPE)

Lectures : 4 Hours / Week.

Practical : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total : 150 Marks.

Course Objectives:

- 1 To describe the Textile Industry in India and explain the object of all weaving preparatory processes
- 2 To explain need, manufacturing technology of ordinary winding process
- 3 To explain technology of pirn winding process
- 4 To explain and demonstrate various methods of fabric forming
- 5 To explain and demonstrate primary, secondary and auxiliary motions of a plain loom.
- 6 To explain the calculations related to production of loom, fabric weight in grams per square meter and weft consumption per loom /day
- 7 To explain the method of fabric analysis for representation of design, draft and peg plan
- 8 To describe the identification and construction of basic weaves such as plain, twill and satin

I) Introduction

1. Nature of textile industry in India
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5. Process flow charts for various fabrics

II) Ordinary Winding

1. Need: - Limitation of ring spinning to make big packages and good yarn, yarn faults in spinning, their consequences on subsequent processes and fabric quality, objects of winding process
2. Machines: - Types of winding machine, precision winding, drum winding, merits and demerits.
3. Machine Details: - Construction and working of winding machine, yarn path, details of machine zones such as creel, knotting, clearing, winding, functions and details of important accessories such as unwinding accelerator, pre-clearers, tensioners, yarn clearers, kink remover, cradle weighting, drum drive, types of packages produced.
4. Knotting: types of knots, characteristics of good knot, comparison, applications,
 - 1 Classimat classification of yarn faults, its use.
5. Common package faults: - patterning, conditions for patterning, anti-patterning devices, soft packages, wild yarn, snarls etc.
6. Geometrical aspects: - Cone angle, angle of wind, wind per double traverse, surface speed, traverse speed, winding speed, calculations
7. Calculations: winding speed, production/spindle & per machine, and efficiency.

III) Pirn Winding

1. Objectives: - rewind weft, its advantage, need
2. Details semi-automatic and automatic pirn winding machines w. r. t drive to spindles, traverse, tensioning yarn path.
3. Pirn build: - length of wind, chase length, diameter, bunch, tail ends etc. their importance during weaving process.
4. Calculations: - Average pirn diameter, winding speed, production / spindle / & per machine, efficiency, number of looms fed by spindle.

IV) Fabric Forming

1. Various methods of fabric forming: - Weaving, knitting, braiding, non-woven, brief description of all methods and processes involved in it. Applications of fabrics from various methods,
2. Outline of weaving mechanisms: - Classification of weaving machines, Basic motions, primary, secondary and auxiliary, objects,

3. Primary motions: Detailed study of -shedding, picking, and beat-up
4. Secondary motions: Detailed study of take up and negative let-off.
5. Auxiliary motions: - Detailed study of weft fork, anti-crack, oscillating backrest, and warp-protecting motions (loose and fast reed), ring, roller and full width temples.
6. Calculations: warp weight, weft weight, fabric weight per sq.m fabric production/loom, weft consumption per loom /day etc.

V) Fabric Structure

Constructional details: - Warp and weft count, thread densities, width, length, selvedge; light, medium, & heavy constructions, warp and weft cover, cloth cover, crimp, contraction in warp and weft way during weaving, introduction to interlacement of thread.

Presentation of weaves: - Design, draft & its types, peg plan, need and importance.

Study of weaves: - plain, twill and satin (basic weaves)

List of Experiments:-

1. Study of Weaving preparatory and weaving Processes
2. Study of various types of tools and gauges used in weaving
3. Study of loom drive, loom timing, passage of material and primary motions.
4. Study of secondary motions and setting of take up motion
5. Study of auxiliary motions.
6. Study of precision and drum winding machine.
7. Study of weaving accessories and drawing-in
8. Study of pirn winding machine
9. To Study method of fabric analysis
10. Fabric analysis of given fabric sample
11. Fabric analysis of given fabric sample
12. Visit to ordinary weaving machine unit

Term Work -

Term work assessment will be on the basis of regularity of attendance, satisfactory completion of experiments, regular submission of journal and tests conducted.

Reference Books:-

1. Principles of weaving By Marks A.T.C. & Robinson.
2. Textile Colour and Design by Watson.
3. Weaving By Prof. D. B. Ajgaonkar, Prof. Sriramalu & Prof. M. K. Talukdar.
4. Weaving Mechanism by K.T. Aswani.
5. Winding &Warping by Talukdar M.K.
6. Yarn Preparation-Vol-I by Sengupta.
7. Weaving Calculation by Sengupta.
8. Textile Mathematics-Vol.I by J.E. Booth.
9. Fibre to Fabric by P.R. Lord.

Course Outcomes:

1. Understand nature of the Textile Industry and objects of all weaving preparatory processes.
2. Understand and demonstrate ordinary winding technology
3. Understand pirn winding technology
4. Understand and demonstrate various methods of fabric forming
5. Understand primary, secondary and auxiliary motions of a plain loom
6. Calculate production of loom, fabric weight in grams per square meter and weft consumption per loom /day
7. Understand and demonstrate method of fabric analysis
8. Identify and understand method of construction of basic weaves

FIRST YEAR B. TEXT – SEMESTER - I

1.7 COMMUNICATION LAB (TPE/TC)

Practical: 2 Hours / Week.

Term Work: 50 Marks.

Subject Total: 50 Marks.

Course Objectives:

1. To differentiate between verbal and non-verbal communication.
2. To explain the types and forms of communication.
3. To develop grammatical ability.
4. To describe the process of communication
5. To develop the skill of correct pronunciation
6. To explain the information about the transcription, stress and intonation pattern in English language.
7. To develop communication skills.
8. To develop listening, speaking, reading, & writing skills

I) Understanding Communication

Etymological perspective and definition of communication

Nature and Importance of Communication

Process of communication – idea or source, sender, encoding process, message, medium or channel, noise, receiver, decoding process, feedback

Barriers to Communication – Physical barriers – mechanical barriers – socio-cultural - psychological barriers – linguistic and semantics barriers

Forms of Communication – Formal and informal communication – oral and written communication – upward, downward, horizontal, grapevine communication

II) Techniques of Communication.

Techniques of Formal Speech.

Extempore – debate – elocution – group discussion

Verbal Communication

Non Verbal Communication – appearance – gestures – facial expressions – postures – kinesics – eye contact – silence – haptic – proxemics – paralinguistic

III) Issues in English

Getting started – questions – Cloze – Spelling – Diction – Listening – Word – Sentences – Vocabulary – Pictures & Words – Opposite Meaning – Word order- Grammar – Simple present – Simple Past – Present continuous – Future Tense – Personal Pronouns – Pronunciation – words sentences – writing – punctuation – questions – opinions – different genres.

IV) Pronunciation

The phonemic alphabet in English – vowel sounds – short vowels – long vowels – diphthongs and triphthongs

Consonantal sounds -

Similar sounds

Word and phrasal stress – rules of stress

Stress and Rhythm

Rhythms from Rainland

V) Study skills success

Listening – Speaking – Reading – Writing – Vocabulary – Visuals – Grammar - Research

VI) Tense Buster

Articles – Definite and indefinite articles - Direct speech and indirect speech – Active voice and passive voice – Phrasal verbs – How to learn faster.

VII) Business English

A formula for clear writing – Fog factor –Difference between Formal and Informal letters – Formal vocabulary –written communication

Reference Books:-

1. Effective Business Communication – H. A. Murphy, H. W. Hildebrandt, Jane P Thomas – Tata MC graw Hill Publishing Company Ltd., New Delhi.
2. Basic Business communication – Robert Ma Arches
3. Business English & Communication – Cleark
4. Business Communication – Pradhan and Thakur
5. Business Communication – Balsubramanium M.

6. Communication Techniques and Skills – R. K. Chaddha – Dhanpat Rai Publication, New Delhi.
7. Professional Communication Skills – Pravit S. R. Bhatia – S. Chand and Co. New Delhi.
8. Better English Pronunciation – J. D. O Connor
9. High School English Grammar & Composition – Wren and Martin – S. Chand & Co. New Delhi.
10. Communication Skills for Engineers – Sunita Mishra C. Muralikrishna – Pearson Education.
11. Principles and Practice of Business Communication – ASPI Doctor – Rhoda Doctor – Sheth publications, Mumbai.
12. Communication Skills for Engineers – Sunita Mishra – Pearson Education
13. Language Software's (1 to 22 Software's)

List of Software's

- | | |
|------------------------------------|---------------------------------------------|
| 1. Ease one | 12. Let's do Business Telephoning |
| 2. Click info English | 13. Report Writes – Technical Report |
| 3. Tense Buster | 14. Report Writers Business Report |
| 4. Study Skills Success | 15. Report Writers – Letters Faxes, E-Mails |
| 5. Author Plus with result Manager | 16. Connected Speech |
| 6. Sky Pronunciation Suite | 17. Vocabulary Builder |
| 7. Pronunciation Power | 18. Business Territory |
| 8. Test Preparation for TOEFL | 19. Error & Terror |
| 9. Let's do Business Presentation | 20. A Taste for English |
| 10. Let's Do Business Meetings | 21. Issues in English |
| 11. Let's Do Business Negotiations | 22. Voice Books |

Course outcomes:

1. Understand and apply Listening, speaking, reading & writing skills.
- 2 Understand types & forms of communication.
- 3 Understand & apply the basic concepts of grammar.
- 4 Design, compose and create different types of business letters.
- 5 Understand the process of communication.
- 6 Understand and use the knowledge regarding transcription, stress and intonation pattern in English language.

- 7 Apply verbal and non verbal skills.
- 8 Articulate correct pronunciation.

Term work –

- 1 About myself
- 2 Extempore
- 3 Group Discussion
- 4 Phonology and Transcription
- 5 Grammatical activities
- 6 Verbal and non verbal communication
- 7 Exercises on listening and reading
- 8 Vocabulary
- 9 Written communication (Formal letters)
- 10 Process and barriers to communication

FIRST YEAR B. TEXT. – SEMESTER - I

1.4 ORGANIC CHEMISTRY- I (TC)

Lectures : 4Hours / Week

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours

Term Work : 50 Marks

Subject Total : 150 Marks

Course Objectives:-

1. To discuss general nature of organic reactions.
2. To discuss mechanism of selected organic reactions.
3. To explain chemistry of aliphatic organic hydrocarbons.
4. To describe chemistry of alkyl halides.
5. To describe chemistry of alcohols.
6. To describe chemistry of aldehydes and ketones.
7. To describe chemistry of carboxylic acids and their derivatives.
8. To describe chemistry of amines.
9. To describe chemistry of ethers and epoxies.
10. To discuss stereoisomerism and its types.

1) General Nature of Organic Reactions:-

Introduction, Electron Displacements in molecules, Bond Fission, Types of Organic Reactions, Types of Reagents, Energetics of Ionic or Polar Mechanisms, Kinetic and Thermodynamic Control, Reactive Intermediates and Applications in Textiles.

2) Reaction Mechanism:-

Claisen ester condensation, Benzidine rearrangement, Michael addition, Reformatsky reaction, Skraup Synthesis and Textile Applications.

3) Aliphatic Hydrocarbons:-

Introduction, Nomenclature, Orbital Structure, Methods of Preparation, Physical and Chemical Properties of Alkanes, Alkenes and Alkynes and Applications in Textiles.

4) Halogen Derivatives of Aliphatic Hydrocarbons:-

Introduction, Nomenclature, Classification, Orbital Structure, Methods of Preparation, Physical and Chemical Properties of Monohalogen Derivatives, Carbon Tetrachloride and Vinyl Chloride, S_N1 and S_N2 Mechanism and Applications in Textiles.

5) Aliphatic hydroxyl compounds and their derivatives:-

Introduction, Nomenclature, Classification, Orbital Structure, Methods of Preparation, Physical and Chemical Properties of methanol, ethanol, ethylene glycol, glycerin, Distinguishing chemical properties of 1^0 , 2^0 , 3^0 alcohols, Absolute alcohol, Power alcohol, Denatured alcohol and Applications in Textiles.

6) Aldehydes and Ketones:-

Introduction, Nomenclature, Classification, Orbital Structure, Important Methods of Preparation, Physical and Chemical Properties of Acetaldehyde, Acetone and Applications in Textiles.

7) Carboxylic Acids and Their Derivatives:-

Introduction, Nomenclature, Classification, Orbital Structure, Methods of Preparation, Physical and Chemical Properties of Acetic Acid, Citric Acid, Formic Acid and Tartaric Acid.

8) Amines :-

Introduction, Nomenclature, Classification, Orbital Structure, Important Methods of Preparation, Properties of Methyl Amine, Ethyl Amine and Their Applications in Textiles.

9) Ethers and Epoxies:-

Introduction, Nomenclature, Orbital Structure, Important Methods of Preparation, Properties of Ether, Epoxide and Crown Ethers and Their Applications in Textiles.

10) Stereochemistry:-

Introduction, Stereoisomerism, Optical Isomerism, Enantiomers, Distereo isomers, Meso form, racemic mixture. Fischer projection formula, Relative configuration(D&L), Absolute configuration(R&S). Geometrical isomerism, E & Z nomenclature, Conformations of Ethane, Butane and Cyclohexane and Applications in Textiles.

List of Experiments:-

1. Sublimation.
2. Filtration.
3. Crystallization.
4. Distillation.
5. Soxhlet extraction.
6. Separation of Immiscible Liquids
7. Estimation of Glucose.
8. Estimation of Acetone.
9. Estimation of Sulphanilic acid.
10. Preparation of Phthalic Anhydride from Phthalic Acid.
11. Preparation of Acetanilide.
12. Preparation of Phthalimide.
13. Preparation of Urea-Formaldehyde Resin.

Reference Books:-

1. Organic Chemistry by Morrison & Boyd.
2. Organic Chemistry - Vol. I, The Fundamental Principles by I.L. Finar.
3. A text book of Organic Chemistry by P.L. Soni.
4. A text book of Organic Chemistry by B.S. Bahl and Arun Bahl.
5. Reaction Mechanism & Reagents in Organic Chemistry by Gurdeep R. Chatwal.
6. Advanced Organic Chemistry by Jerry March.

Course Outcomes:-

At the end of the course students will be able

1. State general nature and energetic of organic reactions.
2. Discuss mechanism of selected organic reactions.
3. Understand aliphatic organic hydrocarbons.
4. Understand alkyl halides.
5. Understand alcohols.
6. Understand aldehydes and ketones.
7. Understand carboxylic acids.
8. Understand amines, ethers and epoxies.

9. Understand ethers and epoxies.
10. Understand stereo isomers and types.

FIRST YEAR B. TEXT. – SEMESTER - I

1.5 PHYSICAL CHEMISTRY (TC)

Lectures : 3 Hours / Week

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours

Term Work : 25 Marks

Subject Total : 125 Marks

Course Objectives:-

1. To explain colligative properties and their applications in textiles.
2. To describe concepts of acids and bases.
3. To explain order of reaction and to derive rate equations.
4. To describe the basic concepts of photochemistry.
5. To discuss phase rule and its applications.
6. To explain first, second and third law of thermodynamics.
7. To explain heat changes in a chemical reaction.
8. To describe catalysis and its types with examples.
9. To explain adsorption and physical and chemical adsorption.

1. Solutions: -

Introduction, Types, Solutions of solid in liquid, Expressing Concentration of Solutions. Vapour Pressure of Liquid Solutions, Lowering of Vapour Pressure, Elevation in Boiling Point, Depression in Freezing Point and Determination of Molar Mass, Numerical Problems.

2. Ionic Equilibrium:-

Introduction, Concepts of Acids and Bases, Common Ion Effect, Ionic product of water, pH, Buffers, Indicators, Choice of Indicators for Acid-base Titrations, Solubility product, Numerical Problems.

3. Chemical Kinetics: -

Introduction, Rate of Chemical Reactions, Rate equations, Order of Reaction, Zero, First, Second and Third Order Reactions with their Examples, Pseudo First Order Reactions, Rate constant and its units, Integrated Rate Equation, Half-Life

of Reaction: (Zero Order and First Order Reactions), Numerical problems, Factors affecting Rate of Chemical Reactions.

4. Photochemistry: -

Introduction, Comparison between Thermal and Photochemical Reactions, Photo excitation of Organic Molecules, Jablonski Diagram, Fluorescence, Phosphorescence.

5. Phase Rule:

Introduction, Gibb's phase rule, Advantages and Limitations, Phase Diagram, Application of phase rule to One Component, Two Component and Three Component System, Efflorescence and deliquescence.

6. Thermodynamics: -

Introduction, Zeroth, First, Second & Third Law of Thermodynamics, Internal energy, work and heat changes, Heat changes at constant pressure and constant volume, Maximum work in isothermal expansion of a gas, Internal energy of an ideal gas, Heat capacities at constant pressure and constant volume, adiabatic changes, Entropy, Numerical Problems.

7. Thermo Chemistry:

Introduction, Heat changes in chemical reaction, Heat of reaction at constant pressure and constant volume, Heat of formation, Heat of combustion, Heat of neutralization, Heat of dilution, Effect of temperature on heat of reaction, Kirchhoff's equation, Numerical Problems.

8. Catalysis:-

Introduction, General Characteristics of catalyzed reactions, Types, Catalyst poisoning, Theories of catalysis, Criteria for choosing catalyst for Industrial processes, Applications of catalysts for industrially important processes.

9. Adsorption:-

Introduction, Types of adsorption, Freundlich adsorption isotherm, BET equation, Isosteres, Application in Textiles.

List of Experiments: -

1. Standardization of NaOH using primary standard.
2. Standardization of H₂SO₄ using primary standard.

3. Estimation of Na_2CO_3 and NaOH from the mixture.
4. Determination of Heat of Neutralization.
5. Determination of Heat of reaction between CuSO_4 and Zinc dust.
6. Determination of Rate Constant for the Hydrolysis of Ethyl Acetate in the presence of Hydrochloric Acid.
7. Study of the Chemical Kinetics of Hydrogen Peroxide Decomposition.
8. Determination of Normality of given acid solution Potentiometrically.
9. Study of the effect of change in temperature on the rate of reaction between sodium thiosulphate & hydrochloric acid.
10. Determination of normality of given weak acid solution using weak base conductometrically.
11. Determination of energy of activation by titration method.
12. Determination of Viscosity of liquids by using Ostwald's viscometer.

Reference Books:-

1. A Text book of Physical Chemistry by Samuel Glasstone.
2. Principles of Physical Chemistry by Maron & Prutton.
3. Essentials of Physical Chemistry by Bahl and Tuli.
4. A Text book of Physical Chemistry by L.K. Sharma.
5. Physical Chemistry by P.C. Rakshit.
6. Physical Chemistry by G.M. Barrow.

Course Outcomes:-

At the end of the course students will be able to:

1. Visualize concentration terms and methods of solution preparation.
2. Illustrate concepts of Acids and Bases.
3. Explain order of reaction and calculate rate constant of a reaction.
4. Describe the basic concepts of photochemistry.
5. Discuss phase rule and apply it to one, two, three component system.
6. Illustrate the laws of thermodynamics.
7. Appraise heat changes in a chemical reaction.
8. Teach catalysis, its types and Theories of catalysis.
9. Evaluate adsorption and compare physical and chemical adsorption.

FIRST YEAR B. TEXT. – SEMESTER - I

1.6 INORGANIC CHEMISTRY (TC)

Lectures : 3 Hours / Week

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours

Term Work : 25 Marks

Subject Total : 125 Marks

Course Objectives:-

1. To explain types of chemical bonds, properties and applications in Textiles.
2. To explain properties and applications of important inorganic compounds used in textiles.
3. To solve problems based on Stoichiometry.
4. To state Chromatography and explain the different chromatographic techniques.
5. To describe soaps and detergents and their applications in textiles.
6. To describe theories of Co-ordination Compound formation.
7. To discuss redox reactions.

1) Theory of Bonding:-

Introduction, Chemical bond, Types of bond: Covalent Bond, Ionic Bond, Co-ordinate Bond, Primary and Secondary Bonds such as Van der Waals forces, Hydrogen bonds: Intermolecular and Intramolecular H-bonds, Characteristics of Ionic, Covalent & Co-Ordinate Compounds, Polar and Non-Polar Bonds, Electronegativity and Nature of Bonds, Dipole Moment, Bond Length, Bond Angle, Bond Energy.

2) Compounds used in Textiles :

Properties and Textile Applications of Ammonium Sulphate, Ferrous Sulphate, Zinc Oxide, Zinc Sulphoxylate Formaldehyde, Sodium Carbonate, Sodium Hydroxide, Glauber's Salt, Vacuum Salt, Sodium Perborate, Sodium Hydrosulphite, Hydrogen Peroxide, Peracetic Acid, Sodium Silicate, Potassium Permanganate.

3) Stoichiometry:-

Introduction, Atomic Weights, Molecular Weight, Equivalent Weight of Acids & Bases, Equivalent Weight of Oxidising and Reducing Agents, Problems Based on Weight – Weight Relationship, Weight-Volume Relations and Their Applications in Textiles.

4) Chromatography :

Introduction, Classification of Chromatography, Underlying Principles of Chromatographic Techniques, Paper Chromatography, TLC, HPTLC: Brief Introduction, Ion Exchange Chromatography, High Performance Liquid Chromatography, Gas Chromatography, Applications in Textiles.

5) Soaps and Detergents : -

Introduction, Definition of Soap, Detergency and Detergents, Detergency Mechanism, Classification: Anionic, Cationic, Non-ionic and Amphoteric detergents, Synthesis of Detergents, Formulations and Applications of Detergents, Concept of Microemulsions, Use of Microemulsions, Applications in Textiles.

6) Complex Ions and Co-ordination Compounds:-

Introduction, Werner's theory of co-ordination compound, Electronic Interpretation of Co-Ordination. The nature of the linkage in complex ions and co-ordination compounds, complexes resulting from electrostatic forces between constituents and co-ordination bonds, Factors affecting the stabilities co-ordination compounds, Chelates: Classification and importance in textiles.

7) Redox reactions :-

Introduction, Oxidation and reduction, electron transfer concepts, oxidizing and reducing agents, redox reactions in aqueous solutions, oxidation number and rules for assigning oxidation number and Applications in textiles.

List of Experiments:-

1. Paper Chromatography.
2. Estimation of Strength of Hydrogen Peroxide.
3. Determination of Percentage Purity of Hydroxide Powder.
4. Determination of Percentage Purity of NaOH.
5. Determination of Percentage Purity of Na_2CO_3
6. Determination of Percentage Purity of Na_2S

7. Determination of Percentage Purity of NaOCl
8. Determination of Percentage Purity of Ammonium Sulphate.
9. Gravimetric Estimation of Barium as Barium Sulphate.
10. Gravimetric Estimation of Chloride as Silver Chloride.
11. Qualitative Analysis of Mixture Containing One Acidic and One Basic Radical.
12. Qualitative Analysis of Mixture Containing Two Acidic and Two Basic Radicals.

Reference Books:-

1. Fundamental concepts of Inorganic Chemistry by E.S. Gilreath.
2. A New Concise Inorganic Chemistry by J.D. Lee.
3. Inorganic Chemistry by Cotton & Wilkinson.
4. A text book of Quantitative Inorganic Chemistry by A.I. Vogel.
5. Fundamental Inorganic Chemistry by P.L. Soni.
6. Modern Approach Elementary Inorganic Chemistry by Bahl & Sharma.
7. Modern Inorganic Chemistry by Mellor and Parkes.
8. Synthetic Detergents by A. Davidshon and B. M. Milwidsky

Course Outcomes:-

At the end of the course students will be able

1. To state the different types of chemical bonds.
2. To illustrate the use of inorganic compounds in textiles.
3. To apply the knowledge of stoichiometry in textiles.
4. To apply the knowledge of chromatography in textiles.
5. To summarize applications of soaps and detergents.
6. To state theories of Co-ordination Compound formation.
7. To state redox reactions and its applications.

FIRST YEAR B. TEXT. – SEMESTER - I

1.5 FUNCTIONAL ENGLISH- I (FT)

Lectures : 4 Hours / Week.

Practical : 2 Hours

Theory paper : 100 Marks.

Term work : 50 Marks

Subject Total : 150 Marks.

Course Objectives:

1. To explain the importance of verbal and non-verbal Communication
2. To explain the types of report writing and trans coding graphical representations.
3. To discuss the importance of grammar and vocabulary.
4. To describe seven C's of good business letter
5. To develop paragraph writing
6. To give information about various business letter.
7. To give information about international phonetic alphabets, stress and transcription
8. To develop communication and behavioral skills.
9. To give information about various techniques of communication (debate, elocution, meetings, extempore)

I) Understanding Communication

Etymological perspective and definition of communication

Nature and Importance of Communication

Process of communication – idea or source, sender, encoding process, message, medium or channel, noise, receiver, decoding process, feedback

Barriers to Communication – Physical barriers – mechanical barriers – socio-cultural - psychological barriers – linguistic and semantics barriers

Forms of Communication – Formal and informal communication – oral and written communication – upward, downward, horizontal, grapevine communication

II) Techniques of Communication.

Techniques of Formal Speech.

Verbal Communication

Non Verbal Communication – appearance – gestures – facial expressions – postures – kinesics – eye contact – silence – haptic – proxemics – paralinguistic

III) Fundamentals of English

Parts of speech – Basic sentences – voices – reported speech – Framing questions – Wh questions- Yes/no questions – question tag – editing a passage – punctuation – spelling and common errors

IV) Adeptness of Articulation

The phonemic alphabet in English – vowel sounds – short vowels – long vowels – diphthongs and trip thongs -Consonantal sounds – practice of transcription – stress – intonation

V) Basic Strategies of Writing

Factual business letters – paragraph writing – narrative – descriptive – argumentative – comparative – contrastive – E mail etiquettes – report writing – survey inspection and investigation

VI) International Dexterity

Trans coding graphical representations – line graph –bar chart –flow chart – pie chart and tree chart – synonyms – antonyms – idioms – phrases – homonyms – homophones

VII) Behavioral Skills

Understanding Self - Developing Positive attitude - Decision Making Skills - Leadership Skills - Emotional Intelligence - Stress Management - Time Management - Team Work.

VIII) Basic Official Correspondence

Objectives – importance – principles – seven C's of good business letter – language and style – Application and resume writing.

IX) Oratorical Efficiency

Extempore and elocution – group discussion and debate – interview - presentation techniques and meeting.

Reference Books

- 1 Better English Pronunciation by J.D. O'Connor.
- 2 Communication Skills Handbook: How to succeed in written and oral communication by Jane Summers, Brette Smith, Wiley India Pvt.Ltd.
- 3 Soft Skills for Managers by Dr. T. Kalyana Chakravarthi, Dr. T. Latha Chakravarthi, Biztantra.
- 4 Soft Skills for every one by Jeff Butterfield, Cengage.
- 5 Behavioral Science by Dr.Abha Singh, Wiley India Pvt.Ltd.
- 6 An Introduction to Professional English and Soft Skills by Bikram K. Das, Kalyani Samantray, Cambridge University Press New Delhi.
- 7 Speaking Accurately, K.C. Nambiar, Cambridge University Press New Delhi.
- 8 Speaking Effectively by Jeremy Comfort, Pamela Rogerson, Cambridge University Press New Delhi.
- 9 Communication skills for engineers by Sunita Mishra.
- 10 Body Language by Allen Pease.
- 11 Business English And Communication by Cleark
- 12 Communication Techniques & Skills by R K Chaddha
- 13 High school English grammar & composition by wren & Martin

Course Outcomes

1. Compose various kinds of paragraphs.
2. Understand and apply the importance of communication
3. Understand & apply the knowledge of grammar and vocabulary.
4. Design, compose and create different types of business letters and reports.
5. Develop job application and resume writing skill.
6. Prepare themselves for debate, elocution, extempore and meeting.
7. Understand and use the knowledge regarding transcription, stress and, intonation pattern .while speaking.
8. Recognize the importance of verbal and non-verbal communication.

Term Work:

1. About myself
2. Extempore and elocution
3. Debate and public speaking
4. Phonology and Transcription

5. Grammatical activities
6. Verbal and nonverbal communication
7. Exercises on listening and reading
8. Vocabulary
9. Written communication (Formal letters)
10. Process and barriers to communication

FIRST YEAR B. TEXT. – SEMESTER - I

1.6 INTRODUCTION TO TEXTILE MANUFACTURING - I (FT)

Lectures: 4 Hours / Week.

Practicals: 2 Hours / Week.

Theory paper: 100 Marks.

Term work: 50

Subject Total: 150 Marks.

Course Objectives:

1. To define the textile terms and definitions.
2. To classify the yarns and fabrics.
3. To discuss the yarn numbering system.
4. To explain the yarn spinning process.
5. To describe the weaving operation.
6. To describe the fabric analysis.
7. To compare the different spinning techniques.

1. Textile terms and definitions:

Textile, fibres, yarns & fabrics.

2. Yarn- numbering system and classification:

3. Ginning:

Objects, types of ginning machines, pressing & baling of cotton.

4. Introduction to spinning:

Process flow chart for conversion of fibres into yarns. Object of each process. Objects and passage of material through blowroom, card, drawframe, speed frame, comber and ring frame machines. Brief introduction of different spinning system.

5. Introduction to weaving:

Introduction to Textile Industry.

Process flow chart for woven, knitted fabric and non-wovens fabrics.

Yarn preparation – objects and passage of yarn on winding, warping, sizing & drawing-in, pirn winding.

classification of looms, drop box, dobby, jacquard loom & their purpose.

Shedding, picking, beat-up, let-off & take-up, warp protector & weft stop motion of non automatic powerlooms. Weaving calculations.

6. Fabric structures:

Fabric constructional details of light, medium & heavy weight fabrics and capability of weaving machine. Warp, weft and cloth cover, crimp, contraction in warp & weft way. Presentation of weave & its importance.

Study of weaves – plain, twill & satin (basics only).

List of Experiments:-

1. Study of instruments / tools used in spinning & weaving.
2. To study the different types of drives & calculation based on the same.
3. Introduction to spinning, sequence, machines (carded / combed).
4. Study of passage of material through blow room.
5. To study the passage of material in carding & drawframe.
6. To study the passage of material in comber & its preparatory.
7. To study the passage of material through speedframe & ringframe.
8. Study of all weaving processes to observe the machines & operation to understand objects of all processes.
9. To study the primary motions and secondary motions to understand their functioning & objectives.
10. To study the auxiliary motions to understand their functioning & objectives.
11. To study the object & method of fabric analysis and calculation of crimp, covers & fabric weight.
12. Fabric analysis of fabric samples with plain, twill & satin & sateen weaves.

Reference Books:-

1. Cotton Ginning, Textile Progress, The Textile Institute Publication. Fundamentals of Spun Yarn Technology by Carl A Lawrence.
2. Blowroom Carding, Drawframe by Prof. A.R. Khare.
3. Essential Calculations of Practical Cotton Spinning by T.K. Pattabhiraman.
4. Weaving by Prof. D.B. Ajgaonkar, Prof. Sriramalu, Prof. M.K. Talukdar.
5. Weaving by N.N. Banerjee.
6. Weaving Calculation by Sengupta.
7. Winding & Warping by M.K. Talukdar.
8. Textile Colour & Design by Watson.

Course outcomes:

1. Student will be able to define basic terms of spinning and weaving.
2. Student will be able to understand the yarn spinning and weaving flow process.
3. Student will be able to understand the working of spinning machines.
4. Student will be able to understand the working of weaving machines.
5. Student will be able to evaluate the yarns produced on different spinning systems.
6. Student will be able to calculate the yarn number in different yarn numbering system.
7. Student will be able to analyse the basic fabric designs

FIRST YEAR B. TEXT. – SEMESTER – II

2.1 APPLIED MECHANICS (TT/MMTT/TPE/TC/FT)

Lectures: 3 Hours / Week.

Theory Paper: 100 Marks

Subject Total: 100 Marks

Course Objectives:

- 1 To describe the concept of forces and various laws related to force with basic principles, theorems and concepts of mechanics.
- 2 To explain the mechanical interaction between bodies and how they then balance to keep each other in equilibrium.
- 3 To explain the concept of centroid and moment of inertia of plane and composite figures.
- 4 To describe different types of simple machines and their applications.
- 5 To distinguish the effect of forces on body in the rest condition and bodies in motion.
- 6 To describe the concept of transmission of motion, power in various machines, drives and bearings used in textile machines.

SECTION-I (STATICS)

1) Forces

Statics, dynamics, Fundamental units of measurements, Metric system of units, SI. System, Scalar and Vector quantities. Force, system of forces, Resultant force and equilibrant, principle of transmissibility of force, moment of force. Couple, Law of parallelogram of forces, Law of triangle of forces, Law of polygon of forces, Varignon's theorem, Composition and resolution of Coplanar concurrent and nonconcurrent forces. (Only Analytical method)

2) Equilibrium

Equilibrium of Coplanar forces, Conditions of equilibrium, free body diagram, Lami's theorem. Introduction to friction, types of friction, Laws of friction. Beams: Types of beams, Types of Loads, Types of supports, Analysis of Simply supported beams.

3) Moment of Inertia

Centroid and Centre of gravity, Centroid of composite areas, Radius of gyration, parallel axis theorem, perpendicular axis theorem, Moment of inertia of composite sections.

4) Lifting Machines

Mechanical advantage, velocity ratio, efficiency, law of machine, effort lost in friction, load lost in friction, Study and numerical examples on simple machines- Simple screw jack, Simple axle and wheel, differential axle and wheel, worm and worm wheel.

SECTION-II (DYNAMICS)

5) Kinematics: Linear motion

Equations of linear motion with constant and variable acceleration, motion under gravity.

6) Kinematics: Angular motion

Angular motion, Relation between angular motion & linear motion, Equations of angular motion, Centrifugal & centripetal forces, Motion along a curved path, Banking of roads.

7) Kinetics

Newton's laws of motion, Mass moment of inertia, D'Alemberts principle, work, power, energy, impulse, Work- Energy Principle, Impulse- Momentum Principle, Principle of conservation of energy.

8) Transmission of motion and power

Belt, rope, chain and gear drives, P.I.V. drives, Type of gears and gear drives, Gear trains, velocity ratio, advantages of gear drives, uses in textile machines, Concept of epicyclic gearing. Types of bearing and their applications (Only theory, no numerical examples on this topic)

Reference Books:

1. Engineering Mechanics by R. K. Bansal and Sanjay Bansal, Laxmi Publications.
2. Applied Mechanics by R.S. Khurmi, S. Chand Publications.

3. Engineering Mechanics by S. S. Bhavikatti, New Age International Pvt. Ltd.
4. Engineering Mechanics by S. Ramamrutham, DhanpatRai and Sons.
5. Fundamentals of Engineering Mechanics by S. Rajasekaran, Sankarasubramanian, Vikas Publishing House.
6. Applied Mechanics by S.N. Saluja, SatyaPrakashan, New Delhi
7. Engineering Mechanics by S. B. Junnarkar, Charotar Publishing House Pvt. Ltd.
8. Vector Mechanics for Engineers Vol. I & II, by Beer &Jonhstan, Tata Mc-Graw Hill Publication

Course Outcomes:

1. Understand the concept of forces and various laws related to force with basic principles, theorems and concepts of mechanics.
2. Understand mechanical interaction between bodies and how they then balance to keep each other in equilibrium.
3. Understand the concept of centroid and moment of inertia of plane and composite figures.
4. Identify the different types of simple machines and their applications.
5. Interpret the effect of forces on body in the rest condition and bodies in motion.
6. Interpret the concept of transmission of motion, power in various machines and classify various drives and bearings used in textile machines.

FIRST YEAR B. TEXT. – SEMESTER - I

2.2 TEXTILE MATHEMATICS - II (TT/MMTT/TPE/TC/FT)

Lectures:3 Hours / Week.

Theory paper: 100 Marks.

Subject Total: 100 Marks.

Course Objectives:

- 1 Introduce students with the formulae, methods related to reduction formulae, special functions, multiple integrals and its applications.
- 2 Introduce students to mathematical methods which suits to numerical differentiation and curve fitting.
- 3 Prepare students with mathematical knowledge so that they can understand bivariate data distribution, correlation and regression.
- 4 Develop an ability to use the techniques, skills to understand probability distribution.
- 5 Develop ability to identify, formulate & solve textile engineering problems of probability distribution.
- 6 Introduce students to statistical methods which suits to statistical applications needs of Textile Math's III & IV of textile engineering.
- 7 Develop ability to collect, formulate & analyze textile testing data.
- 8 Develop ability to plan and conduct experiments, collecting testing data, analysis & interpretation.

1. Integral Calculus: $\pi/2$ $\pi/2$

Reduction formulae for $\int \sin x dx$, $\int \cos x dx$, Gamma function, Beta Function

2. Multiple integrals:

Introduction, solution, change of order & change of variables method.

3. Applications of integration:

Area, Mass of lamina using double integrals only. Volume using triple integral only.

4. Numerical Differentiation & curve fitting:

Newton's forward & backward formulae, Sterling's formula. Newton's divided difference formula.

Fitting of curves $y=a+bx$, $y=a+bx+cx^2$, $y=abx$ by least square method.

5. Bivariate data:

Correlation: types, coefficient of correlation, properties. Rank correlation coefficient & computation.

Regression: lines of X on Y & Y on X, regression coefficients, properties & computation.

6. Probability distribution:

Random variable: types, introduction & types of probability distribution, pmf & pdf, expectation of random variable. MGF of random variable.

7. Standard discrete probability distributions:

Binomial probability distribution: Definition, properties, fitting & examples.

Poisson probability distribution: Definition, properties, fitting & examples.

8. Standard continuous probability distributions:

Normal probability distribution: Definition, properties, standard normal distribution & examples.

Chi-square probability distribution (χ^2): Definition & properties only.

t-probability distribution: Definition & properties only. F-probability distribution:

Definition & properties only. Examples of t, χ^2 , & F are not expected.

Reference Books:

1. A textbook of applied mathematics Vol.-I & II by P.N. & J.N. Wartikar.
2. Higher engineering mathematics by B.S. Grewal.
3. A textbook of applied mathematics by Bali, Saxena & Iyengar.
4. Mathematical Statistics by J.E. Freund.
5. Probability & Statistics for engineers by Johnson.
6. Statistical methods by Kumbhojkar

Course Outcomes

1. Students are able to solve problems related to reduction formulae, special functions, multiple integrals and its applications.
2. Students are able to collect textile testing data & find the correlation and regression.
3. Students are able to evaluate and interpret probability distribution.
4. Students can understand mathematical models used in textile engineering.

FIRST YEAR B. TEXT. – SEMESTER - II

2.3 INDUSTRIAL CHEMISTRY FOR TEXTILES (TT/MMTT/TC)

Lectures : 4 Hours / Week

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours

Term Work : 25 Marks

Subject Total : 125 Marks

Course Objectives:-

1. To explain water quality parameters & water treatment methods.
2. To explain preparation, properties and applications of surfactants in textiles.
3. To explain chemistry of starch and cellulose in textiles.
4. To describe composition and structural aspects of proteins & protein fibers.
5. To describe corrosion, mechanisms and methods of corrosion prevention.
6. To describe chemistry of fuels.
7. To describe the alloys and illustrate green chemistry.
8. To explain colloidal solutions and their textiles applications.

1. Water:-

Introduction, Impurities in Natural Water, Water Quality Parameters : - pH, Acidity, Alkalinity, Total Solids, BOD & COD, Oil and Grease, Hardness-Units and Numericals, ill effects of Hard Water in Textile Industry, Treatment of Water by Ion Exchange Process, Reverse Osmosis; Boiler Feed Water, Causes & Disadvantages of Scale and Sludge Formation, Priming, Foaming and Caustic Embrittlement.

2. Surface Active Agents:-

Introduction, Preparation, properties and applications of

- a) Ionic -Anionics and cationics
- b) Non-ionics
- c) Amphoteric surfactants.

3. Carbohydrates:-

Introduction, Classification, Structure of Glucose, Starch: Sources, Constitution, Properties; Properties of Starch Paste, Soluble Starch and Dextrin, Action of Enzymes, Manufacture of Starch from Maize, Cellulose:

Sources, Constitution, Chemical and Physical Properties, Methods of Pulp Making.

4. Amino Acids and Proteins:-

Introduction, Nature of Amino Acids, Classification, Chemical Properties, Nature and classification of proteins, Chemical Properties, Denaturing of Proteins, Isoelectric Point, Composition and Chemical Structure of Protein Fibres like Wool and Silk.

5. Corrosion and Prevention:-

Introduction, Definition, Causes, Classification, Atmospheric Corrosion, Electrochemical Corrosion and Mechanisms, Factors Affecting the Rate of Corrosion, Prevention of Corrosion by Proper Selection of Material and Proper Design, Cathodic Protection, Metallic Coatings: Hot Dipping, Metal Spraying and Electroplating.

6. Fuels: -

a) Introduction, Classification, Properties, Characteristic of Good Fuel, Comparison between solid, liquid and gaseous fuels, Coal and Coal Formation, Determination of Calorific Value by Bomb and Boy's Calorimeter, Numerical problems.

b) Fuel Cells: Introduction, Classification, Advantages, Limitations and Applications.

7. Metallic Materials and Green Chemistry:-

a) Metallic Materials: -Introduction, Alloys: Definition, Classification, Purposes of Making Alloys, Composition, Properties and Applications of Ferrous Alloys: Plain Carbon Steels, Stainless Steel, Non-Ferrous Alloys: Brass and Bronze, Nichrome, Duralumin.

b) Green Chemistry: -Scope of Topic in Textiles, Introduction, Definition, Goals of Green Chemistry, Twelve Principles of Green Chemistry.

8. Colloids: -

Introduction, True Solutions, Colloidal Solutions, Suspensions, Classifications of Colloids, General Physical Properties, Optical Properties, Electrical Properties Coagulation and Factors Affecting Coagulation, Methods of Preparation of Sols.

List of Experiments: -

1. Determination of total hardness of water.
2. Determination of total solids & suspended solids of water.
3. Determination of dissolved oxygen of water.
4. Determination of COD of water.
5. Determination of alkalinity of water.
6. Determination of chlorides in water.
7. Determination of pH
8. Determination of oil & grease in water.
9. Estimation of copper in bronze.
10. Analysis of starch.
11. Determination of rate of corrosion of metal.
12. Proximate analysis of solid fuel.

Reference Books:-

1. Engineering Chemistry by Jain and Jain.
2. Chemistry of Organic Textile Chemicals by Dr. V.A. Shenai.
3. Text Book of Engg. Chemistry by Shashi Chawla.
4. A Text Book of Engg. Chemistry by S. S. Dara
5. Surfactants and Polymers in Aqueous Solutions by Jonsson, Lindman, Holmberg, Kronberg.

Course Outcomes:-

At the end of the course students will be able to

1. Illustrate water quality parameters and methods of water treatments.
2. Understand preparation, properties and applications of surfactants.
3. To understand starch and cellulose.
4. Know the proteins and protein fibers.
5. Summarize the types of corrosion and methods of corrosion prevention.
6. Evaluate the quality of fuel
7. Illustrate the types of alloys.
8. Understand colloidal chemistry.

FIRST YEAR B.TEXT. SEMESTER - II
2.4 ENGINEERING GRAPHICS (TT/MMTT/TPE/TC/FT)

Lecture: 2 Hours / Week.

Practical: 2 Hours / Week.

Theory paper: 100 Marks.

Term work: 25 Marks.

Subject Total: 125 Marks.

Course Objectives:

1. Introduction and use of instruments.
2. To draw Orthographic views.
3. To draw Sectional Orthographic views.
4. To draw Isometric views.
5. To draw Development of Surfaces.
6. To draw free hand sketches of mechanisms used in textile machines.
7. To know the use of Auto-CAD Commands.

1) Introduction & use of instruments:

Line, Lettering, Conventions of section lines, I.S. conventions of machine parts like knurling, square end of shaft, bearing, springs, external & internal thread.

2) Orthographic Projections:

General principles, First angle method, Third angle method, Dimensioning.

3) Sectional Orthographic views:

Cutting plane, Types of sections, drawing sectional views of machine components.

4) Isometric Projections:

Principle, Isometric scale, Isometric views, Making Isometric drawings of simple objects from orthographic views.

5) Development of Surfaces:

Introduction to solids (Types of solids only), Development of lateral surfaces of cubes, prisms, pyramids, cylinders & cones.

6) Free hand sketches:

Making free hand sketches of various textile machine parts & mechanisms used in spinning, weaving, processing, garments etc.

7) Introduction to Auto- CAD:

Commands for drawing lines, circles, polygons, ellipse etc.

Term Work:

Submission of 8 drawing sheets of half imperial size on the following topics:

1. Lines, Letterings & Dimensioning.
2. Conventions of section lines & I.S. conventions of machine parts.
3. Conversion of pictorial view into orthographic views.
4. Conversion of pictorial view into sectional orthographic views.
5. Free hand sketches of textile machine parts & mechanisms.
6. Isometric Projections.
7. Development of Surfaces.

Reference Books:

1. Engineering Drawing by N. D. Bhatt & V. M. Panchal.
2. Engineering Drawing by Venugopal.
3. Machine Drawing by N. D. Bhatt & V. M. Panchal.
4. Machine Drawing by K. L. Narayana, Kannaiah P., K. Venkata Reddy.
5. Principles of Weaving by Marks & Robinson.
6. Engineering Graphics by H. G. Phakatkar.

Course outcomes:

1. Understand & use drawing instruments.
2. Understand & draw orthographic views from pictorial views.
3. Understand & draw sectional orthographic views.
4. Understand & draw Isometric views.
5. Understand & draw development of solid surfaces.
6. Draw free hand sketches of mechanisms used in textile machines.
7. To Know the commands used in Auto CAD.

FIRST YEAR B. TEXT. – SEMESTER - II
2.5 YARN FORMING TECHNOLOGY-II (TT)

Lectures : 4 Hours / Week

Practical : 2 Hours / Week

Theory Paper : 100 Marks

Term Work : 50 Marks

Subject Total : 150 Marks

Course Objectives:

1. To describe Feed systems to card
2. To explain working principles of card.
3. To explain carding theory , transfer efficiency and auto leveler in card
4. To describe card performance assessment and calculation of production, waste etc.
5. To explain constructional aspects of Draw frame
6. To describe draw frame performance assessment and calculations.
7. To explain principle of drafting
8. To illustrate features of modern card and Draw-frame machines

I. CARDING

1. Feed to Card – Principle and concept of chute feed to card. Advantages and limitations. Study of design details of different types of chute feeding systems.
2. Revolving Flat Card – Detailed study of design developments in Taker in zone, Cylinder Flat Carding Zone – Doffer Zone – Sliver formation – Study of cards used in the industry – General construction – Driving arrangement, production calculations, draft calculations, stop motions – on line monitoring – Tandem Cards.
3. Carding Theory – Opening of fibre mass – Carding actions – Web formation and fibre configuration – Blending – Leveling action – Fibre breakage.
4. Transfer efficiency of card – importance, concept, methods of finding transfer efficiency.
5. Auto-levelers at Card – Basic principles, concepts – Types– Working Principles–Setting of auto levelers.

6. Card Clothing, evolution and Metallic wire details — Card wire mounting and maintenance of card.
7. Assessment of performance of card – Cleaning efficiency, Nep removal efficiency, fibre breakage.
8. Concept of Air engineering at carding.
9. Utilities required for carding machine.

II. DRAWFRAME

1. Functions of draw-frame, principles of drafting and doubling. Study of constructional details and design. Calculations.
2. Principles of roller drafting, design details, evolution and developments of drafting systems in draw-frame.
3. Automatic can-handling. Auto-leveling.
4. Study of modern draw-frames. Blending draw-frame.
5. Study of maintenance aspects and design developments.
6. Assessment of performance of draw-frame. Defective production Causes and remedies for the same. Norms.
7. Study of utilities at draw-frame.

III. SPEEDFRAME:-

1. Objects of speed frame. Concepts of drafting, twisting and winding process.
2. Constructional aspects of Speed-frame – Creel, Top arm apron drafting system, Spindle & Flyer assembly, Bobbin building, stop motions.
3. Study of mechanisms like – differential motion, swing motion, building mechanism, semi-automatic and automatic doffing.
4. Performance assessment of Speed-frame – norms, Zero break concept, block creeling.
5. Materials handling. Link -mechanism.
6. Maintenance of speed frame.
7. Features of modern speed-frame machines.

List of Experiments:-

1. Study of chute feed system & constructional details of a card.
2. Driving arrangement and calculations of carding machine.
3. Settings of various parts of feed zone of carding.
4. Settings of various parts of Delivery zone of carding.
5. Study of constructional details, Driving arrangement and calculation of D/F.

6. Study of auto-levelers used on card and Draw frame.
7. Processing of Material on card & Draw frame and evaluating performance.
8. Demonstration of wire mounting, grinding , roller mounting and buffing machine
9. Study of constructional details & Driving arrangement and calculation of Speed Frame.
10. Study of coils per inch of speed frame & differential gearing.
11. Study of building mechanism of speed frame.

Reference Books:-

1. The Textile Institute Publication –Manual of Textile Technology-Short Staple Spinning Series Vol I to V by W. Klein
2. The characteristics of Raw Cotton by P. Lord. The Textile Institute Publication, Manual of Cotton Spinning Vol II, Part-I.
3. Fundamentals of Spun Yarn Technology, By Carl Lawrence.
4. Blow room and carding –Training program conducted by NCUTE, IIT Delhi.
5. Carding by F. Charanlay. The Textile Institute publication, Manual of cotton spinning series Vol - III.
6. Technology of cotton spinning by J. Janakiram.
7. Drawing, Combing and roving and speed frame by Zoltan, S. Szaloky, The Institute of Textile Technology, Virginia

Course Outputs:

1. Understand about different types of card feed
2. Understand working of carding machines and principles of mechanisms
3. Understand carding theories
4. Evaluate card performance and calculate production
5. Understand technical specifications of modern Card
6. Understand constructional aspects of Draw frame
7. Evaluate Draw frame performance and calculate production
8. Understand features of modern Card & Draw frame machines

FIRST YEAR B. TEXT. – SEMESTER - II

2.6 FABRIC FORMING TECHNOLOGY - II (TT)

Lectures : 4 Hours / Week.

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total : 150 Marks.

Course Objectives:

1. To explain the need and objectives of warp preparatory process.
2. To describe warping processes and machine in detail.
3. To calculate warping production and parameters.
4. To explain need of sizing, methods of sizing and its advantage in weaving.
5. To describe sizing machine and functions of various zones.
6. To calculate production and efficiency of sizing machine.
7. To explain shedding mechanisms and weft patterning devices used on loom.
8. To demonstrate construction of various weaves and its derivatives.
9. To explain requirements of weaving for various weaves.

I) WARPING

1. Need, Objectives, precautions to be considered in the process, classification of warping process- (beam warping, sectional warping, ball warping)
2. Warping machine: - construction and working: -
 - a. Creel: - framing (requirements, length, height, pitch, etc.) pegs, tensioning arrangements guides, blow fan, types of creels (parallel, V, V-nose etc.)
 - b. Principles of operation of beam warping and sectional warping.
 - c. Head stock: - Leasing reeds, Drum, speed, stop-motion, brake, comb, beam pressing, beam handling, set length, drums for sectional warping, its geometrical aspects, traverse, section width and sections, beaming process and speed.
 - d. Calculations: -production of warping machine, efficiency based on speed and stoppages, weight of yarn on warper's beam, organizing the set (based on cones available, creel capacity, fabric construction etc.) Calculation of number of sections, section width.

II) SIZING

1. Need: Objectives, achieving the objectives through size paste constituents size application.
2. Concepts of sizing process: hank sizing, ball warp sizing, slasher sizing.
3. Sizing machine: Various zones, their functions, creel and the types with comparison, elements in sow box and their functions, various drying arrangements and drying mechanism in each. Head stock: dry splitting, measuring, marking, winding, beam pressing etc.
4. Moisture and stretch: - Importance and their control
5. Size Ingredients: Types (natural, synthetic), their functions, examples.
6. Size cooking: - need, equipments available, method of addition of ingredients and its importance, gelatinizing, bursting, homogenizing, concentration, viscosity.
7. Calculations: -Production and efficiency of machine.

II) WEAVING

1. Study of dobby: Climax, cam dobby, cross border dobby, method of pegging, heald reversing motion.
2. Study of Jacquard: Parts of jacquards, sizes and figuring capacities of jacquard, harness ties, casting out, card cutting and lacing, double lift single cylinder, double lift double cylinder, cross border jacquards.
3. Weft patterning: - drop box motions, pattern chain, and card saving.

IV) FABRIC STRUCTURE

1. To represent following weaves on graph paper with design, draft, peg-plan and denting order.
 - a. Derivative of plain weave-warp and weft rib, matt (regular and irregular)
 - b. Derivatives of twill: pointed, herringbone, various types of diagonals, different types of broken and rearranged twills, transposed twill, twill checks, curved twills, combined twill, diamond, twist and twill interaction
 - c. Derivatives of satin/sateen weave, irregular satin, satin checks.
 - d. Toweling structures: Ordinary and brightened honeycomb, huckaback.
 - e. Mock leno, crepes by various methods.
2. The requirements of weaving for all above mentioned constructions, practical aspects of weaving, fabric and weave characteristics and properties of fabric and their applications.

3. Constructional details, characteristics and properties of following fabrics.
Poplin, long cloth, semi and full voile, cambric, denim, dhoti, sari, sheeting, shirting, suiting, gabardine, dress material.

List of Experiments:-

1. Setting of Tappet shedding motion.
2. Setting of cone over pick motion
3. Setting of side weft fork and anti-crack motion
4. Study of Climax dobby and fabric sample weaving by dobby pegging with different weaves
5. Setting of Climax dobby
6. General study of drop box motion
7. General study of mechanical Jacquard and method of card cutting.
8. Study of Cam dobby and paper card cutting.
9. Study of Sectional warping machine
10. Fabric Analysis
11. Fabric Analysis
12. Fabric Analysis
13. Visit to warping and sizing unit

Reference Books:-

1. Principles of Weaving by Marks and Robinson.
2. Weaving Mechanism by Fox.
3. Weaving by D.B. Ajagaonkar, Sriramulu and Talukdar.
4. Sizing by D.B. Ajagaonkar.
5. Weaving by BTRA.
6. Fancy Weaving by K.T. Aswani.
7. Textile colour and design by Watson.
8. Woven cloth construction by Marks and Robinson.
9. Winding and Warping by M.K. Talukdar.

Course Outcomes:

1. Understand warp preparatory sequence/flow for various application
2. Describe warping process and its application
3. Understand sizing process and its importance
4. Describe sizing process and its application
5. Calculate production and efficiency of warping and sizing

6. Differentiate various shedding mechanisms according to the requirement
7. Understand different types of weaves and its derivatives (Understand) and create different weaves with drawing and lifting plans.
8. Create designs of various weaves
9. Understand constructional details of fabrics

FIRST YEAR B. TEXT – SEMESTER - II

2.7 COMMUNICATION LAB (TT/MMTT)

Practical: 2 Hours / Week.

Term Work: 50 Marks.

Subject Total: 50 Marks.

Course Objectives:

1. To differentiate between verbal and non-verbal communication.
2. To explain the types and forms of communication.
3. To develop grammatical ability.
4. To describe the process of communication
5. To develop the skill of correct pronunciation
6. To explain the information about the transcription, stress and intonation pattern in English language.
7. To develop communication skills.
8. To develop listening, speaking, reading, & writing skills

I) Understanding Communication

Etymological perspective and definition of communication

Nature and Importance of Communication

Process of communication – idea or source, sender, encoding process, message, medium or channel, noise, receiver, decoding process, feedback

Barriers to Communication – Physical barriers – mechanical barriers – socio-cultural - psychological barriers – linguistic and semantics barriers

Forms of Communication – Formal and informal communication – oral and written communication – upward, downward, horizontal, grapevine communication

II) Techniques of Communication.

Techniques of Formal Speech.

Extempore – debate – elocution – group discussion

Verbal Communication

Non Verbal Communication – appearance – gestures – facial expressions – postures – kinesics – eye contact – silence – haptic – proxemics – paralinguistic

III) Issues in English

Getting started – questions – Cloze – Spelling – Diction – Listening – Word – Sentences – Vocabulary – Pictures & Words – Opposite Meaning – Word order- Grammar – Simple present – Simple Past – Present continuous – Future Tense – Personal Pronouns – Pronunciation – words sentences – writing – punctuation – questions – opinions – different genres.

IV) Pronunciation

The phonemic alphabet in English – vowel sounds – short vowels – long vowels – diphthongs and triphthongs

Consonantal sounds -

Similar sounds

Word and phrasal stress – rules of stress

Stress and Rhythm

Rhythms from Rainland

V) Study skills success

Listening – Speaking – Reading – Writing – Vocabulary – Visuals – Grammar - Research

VI) Tense Buster

Articles – Definite and indefinite articles - Direct speech and indirect speech – Active voice and passive voice – Phrasal verbs – How to learn faster.

VII) Business English

A formula for clear writing – Fog factor –Difference between Formal and Informal letters – Formal vocabulary –written communication

Reference Books:-

1. Effective Business Communication – H. A. Murphy, H. W. Hildebrandt, Jane P Thomas – Tata MC graw Hill Publishing Company Ltd., New Delhi.
2. Basic Business communication – Robert Ma Arches
3. Business English & Communication – Cleark
4. Business Communication – Pradhan and Thakur
5. Business Communication – Balsubramanium M.
6. Communication Techniques and Skills – R. K. Chaddha – DhanpatRai Publication, New Delhi.

7. Professional Communication Skills – Pravit S. R. Bhatia – S. Chand and Co. New Delhi.
8. Better English Pronunciation – J. D. O Connor
9. High School English Grammar & Composition – Wren and Martin – S. Chand & Co. New Delhi.
10. Communication Skills for Engineers – Sunita Mishra C. Muralikrishna – Pearson Education.
11. Principles and Practice of Business Communication – ASPi Doctor – Rhoda Doctor – Sheth publications, Mumbai.
12. Communication Skills for Engineers – Sunita Mishra – Pearson Education
13. Language Software's (1 to 22 Software's)

List of Software's

- | | |
|------------------------------------|---------------------------------------------|
| 1. Ease one | 12. Let's do Business Telephoning |
| 2. Click info English | 13. Report Writes – Technical Report |
| 3. Tense Buster | 14. Report Writers Business Report |
| 4. Study Skills Success | 15. Report Writers – Letters Faxes, E-Mails |
| 5. Author Plus with result Manager | 16. Connected Speech |
| 6. Sky Pronunciation Suite | 17. Vocabulary Builder |
| 7. Pronunciation Power | 18. Business Territory |
| 8. Test Preparation for TOEFL | 19. Error & Terror |
| 9. Let's do Business Presentation | 20. A Taste for English |
| 10. Let's Do Business Meetings | 21. Issues in English |
| 11. Let's Do Business Negotiations | 22. Voice Books |

Course outcomes:

1. Understand and apply Listening, speaking, reading & writing skills.
2. Understand types & forms of communication.
3. Understand & apply the basic concepts of grammar.
4. Design, compose and create different types of business letters.
5. Understand the process of communication.
6. Understand and use the knowledge regarding transcription, stress and intonation pattern in English language.
7. Apply verbal and non verbal skills.
8. Articulate correct pronunciation.

Term work

1. About myself
2. Extempore
3. Group Discussion
4. Phonology and Transcription
5. Grammatical activities
6. Verbal and non verbal communication
7. Exercises on listening and reading
8. Vocabulary
9. Written communication (Formal letters)
10. Process and barriers to communication

FIRST YEAR B. TEXT. – SEMESTER - II

2.5 MAN MADE STAPLE YARN MANUFACTURE - II (MMTT)

Lectures : 4 Hours / Week

Practical : 2 Hours / Week

Theory Paper : 100 Marks

Term Work : 50 Marks

Subject Total : 150 Marks

Course Objectives:

1. To describe Feed systems to card
2. To explain working principles of card.
3. To explain carding theory , transfer efficiency and auto-leveler in card
4. To describe card performance assessment and calculation of production, waste etc.
5. To explain constructional aspects of Draw-frame
6. To describe draw-frame performance assessment and calculation of production, waste etc.
7. To explain principle of drafting
8. To illustrate features of modern card and Draw-frame machines

I. CARDING

- a) Feed to Card – Principle and concept of chute feed to card. Advantages and limitations. Study of design details of different types of chute feeding systems.
- b) Revolving Flat Card – Detailed study of design developments in Taker in zone, Cylinder Flat Carding Zone – Doffer Zone – Sliver formation – Study of cards used in the industry – General construction – Driving arrangement, production calculations, draft calculations, stop motions – on line monitoring – Tandem Cards.
- c) Carding Theory – Opening of fibre mass – Carding actions – Web formation and fibre configuration – Blending – Leveling action – Fibre breakage.
- d) Transfer efficiency of card – importance, concept, methods of finding transfer efficiency.
- e) Auto-levelers at Card – Basic principles, concepts – Types– Working Principles–Setting of auto levelers.

- f) Card Clothing, evolution and Metallic wire details — Card wire mounting and maintenance of card.
- g) Assessment of performance of card – Cleaning efficiency, Nep removal efficiency, fibre breakage.
- h) Concept of Air engineering at carding.
- i) Utilities required for carding machine.

II. DRAWFRAME

- a) Functions of draw-frame, principles of drafting and doubling. Study of constructional details and design. Calculations.
- b) Principles of roller drafting, design details, evolution and developments of drafting systems in draw-frame.
- c) Automatic can-handling, Auto-leveling.
- d) Study of modern draw-frames, Blending draw-frame.
- e) Study of maintenance aspects and design developments.
- f) Assessment of performance of draw-frame. Defective production Causes and remedies for the same. Norms.
- g) Study of utilities at draw-frame.

III. SPEEDFRAME:

- a. Objects of speed frame, Concepts of drafting, twisting and winding process.
- b. Constructional aspects of Speed-frame – Creel, Top arm apron drafting system, Spindle & Flyer assembly, Bobbin building, stop motions.
- c. Study of mechanisms like – differential motion, swing motion, building mechanism, semi-automatic and automatic doffing.
- d. Performance assessment of Speed-frame – norms, Zero break concept, block creeling.
- e. Materials handling. Link -mechanism.
- f. Maintenance of speed frame.
- g. Features of modern speed-frame machines.

List of Experiments:-

1. Study of chute feed system & constructional details of a card.
2. Driving arrangement and calculations of carding machine.
3. Settings of various parts of feed zone of carding.
4. Settings of various parts of Delivery zone of carding.
5. Study of constructional details & Driving arrangement and calculation of D/F.

6. Study of auto-levelers used on card and Draw frame.
7. Processing of Material on card & Draw frame and evaluating performance.
8. Demonstration of wire mounting, grinding , roller mounting and buffing machine
9. Study of constructional details & Driving arrangement and calculation of Speed Frame.
10. Study of coils per inch of speed frame & differential gearing.
11. Study of building mechanism of speed frame.

Reference Books:-

1. The Textile Institute Publication –Manual of Textile Technology-Short Staple Spinning Series Vol I to V by W. Klein
2. The characteristics of Raw Cotton by P. Lord. The Textile Institute Publication, Manual of Cotton Spinning Vol II, Part-I.
3. Fundamentals of Spun Yarn Technology, By Carl Lawrence.
4. Blow room and carding –Training program conducted by NCUTE, IIT Delhi.
5. Carding by F. Charanlay .The Textile Institute publication, Manual of cotton spinning series Vol - III.
6. Technology of cotton spinning by J. Janakiram.
7. Drawing, Combing and roving and speed frame by Zoltan, S. Szaloky, The Institute of Textile Technology, Virginia

Course Outcomes

1. Understand about different types of card feed.
2. Understand working of carding machines and principles of mechanisms.
3. Understand carding theories.
4. Evaluate card performance and calculate production.
5. Understand technical specifications of modern Card.
6. Understand constructional aspects of Draw frame.
7. Evaluate Draw frame performance and calculate production.
8. Understand features of modern Card & Draw frame machines.

FIRST YEAR B. TEXT. – SEMESTER - II

2.6MAN MADE FABRIC FORMING TECHNOLOGY - II (MMTT)

Lectures : 4 Hours / Week.

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total : 150 Marks.

Course Objectives:

1. To describe the need of the warping
2. To explain warping process of beam warping and sectional warping process.
3. To explain the calculation of production of warping machine, warping machine efficiency based on speed, weight of yarn on warper beam, number of sections and section width etc.
4. To describe the need, objectives of sizing process and explain sized beam manufacturing technology of sizing machine.
5. To explain and demonstrate preparation of size paste.
6. To explain the calculation of production and efficiency of sizing machine.
7. To explain and demonstrate construction and working of Dobby, Jacquard and weft patterning device.
8. To demonstrate the construction of derivatives of the basic weaves such as plain, twill and satin.
9. To demonstrate the analysis of given fabric samples.

I) WARPING

1. Need, Objectives, precautions to be considered in the process, classification of warping process- (beam warping, sectional warping, ball warping)
2. Warping machine: - construction and working: -
 - a) Creel: - framing (requirements, length, height, pitch, etc.) pegs, tensioning arrangements guides, blow fan, types of creels (parallel, V, V-nose etc.)
 - b) Principles of operation of beam warping and sectional warping.
 - c) Head stock: - Leasing reeds, Drum, speed, stop-motion, brake, comb, beam pressing, beam handling, set length, drums for sectional warping, its geometrical aspects, traverse, section width and sections, beaming process and speed.
 - d) Calculations: -production of warping machine, efficiency based on speed and stoppages, weight of yarn on warper's beam, organizing the set

(based on cones available, creel capacity, fabric construction etc.)

Calculation of number of sections, section width.

II) SIZING

1. Need: Objectives, achieving the objectives through size paste constituents size application.
2. Concepts of sizing process: hank sizing, ball warp sizing, slasher sizing.
3. Sizing machine: Various zones, their functions, creel and the types with comparison, elements in sow box and their functions, various drying arrangements and drying mechanism in each. Head stock: dry splitting, measuring, marking, winding, beam pressing etc.
4. Moisture and stretch: - Importance and their control
5. Size Ingredients: Types (natural, synthetic), their functions, examples.
6. Size cooking: - need, equipments available, method of addition of ingredients and its importance, gelatinizing, bursting, homogenizing, concentration, viscosity.
7. Calculations: -Production and efficiency of machine.

II) WEAVING

1. Study of dobby: Climax, cam dobby, cross border dobby, method of pegging, heald reversing motion.
2. Study of Jacquard: Parts of jacquards, sizes and figuring capacities of jacquard, harness ties, casting out, card cutting and lacing, double lift single cylinder, double lift double cylinder, cross border jacquards.
3. Weft patterning: - drop box motions, pattern chain, and card saving.

IV) FABRIC STRUCTURE

1. To represent following weaves on graph paper with design, draft, peg-plan and denting order.
 - a) Derivative of plain weave-warp and weft rib, matt (regular and irregular)
 - b) Derivatives of twill: pointed, herringbone, various types of diagonals, different types of broken and rearranged twills, transposed twill, twill checks, curved twills, combined twill, diamond, twist and twill interaction
 - c) Derivatives of satin/sateen weave, irregular satin, satin checks.
 - d) Toweling structures: Ordinary and brightened honeycomb, huckaback.
 - e) Mock leno, crepes by various methods.

2. The requirements of weaving for all above mentioned constructions, practical aspects of weaving, fabric and weave characteristics and properties of fabric and their applications.
3. Constructional details, characteristics and properties of following fabrics.
Poplin, long cloth, semi and full voile, cambric, denim, dhoti, sari, sheeting, shirting, suiting, gabardine, dress material.

List of Experiments:-

1. Setting of Tappet shedding motion.
2. Setting of cone over pick motion
3. Setting of side weft fork and anti-crack motion
4. Study of Climax dobby and fabric sample weaving by dobby pegging with different weaves
5. Setting of Climax dobby
6. General study of drop box motion
7. General study of mechanical Jacquard and method of card cutting.
8. Study of Cam dobby and paper card cutting.
9. Study of Sectional warping machine
10. Fabric Analysis
11. Fabric Analysis
12. Fabric Analysis
13. Visit to warping and sizing unit

Reference Books:-

1. Principles of Weaving by Marks and Robinson.
2. Weaving Mechanism by Fox.
3. Weaving by D.B. Ajagaonkar, Sriramulu and Talukdar.
4. Sizing by D.B. Ajagaonkar.
5. Weaving by BTRA.
6. Fancy Weaving by K.T. Aswani.
7. Textile colour and design by Watson.
8. Woven cloth construction by Marks and Robinson.
9. Winding and Warping by M.K. Talukdar.

Course Outcomes:

1. Understand need and suitability of beam warping and sectional warping process.
2. Understand beam and sectional warping technology.
3. Calculate production of warping machine, warping machine efficiency based on speed, weight of yarn on warper beam, number of sections and section width etc.
4. Understand need and objectives of sizing process and demonstrate warp sizing technology.
5. Understand size paste preparation and application based on different types of warp, yarn count, end density etc.
6. Calculate production and efficiency of sizing machine
7. Understand working of Dobby, Jacquard and weft patterning device
8. Identify and understand method of construction of derivatives of basic weaves
9. Analyze the given fabric samples

FIRST YEAR B.TEXT. (TPE) SEMESTER - II

2.3 MANUFACTURING PROCESSES - I

Lecture: 3 Hours / Week.

Practical: 3 Hours / Week.

Theory paper: 100 Marks.

Term work: 25 Marks.

Subject Total: 125 Marks.

Course Objectives:

1. To state function of pattern, its materials, design considerations, types etc.
2. To explain various moulding materials, moulding sands, their properties & testing, sand preparation & conditioning, various moulding methods & core making process.
3. To explain various furnaces used in foundries, sand mould casting, cleaning of casting, casting defects & special casting processes.
4. To describe principle, operation, types, job holding & tool holding devices on Lathe machine.
5. To describe principle, operation, types of Milling machine.
6. To explain principle, operation, types of Drilling machine and related operations.
7. To describe principle, types & operations performed on Press machine.

1) Pattern making:

Introduction, Pattern materials – selection criteria, Design considerations of pattern, Types of patterns, colour codes, Master pattern.

2) Moulding & Core making:

Moulding material, Moulding sand classification, sand preparation & conditioning, Properties of moulding sand & sand testing, Moulding methods – Bench moulding, Floor moulding, Pit moulding, Shell Moulding & CO₂ moulding.

Core making – Introduction, use, core requirements, core sands, types of cores, core making procedure.

3) Foundry:

Cupola furnace, Induction furnace, Foundry processes – sand mould casting – melting, pouring – cooling of molten metal – cleaning of casting, casting defects.

Special casting processes – Die casting (Cold chamber, Hot chamber), Centrifugal casting – types.

4) Lathe Machine:

Principle, Types, Principal parts of lathe, Important operations, Job holding devices, Tool holding devices, Safety precautions associated with lathe, Capstan and Turret lathe.

5) Milling Machine:

Principle, Types, Milling cutters, Fundamentals of the milling processes, Milling machine operations, Milling cutter material, safety measures in Milling.

6) Drilling Machine:

Principle, Types, Drilling machine operations, Drill material, safety precautions associated with drilling.

7) Press Work:

Types of Presses, Press machine terminology and its parts, Press size, various press working operations like cutting & forming.

List of Experiments:

1. Practical work related to Mechanical workshop practice. Introduction to equipments & tools in pattern making & metal turning.
2. Each student has to prepare minimum two jobs in following disciplines.
 - a. Pattern making (carpentry).
 - b. Metal turning.
 - c. Welding.

Reference Books:

1. Elements of Workshop Technology – Vol – I & Vol - II by S. K. Hajra Choudhary, A. K. Hajra Choudhary & Nirjhar Roy.
2. A course in Workshop Technology – Vol – I & Vol - II by B. S. Raghuwanshi.
3. Workshop Technology (Manufacturing Processes) by S. K. Garg.
4. Production Technology – by R. K. Jain.
5. Foundry Technology by Sinha & Goyal.

6. Manufacturing Engineering & Technology by Serope Kalpakjian & Steven Schmid.

Course outcomes:

1. Define & explain pattern, its design considerations, material, types with diagram, colour codification.
2. Illustrate moulding materials, its principal ingredients, classification, properties and testing of moulding sand, sand preparation & conditioning, methods of moulding. Define & explain core, its desirable properties, core sands, process of core making & types of core with diagram.
3. Draw & explain working of Cupola & Induction furnace, process of sand moulding, cleaning of casting, various defects in casting with sketches.
4. Explain working principle of lathe machine, its types, and operations performed on it, job and tool holding devices used on it with diagrams.
5. Draw & explain working principle of milling machine, its types, operations performed on it, cutters used on it.
6. Sketch & illustrate working principle of drilling machine, its types, operations performed on it and related operations like reaming, boring etc.
7. Explain working principle of Press machine, types & operations performed on it with diagrams.

FIRST YEAR B. TEXT. – SEMESTER - I

2.5 YARN MANUFACTURING MACHINERY II (TPE)

Lectures : 4 Hours / Week

Practical : 2 Hours / Week

Theory Paper : 100 Marks

Term Work : 50 Marks

Subject Total : 150 Marks

Course Objectives:

1. To describe Feed systems to card
2. To explain working principles of card.
3. To explain carding theory , transfer efficiency and auto leveler in card
4. To describe card performance assessment and calculation of production, waste etc.
5. To explain constructional aspects of Draw frame
6. To describe draw frame performance assessment and calculations.
7. To explain principle of drafting
8. To illustrate features of modern card and Draw-frame machines

I. CARDING

- a) Feed to Card – Principle and concept of chute feed to card. Advantages and limitations. Study of design details of different types of chute feeding systems.
- b) Revolving Flat Card – Detailed study of design developments in Taker in zone, Cylinder Flat Carding Zone – Doffer Zone – Sliver formation – Study of cards used in the industry – General construction – Driving arrangement, production calculations, draft calculations, stop motions – on line monitoring – Tandem Cards.
- c) Carding Theory – Opening of fibre mass – Carding actions – Web formation and fibre configuration – Blending – Leveling action – Fibre breakage.
- d) Transfer efficiency of card – importance, concept, methods of finding transfer efficiency.
- e) Auto-levelers at Card – Basic principles, concepts – Types– Working Principles–Setting of auto levelers.

- f) Card Clothing, evolution and Metallic wire details — Card wire mounting and maintenance of card.
- g) Assessment of performance of card – Cleaning efficiency, Nep removal efficiency, fibre breakage.
- h) Concept of Air engineering at carding.
- i) Utilities required for carding machine.

II. DRAWFRAME

- a) Functions of draw-frame, principles of drafting and doubling. Study of constructional details and design. Calculations.
- b) Principles of roller drafting, design details, evolution and developments of drafting systems in draw-frame.
- c) Automatic can-handling. Auto-leveling.
- d) Study of modern draw-frames. Blending draw-frame.
- e) Study of maintenance aspects and design developments.
- f) Assessment of performance of draw-frame. Defective production Causes and remedies for the same. Norms.
- g) Study of utilities at draw-frame.

III. SPEEDFRAME:-

- a. Objects of speed frame. Concepts of drafting, twisting and winding process.
- b. Constructional aspects of Speed-frame – Creel, Top arm apron drafting system, Spindle & Flyer assembly, Bobbin building, stop motions.
- c. Study of mechanisms like – differential motion, swing motion, building mechanism, semi-automatic and automatic doffing.
- d. Performance assessment of Speed-frame – norms, Zero break concept, block creeling.
- e. Materials handling. Link -mechanism.
- f. Maintenance of speed frame.
- g. Features of modern speed-frame machines.

List of Experiments:-

1. Study of chute feed system & constructional details of a card.
2. Driving arrangement and calculations of carding machine.
3. Settings of various parts of feed zone of carding.
4. Settings of various parts of Delivery zone of carding.
5. Study of constructional details, Driving arrangement and calculation of D/F.

6. Study of auto-levelers used on card and Draw frame.
7. Processing of Material on card & Draw frame and evaluating performance.
8. Demonstration of wire mounting, grinding , roller mounting and buffing machine
9. Study of constructional details & Driving arrangement and calculation of Speed Frame.
10. Study of coils per inch of speed frame & differential gearing.
11. Study of building mechanism of speed frame.

Reference Books:-

1. The Textile Institute Publication –Manual of Textile Technology-Short Staple Spinning Series Vol I to V by W. Klein
2. The characteristics of Raw Cotton by P. Lord. The Textile Institute Publication, Manual of Cotton Spinning Vol II, Part-I.
3. Fundamentals of Spun Yarn Technology, By Carl Lawrence.
4. Blow room and carding –Training program conducted by NCUTE, IIT Delhi.
5. Carding by F. Charanlay .The Textile Institute publication, Manual of cotton spinning series Vol - III.
6. Technology of cotton spinning by J. Janakiram.
7. Drawing, Combing and roving and speed frame by Zoltan, S. Szaloky, The
8. Institute of Textile Technology, Virginia

Course Outputs:

1. Understand about different types of card feed
2. Understand working of carding machines and principles of mechanisms
3. Understand carding theories
4. Evaluate card performance and calculate production
5. Understand technical specifications of modern Card
6. Understand constructional aspects of Draw frame
7. Evaluate Draw frame performance and calculate production
8. Understand features of modern Card & Draw frame machines

FIRST YEAR B. TEXT. – SEMESTER - II
2.6 FABRIC MANUFACTURING MACHINERY - II (TPE)

Lectures : 4 Hours / Week.

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours.

Term Work : 50 Marks

Subject Total : 150 Marks.

Course Objectives:

1. To teach warping processes and calculations of production parameters
2. To describe sizing processes and to calculate production parameters
3. To explain shedding mechanisms, jacquard and weft patterning
4. To explain various weaves with designs and their uses.
5. To explain requirements of weaving and construction of design

I) WARPING

1. Need, Objectives, precautions to be considered in the process, classification of warping process- (beam warping, sectional warping, ball warping)

Warping machine: - construction and working: -

- a) Creel: - framing (requirements, length, height, pitch, etc,) pegs, tensioning arrangements guides, blow fan, types of creels (parallel, V, V-nose etc.)
 - b) Principles of operation of beam warping and sectional warping.
 - c) Head stock: - Leasing reeds, Drum, speed, stop-motion, brake, comb, beam pressing, beam handling, set length, drums for sectional warping, its geometrical aspects, traverse, section width and sections, beaming process and speed.
2. Calculations: -production of warping machine, efficiency based on speed and stoppages, weight of yarn on warper's beam, organizing the set (based on cones available, creel capacity, fabric construction etc) Calculation of number of sections, section width.

II) SIZING

1. Need: Objectives, achieving the objectives through size paste constituents size application.
2. Concepts of sizing process: hank sizing, ball warp sizing, slasher sizing.

3. Sizing machine: Various zones, their functions, creel and the types with comparison, elements in sow box and their functions, various drying arrangements and drying mechanism in each. Head stock : dry splitting, measuring, marking, winding, beam pressing etc
4. Moisture and stretch: - Importance and their control
5. Size Ingredients: Types (natural, synthetic), their functions, examples.
6. Size cooking: - need, equipments available, method of addition of ingredients and its importance, gelatinizing, bursting, homogenizing, concentration, viscosity.
7. Calculations: -Production and efficiency of machine.

III) WEAVING

1. Study of dobby: Climax, cam dobby, cross border dobby, method of pegging, heald reversing motion.
2. Study of Jacquard: Parts of jacquards, sizes and figuring capacities of jacquard, harness ties, casting out, card cutting and lacing, double lift single cylinder, double lift double cylinder, cross border jacquards.
3. Weft patterning: - drop box motions, pattern chain, and card saving.

IV) FABRIC STRUCTURE

1. To represent following weaves on graph paper with design, draft, peg-plan and denting order.
 - a) Derivative of plain weave-warp and weft rib, matt (regular and irregular)
 - b) Derivatives of twill: pointed, herringbone, various types of diagonals, different types of broken and rearranged twills, transposed twill, twill checks, curved twills, combined twill, diamond, twist and twill interaction
 - c) Derivatives of satin/sateen weave, irregular satin, satin checks.
 - d) Toweling structures: Ordinary and brightened honeycomb, huckaback.
 - e) Mock leno, crepes by various methods.
2. The requirements of weaving for all above mentioned constructions, practical aspects of weaving, fabric and weave characteristics and properties of fabric and their applications.
3. Constructional details, characteristics and properties of following fabrics.
Poplin, long cloth, semi and full voile, cambric, denim, dhoti, sari, sheeting, shirting, suiting, gabardine, dress material.

List of Experiments:-

1. Setting of Tappet shedding motion.
2. Setting of cone over pick motion
3. Setting of side weft fork and anti crack motion
4. Study of Climax dobby and fabric sample weaving by dobby pegging with different weaves
5. Setting of Climax dobby
6. General study of drop box motion
7. General study of mechanical Jacquard and method of card cutting.
8. Study of Cam dobby and paper card cutting.
9. Study of Sectional warping machine
10. Fabric Analysis
11. Fabric Analysis
12. Fabric Analysis
13. Visit to warping and sizing unit

Reference Books:-

1. Principles of Weaving by Marks and Robinson.
2. Weaving Mechanism by Fox.
3. Weaving by D.B. Ajagaonkar, Sriramulu and Talukdar.
4. Sizing by D.B. Ajagaonkar.
5. Weaving by BTRA.
6. Fancy Weaving by K.T. Aswani.
7. Textile colour and design by Watson.
8. Woven cloth construction by Marks and Robinson.
9. Winding and Warping by M.K. Talukdar.

Course Outcomes:

1. Describe warping process and its application
2. Describe sizing process and its application
3. Calculate warping and sizing parameters
4. Differentiate various shedding mechanism
5. Understand different types of weaves
6. Create designs of weaves

FIRST YEAR B. TEXT. – SEMESTER - II
2.7 COMPUTER LABORATORY (TPE/TC)

Practical : 2 Hours/week

Term Work : 50 Marks

Subject Total : 50 Marks

Course Objectives:

1. To describe basic Computer architecture and Generation of computers.
2. To explain classification of Programming Language and number system.
3. To explain operating system concept with its structure and features.
4. To illustrate scripting language and programming structure.
5. To explain basic structure of 'C' programming and formation
6. To write programs using 'C' Language.

I Introduction to Computers

Introduction, Characteristics of Computers, Block diagram of computer. Types of computers and features, Mini Computers, Micro Computers, Mainframe Computers, Super Computers. Types of Programming Languages (Machine Languages, Assembly Languages, High Level Languages). Data Organization, Drives, Files, Directories. Types of Memory (Primary And Secondary) RAM, ROM, PROM, and EPROM. Secondary Storage Devices (FD, CD, HD, Pen drive) I/O Devices (Scanners, Plotters, LCD, Plasma Display) Number Systems Introduction to Binary, Octal, Hexadecimal system Conversion, Simple Addition, Subtraction, Multiplication.

II Computer Software

Operating System: Types of operating system, Functions, Unix/Linux, Windows 7/Windows 8-structures & features, Unix/Linux commands: Listing, changing, copying, moving files & directories (ls, cd, cat, mkdir, rmdir, and other commands), any editor in Linux. Application Software's: Word processor, spreadsheets, presentation, application, DBMS, etc.

III Dynamic Web Page Design

HTML: use of commenting, headers, text styling, images, formatting text with, special characters, horizontal rules, line breaks, table, forms, image maps,<META> tags, <FRAMESET> tags, file formats including image formats. Introduction to VB script, basics of VB scripting, Java script.

IV Programming with 'C' Language

Introduction, Algorithm & flowchart, keywords, statements, Loops, Array representation, one dimensional array, structure, define structure variable, accessing structure member, pointer, pointer arithmetic, pointer & array

Term work: COMPUTER Laboratory

1. Study of basic structure of computer system – Internal Components & peripherals.
2. Study of windows/Linux commands & create a file using any editor in Linux.
3. Create a document using any word processor (In Linux (open office) /Windows (Microsoft office)).
4. Use any spreadsheet application to manipulate numbers, formulae and graphs (In Linux/Windows).
5. Use any power point presentation application and create a professional power point Presentation using text, image, animation etc. (In Linux/Windows).
6. Create a simple web page using HTML/VB Script
7. Create a simple web page using Java Script.
8. Five programs of 'C' Language on Linux/Windows platform.

Reference Books:

1. Fundamentals of Computers by V. Rajaram, PHI Publications.
2. Introduction to Information Technology, IITL Education Solutions LTD. Pearson Education
3. Let us C by Y.P. Kanetkar
4. Beginning Java Script ,4Ed by Jeremy Mcpeak Paul Wilton

Course outcomes:

1. Understand basic architecture of computer.
2. Understand the basic number system.
3. Illustrate basic structure of Program.
4. Understand the concept of operating system.
5. Understand the scripting language
6. Design and develop 'C' program.

FIRST YEAR B. TEXT. – SEMESTER - II

2.5 ORGANIC CHEMISTRY-II (TC)

Lectures : 4Hours / Week

Practicals : 2 Hours / Week

Theory Paper : 100 Marks, 3 Hours

Term Work : 50 Marks

Subject Total : 150 Marks

Course Objectives:-

1. To describe chemistry of benzene.
2. To describe chemistry of aromatic halogen compounds.
3. To discuss chemistry of aromatic sulphonic acids.
4. To discuss chemistry of aromatic nitro compounds.
5. To explain chemistry of aromatic amino compounds and aryl diazonium salts..
6. To explain chemistry of aromatic hydroxy compounds and aromatic acids.
7. To explain chemistry of aromatic aromatic acids.
8. To discuss chemistry of polynuclear aromatic hydrocarbons and synthesis of some dye intermediates.

1) Aromatic Compounds:-

Introduction, distinguishing properties of aliphatic and aromatic compounds, Coal Tar Distillation, Nomenclature of Aromatic hydrocarbons, Isomerism. Structure of benzene, Resonance, Aromaticity: Huckel's (or $4n+2$) rule, Preparation and properties of benzene and toluene, Reactivity and Orientation. Study of some important reactions like: i) Nitration, ii) Sulphonation, iv) Halogenation, v) Friedel-Crafts reactions vi) Amination.

2) Aromatic Halogen Compounds:-

Introduction, Nomenclature, Methods of preparation of Chlorobenzene, Physical and Chemical properties, Aromatic Nucleophilic Substitution and uses of chlorobenzene.

3) Aromatic Sulphonic Acids: -

Introduction, Nomenclature, Preparation of Benzene Sulphonic Acid, Physical, Chemical properties &uses of benzene sulphonic acid, Acidity of sulphonic

acids, Isolation of aromatic sulphonic acid from mother liquor, Applications in Textiles.

4) Aromatic Nitro Compounds: -

Introduction, Nomenclature, Preparation of Nitrobenzene, Physical, Chemical properties of nitrobenzene: Reduction of nitrobenzene under acidic, neutral, alkaline conditions and electrolytic reduction, Applications in Textiles.

5) Aromatic Amino Compounds: -

Introduction, Nomenclature, Basicity of Aromatic Amines, Preparation, Physical, Chemical Properties and applications in textiles of Aniline and Toluidines. Coupling reactions of diazonium salts with amines and phenols.

6) Aryl Diazonium Salts: -

Introduction, Nomenclature, Diazotization, Mechanism. Role of mineral acids, Preparation of benzene diazonium chloride, Physical, Chemical properties and applications of Diazonium Salts.

7) Aromatic Hydroxy Compounds: -

Introduction, Nomenclature, preparation of phenol. Physical, Chemical properties and uses of phenol, Preparation & properties of alpha & beta Naphthols, Applications in Textiles.

8) Aromatic Acids: -

Introduction, Nomenclature, preparation of benzoic acid. Physical and Chemical properties of benzoic acid, Uses of benzoic acid, phthalic acid.

9) Polynuclear Aromatic Hydrocarbons: -

Introduction, Preparation, properties & uses of Naphthalene, Anthracene, Anthraquinone.

10) Synthesis of Some Dye intermediates: -

Introduction, Preparation of following dye intermediates. H-acid, J-acid, G-acid, Naphthionic acid, Gamma acid, and their applications in Textiles.

List of Experiments:-

a) Organic Qualitative Analysis

- 1) Acid
- 2) Phenol

3) Base

4) Neutral

b) Binary Organic Mixture Separation (Any Two)

1. Acid + Phenol

2. Acid + Base

3. Acid + Neutral

4. Phenol + Base

5. Phenol + Neutral

6. Base + Neutral

7. Nitration

8. Sulphonation

9. Coupling Reaction (Preparation of azo dye)

c) Study of Some Estimations :-

1. Estimation of Resist salt

2. Estimation of Ethylene glycol

3. Estimation of Urea

Reference Books:-

1. Organic Chemistry by Morrison & Boyd.

2. Organic Chemistry - Vol. I , The Fundamental Principles by I.L. Finar.

3. A text book of Organic Chemistry by P.L. Soni.

4. A text book of Organic Chemistry by B.S. Bahl and ArunBahl.

5. Reaction Mechanism & Reagents in Organic Chemistry by GurdeepR.Chatwal.

6. Advanced Organic Chemistry by Jerry March.

Course Outcomes:-

At the end of the course students will be able

1. Understand benzene and its analogue

2. Understand aromatic halogen compounds

3. Understand aromatic sulphonic acids.

4. Understand aromatic nitro compounds.

5. Understand aromatic amino compounds.

6. Understand aryl diazonium salts.

7. Understand aromatic hydroxy compounds.

8. Understand aromatic acids.

9. Understand polynuclear aromatic hydrocarbons.
10. Apply the knowledge of dye intermediates in textiles.

FIRST YEAR B. TEXT. – SEMESTER - II

2.6 CHEMISTRY OF TEXTILE FIBRES-I (TC)

Lecture : 4 Hours / Week.

Practical : 2 Hours / Week

Theory Paper : 100 Marks.

Term Work : 50 Marks

Subject Total : 150 Marks

Course Objectives:

1. To describe the concept of various terminologies in textiles and sequence of operations for the conversion of fibres into finished fabrics
2. To discuss essential and desirable properties of fibres
3. To explain understand their chemistry, morphological structure and chemical composition of various fibres.
4. To explain physical and chemical properties of various fibres
5. To describe the chemistry of damage of fibres
6. To give examples of application of fibres
7. To describe the concept of spinning technologies and fibre manufacturing process.

1. Introduction to Textiles:

Concept of fibre, yarn, rope, fabrics; Sequence of operations for conversion of natural and manmade fibres into finished fabrics. Concept of weaving, knitting and non-woven. General production sequence of fabric to garment manufacturing, concept of processing and finishing of fabrics and garments.

2. Textile Fibres:

Definition of Fibre, Filament, Degree of Polymerization, and Cohesive Energy Density. Classification of fibres according to their chemical nature and origin. Essential and desirable properties of fibres. Concept of crystalline, mesomorphous and amorphous regions and their importance.

3. Natural Cellulosic Fibre: Cotton

Introduction to Cultivation of cotton and varieties of cotton. Morphological structure of cotton. Chemistry of cellulose, Concept of chemical bonding in cotton, Supra-molecular structure of cotton, structure of cellulose-I & cellulose-II, Influence of structure of cotton cellulose on its properties,

Chemistry and detection of damage of cellulose. Physical and chemical properties and uses of cotton.

4. Unconventional Natural Fibres:

Introduction to cultivation and varieties, Morphological structure and chemical constitution of Jute, Ramie, Coir, Banana and Flax. Concept of hemicellulose, lignin and their chemistry. Retting and extraction, physical and chemical properties and uses of Jute, Ramie, Coir, Banana and Flax.

5. Regenerated Cellulose Fibres:

Concept and essential requirements of wet spinning. Concept of extrusion and spinning. Raw material, manufacturing process, physical and chemical properties, and uses of viscose rayon, polynosic rayon and Tencel.

6. Modified Cellulose Fibres:

Concept and essential requirements of dry spinning, Raw materials, manufacturing process, physical and chemical properties and uses of cellulose acetate.

7. Animal Protein Fibres:

Source and grading of wool, Varieties of silk, production of raw silk, morphological structure, Chemical composition, various linkages Physical and chemical properties and uses of wool and silk

List of Experiments:

1. Identification of fibres by chemical method. - I
2. Identification of fibres by chemical method. - II
3. Identification of fibres by chemical method. - III
4. Identification of fibres by Microscope Method.
5. Identification of fibres by density gradient column.
6. Determination of moisture regain of fibre.
7. Detection of Honey dew content of cotton.
8. Determination of fibre fineness by cut weight method.
9. Determination of fibre length by using the Grease plate method.
10. Measurement of maturity of cotton by caustic soda method.
11. Detection of cellulosic fibre damage.
12. Detection of animal protein fibre damage.

Reference Books:

1. Chemical Technology of Fibrous materials by F. Sadov.
2. Textile Fibres Vol -I by Dr. V. A. Shenai.
3. Man Made Fibres by R.W. Moncrieff.
4. Handbook of Textile Fibres by Jordon Cook.
5. Introduction to Textile Fibres by Dr. H.V. Sreenivas Murthy.
6. Silk Production, Processing and Marketing by Mahesh Nanavaty.
7. Wool, Science and Technology by W S Simpson and G H Crawshaw,
Woodhead Publication Ltd, England
8. Handbook of fibre chemistry - Lewin

Course Outcome:

1. Visualize basics of Textiles.
2. Classify fibres according to chemical nature and source.
3. Understand the chemistry and morphology of fibres.
4. Compare the physical properties of various fibres.
5. Use knowledge of fibre properties in chemical wet processing of textiles.
6. Predict various applications of fibres.
7. Analyze the damage of fibres.
8. Illustrate the concept of spinning technologies and fibre manufacturing process.

FIRST YEAR B. TEXT. – SEMSTER II

2.3 CONCEPTS OF FASHION AND DESIGN (FT)

Lectures : 4 hrs/week

Drawing Practical : 3 hrs/week

Theory Paper : 100 marks

Term Work : 25 marks

Subject Total : 125 marks

Course Objectives:

1. To explain in detail types, classification and characteristics of various elements of design like Point, Line, Shape, Direction, Texture, Color, Value
2. To describe practical applications of various elements of design.
3. To explain in detail types, classification and characteristics of various principles of design like Balance, rhythm, proportion, emphasis, unity.
4. To describe practical applications of various principles of design.
5. To differentiate between 8- head, 10- head and 12- head theories of body proportions.
6. To explain basic tools and equipments used for fashion drawing.
7. To explain drawing of human body by using 8 head measurements.

1. **Introduction to design:** Definition and meaning of design, aspects of design:
2. **Elements of design:** various elements of design like point, line, texture, color, type, shape, form, space. Optical illusion and its role in fashion designing.
3. **Principles of design:** Introduction to the principles of design: Balance, rhythm, proportion, emphasis, unity.
4. **Balance** – definition, aspects, types, role in designing.
5. **Rhythm**–Definition, rhythm through repartition, Alteration, gradation, parallelism, radiation.
6. **Proportion** - The comparison of dimensions or distribution of forms. Relationship in scale between one element and another, or between a whole object and one of its parts.
7. **Emphasis** - Varying degrees of dominance in design. Visual weight of a

composition, establishes space and perspective.

8. **Unity** - The aspects of a given design that are necessary to tie the composition together, to give it a sense of wholeness, or to break it apart and give it a sense of variety, Mobility and concentration
9. **Basics of Fashion Illustration:** Introduction to basic drawing – Tools and materials, perspective, drawing with a grid, drawing basic shapes.Eight head, , 12 – head theory of body measurements.
10. **Introduction to fashion:** Fashion Terminology - Fashion, Fad, Trend, Classic, High Fashion, Mass Fashion, Fashion Cycle, Adoption of Fashion Products by Diffusion Theory - Innovation, Communication, Adoption and Diffusion, Fashion Theories – Trickle up, Trickle down and Trickle across.

List of Experiments:-

1. Study of elements of design.
2. To study color wheel.
3. Study of tint, tone and shade of color
4. Make 5 visual textures and 5 physical textures using any natural material and color.
5. Draw 5 each of abstract, organic and geometric shapes free-hand.
6. To study principles of design.
7. Study of mobility and concentration in a design.
8. Design composition on positive and negative space
9. Drawing of human body with the help of 8 head theory of body Measurements.
10. Drawing of human body with the help of 10 head theory of body Measurements.
11. Drawing of human body with the help of 12 head theory of body Measurements
12. Make landscape composition by combining various elements and principles of design.

Reference Books:

1. The Elements of Design, Rediscovering Colours, Textures, Forms and Shapes, Loan Oei, Cecile De Kegel, ISBN 0500283397.
2. The art of basic drawing, Walter Foster Publishing Inc.

3. Elements of Design: Structure of Visual Relationships, by Gail Greet Hannah
4. Principles of Three-Dimensional Design: Objects, Space and Meaning, Stephen Luecking
5. Universal Principles of Design, by William Lidwell, Rock port publications.

Course Outcomes:

1. Work as a member of team and demonstrate practical applications of various elements and principles of art in fashion dress designing.
2. Choose appropriate design details to rectify body irregularities.
3. Work as a member of team and demonstrate practical applications of various principles of art in fashion dress designing.
4. Develop multiple colors from basic colors and use them appropriately according to their characteristics.
5. Use appropriate tools and equipments for fashion drawing.
6. Explain difference between 8- head, 10- head and 12- head figures.
7. Draw human body by using 8 head measurements.

FIRST YEAR B. TEXT. – SEMESTER - II

2.5 INTRODUCTION TO TEXTILE MANUFACTURING – II (FT)

Lecturers: 4 Hours/week

Practical: 2 Hours/week

Theory Paper: 100 Marks

Term Work: 50 Marks

Subject Total: 150 Marks

Course Objectives:

1. To explain doubling and twisting process
2. To explain new spinning systems
3. To explain blend spinning process and application of blend yarns
4. To describe weft patterning devices
5. To explain various weaves and its derivatives
6. To explain fabric properties, manufacturing techniques and constructional details of all the weaves
7. To explain chemical processes of grey fabric
9. To explain garment process flow

1. Doubling and Twisting: Objects, properties and applications of doubled yarns, various doubling & twisting methods (Ring doubler, Uptwister and TFO).

2. New Spinning Systems: Introduction to principle of working of Rotor spinning, Airjet spinning, Vortex spinning, Compact spinning and Friction spinning. Comparison of yarn structures.

3. Blend Yarns: Objects of blending of different fibres, concept of blend spinning. Properties and application of blended yarns.

4. Weft patterning: Study of systems available, types of box motions, introduction to Weft patterning on modern weaving machines, card saving.

5. Fabric Design: To represent following weaves on graph paper with design, draft, per plan and dealing order.

- a. Derivative of plain weave, warp and welt rib matt (regular and irregular).
- b. Derivatives of Twill
- c. Derivatives of satin / sateen weave irregular satin, satin cheeks.
- d. Toweling structures, ordinary and Brighton Honeycombs, Huckaback.

e. Mock leno, Creps by Various methods.

6. The requirements of weaving for all above mentioned constructions

7. Constructional details: Characteristics and properties of following fabrics : Poplin, Long cloth, Semi and Full voile, Cambric, Denim, Dhoti, Sari, Sheeting, Shirting, Suiting, Gabardine & Dress material.

8. Need for chemical processing of textiles

9. Introduction to Garment processing.

List of Experiments:

1. Study of Ring doubler – Passage and calculations.
2. Study of construction and passage of material on rotor spinning.
3. Study of construction and passage of material on airjet spinning.
4. Operating the plain and auto loom to weave the good fabric.
5. To study different fabric defects.
6. Fabric Analysis (Derivatives of plain : Warp Rib, Welt Rib, Matt weave)
7. Fabric Analysis (Trill derivatives : Broken, Transposed, Herringbone)
8. Fabric Analysis (Satin and Sateen)
9. Fabric Analysis (Mack leno, Honeycomb, Huckaback.
10. Study of important processing operations.
11. Study of various finishes used for textiles.
12. Mill Visit.

Reference Books:

1. The textile Institute publication – Manual of Textile Technology – Short Staple Spinning series. Vol. V: New Spinning System by W. Klein. Vol. I: The Technology of Short Staple Spinning by W. Klein.
2. Essential Calculations of practical cotton spinning by T. K. Pattabhireman.
3. Elements of Ring frame and doubling by A. R. Khare.
4. Spun Yarn Technology by Eric Oxtoby.
5. TFO Technology and Technique for spun yarn by M. S. Kulkarni and H. V. S. Murthy. 6. Fundamentals of Spun Yarn Technology By Carl A. Lawrence.
6. Principles of Weaving by Marks ATC and Robinson.
7. Textile Color and design by Watson.
8. Weaving by Prof. D. B. Ajgaonkar, Prof. Sriramalar& M. K. Takddar

9. Weaving Mechanism by K. T. Aswani.

Course outcomes:

1. Compare doubled and twisted yarns
2. Compare new spinning yarns
3. Design blend yarns for various applications
4. Create weft patterned fabric designs
5. Create and design various fabric weaves
6. Compare fabric properties of basic weaves
7. Describe process flow from grey to finished fabric
8. Differentiate garment processing techniques

SECOND YEAR B. TEXT. – SEMESTER – I
2.6 BASICS OF APPARAL TECHNOLOGY (FT)

Lectures: 4 Hours / Week

Theory Paper: 100 Marks

Term work: 50 Marks

Subject Total: 150 Marks

Course Objectives:

1. To explain the basics of apparel industry
 2. To describe the importance, requirements and processes of cutting.
 3. To describe purpose, process and requirements of fusing.
 4. To define Stitch and seam. Classify stitches and seams.
 5. To describe purpose, process and requirements and quality standards of pressing and finishing.
 6. To explain various production technologies and its types.
 7. To describe warehousing and its various equipment's.
 8. To explain applications of CAD-CAM in apparel industry.
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1. Introduction to clothing industry, classification as per the size, labour etc. fabric inspection and grading system used in the industry.
 2. Cutting: Importance of cutting, requirements of cutting, production processes in cutting room, planning, spreading, cutting, preparation for sewing.
 3. Fusing: purpose of fusing, the process of fusing, requirement of fusing as per fabric, fusing machinery for garment parts, methods of fusing and quality control in fusing.
 4. Sewing: Classification of stitches & seams, seam defects and stitching defects, feed systems, sewing threads, sewing needles, machinery and equipments.
 5. Pressing & finishing: object, classifications, means, components, machinery and equipments, garment finishing and inspection,
 6. Production technology: Manual systems, make through systems, straight line systems, modular production systems, unit production systems, quick response systems.

7. Ware housing: Handling equipments, storage equipments, packing equipments.
8. Application of CAD/CAM in garment manufacturing.

Reference Books:

1. Garment technology for fashion designers by Gerry Cooklin.
2. Introduction to clothing manufacturing by Gerry Cooklin.
3. Clothing construction and wardrobe planning by Dora S. Lewin, Mabel Goode Bowers, Manetta Knttunen- The Macmillan Co New York
4. Garment technology by Dr. V. Subramanian – winter school booklets 1990 BIS publications 1989.
5. The Technology of clothing manufacture, Carr & Latham, Blackwell Publications, 2000.

Course outcome:

- 1 Describe the structure and classification of garment industries as per size, labor, product etc.
- 2 Illustrate various cutting room processes with its importance, process flow, requirements and machineries.
- 3 Understand the requirements, objectives, importance, quality standards, process flow and machineries used for fusing process.
- 4 Explain various types of stitches and seams. Differentiate types of stitches and seams with respect to their class.
- 5 Explain purpose, process, requirements, quality standards and machineries of pressing and finishing.
- 6 Illustrate various production technologies and its types.
- 7 To describe warehousing and its various equipments.
- 8 To explain applications of CAD-CAM in apparel industry.

FIRST YEAR B. TEXT. – SEMESTER - II

2.7 FUNCTIONAL ENGLISH- II (FT)

Practical: 3 Hours

Term work: 50 Marks

Subject Total: 50 Marks.

Course Objectives:

1. To develop LSRW skills.
 2. To formulate a significant training ground for the development of the student's abilities in Group discussion, mock interviews and public speaking skill
 3. To develop a milestone for leadership and group participation through communication skill
 4. To develop grammatical ability
 5. To employ and develop appropriate formats in writing all kinds of letters and Emails
 6. To develop reading accuracy and English fluency
 7. To develop presentation skill.
-
- I. **Letter writing:** Formal and informal letters – elements of letter writing - the letter of enquiry – the letter of the order – the letter of complaint – the letter of invitation – solicited and unsolicited application letter – curriculum vitae
 - II. **Group discussion:** Importance and objectives of Group Discussion – Strategies – types of GD – Procedure of GD – evaluation criteria of GD
 - III. **Presentation skills:** Importance and techniques of presentation skill- presenting yourself professionally – public speaking - PowerPoint presentation – responding to situations and providing the solutions
 - IV. **Common errors in English:** Punctuation – spellings – subject, verb agreement – grammar
 - V. **Career skills:** psychometric analysis test – Newspaper reading – creative writing – short prepared composition on current affairs – Introducing others – telephonic conversation – talking about people and places – explaining ideas and visual information – book review – note making – picture perception-

VI. Netiquettes: Netiquettes for the E mail users – guidelines for users – E mail etiquettes

VII. Interview: Techniques and skills of interview – types of interview – body language related to interview –

Reference Books

1. Better English Pronunciation by J.D. O'Connor.
2. Soft Skills for Managers by Dr. T. Kalyana Chakravarthi, Dr. T. Latha Chakravarthi, Biztantra.
3. Soft Skills for everyone by Jeff Butterfield, Cengage.
4. Behavioural Science by Dr. Abha Singh, Wiley India Pvt. Ltd.
5. An Introduction to Professional English and Soft Skills by Bikram K. Das, Kalyani Samantray, Cambridge University Press, New Delhi.
6. Speaking Effectively by Jeremy Comfort, Pamela Rogerson, Cambridge University Press, New Delhi.
7. Communication skills for engineers by Sunita Mishra.
8. Body Language by Allen Pease.
9. Business English And Communication by Cleark
10. Communication Techniques & Skills by R K Chaddha
11. High school English grammar & composition by wren & Martin

Course outcomes

- 1 Understand the importance of LSRW skills while communicating.
- 2 Prepare themselves for interviews and group discussion.
- 3 Know various techniques and career skills to improve their communication
- 4 Understand & apply the knowledge of grammar while speaking
- 5 Design, compose and create different types of business letters
- 6 Understand the importance of presentation skill and apply it.
- 7 Recognize the importance of netiquettes

TERM WORK

- 1 Writing all types of letters
- 2 The letter of application and preparing C V

- 3 Group discussion
- 4 Mock interview
- 5 PowerPoint presentation
- 6 Case study
- 7 Email writing
- 8 Exercises on Common errors in English
- 9 Newspaper reading
- 10 Creative writing
- 11 Short prepared composition on current affairs
- 12 Introducing others
- 13 Telephonic conversation
- 14 Book review
- 15 Note making
- 16 Picture perception

D.K.T.E.SOCIETY'S TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI.

Equivalence of subject at First Year B.Text. to Revised Textile Courses.

FIRST YEAR B.TEXT.- T.T. (TEXTILE TECHNOLOGY) SEMESTER-I

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSE	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Physics	I	TT/MMTT/TPE/TC/FT	Applied Physics	I
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I
3.	TT/MMTT/TPE/TC/FT	Electrical Science	I	TT/MMTT/TPE/TC/FT	Electrical Science	I
4.	TT/MMTT/TPE/FT	Textile Fibres	I	TT/MMTT/TPE/FT	Textile Fibres	I
5.	TT/MMTT/TPE	Principles of Yarn Manufacturing	I	TT	Yarn Forming Technology-I	I
6.	TT/MMTT/TPE	Principles of Fabric Manufacturing	I	TT	Fabric Forming Technology-I	I
7.	TT/MMTT/FT	Computer Laboratory	I	TT/MMTT/FT	Computer Laboratory	I

FIRST YEAR B.TEXT.- T.T. (TEXTILE TECHNOLOGY) SEMESTER-II

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSE	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Mechanics	II	TT/MMTT/TPE/TC/FT	Applied Mechanics	II
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II
3.	TT/MMTT/TC	Industrial Chemistry for Textiles	II	TT/MMTT/TC	Industrial Chemistry for Textiles	II
4.	TT/MMTT/TPE/TC/FT	Engineering Graphics	II	TT/MMTT/TPE/TC/FT	Engineering Graphics	II
5.	TT	Yarn Forming Technology-I	II	TT	Yarn Forming Technology-II	II
6.	TT	Fabric Forming Technology-I	II	TT	Fabric Forming Technology-II	II
7.	TT/MMTT	Language Laboratory	II	TT/MMTT	Communication Laboratory	II

D.K.T.E.SOCIETY'S TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI.

Equivalence of subject at First Year B.Text. to Revised Textile Courses.

FIRST YEAR B.TEXT.- M.M.T.T. (MAN MADE TEXTILE TECHNOLOGY) SEMESTER-I

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSE	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Physics	I	TT/MMTT/TPE/TC/FT	Applied Physics	I
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I
3.	TT/MMTT/TPE/TC/FT	Electrical Science	I	TT/MMTT/TPE/TC/FT	Electrical Science	I
4.	TT/MMTT/TPE/FT	Textile Fibres	I	TT/MMTT/TPE/FT	Textile Fibres	I
5.	TT/MMTT/TPE	Principles of Yarn Manufacturing	I	MMTT	Man Made Staple Yarn Manufacture-I	I
6.	TT/MMTT/TPE	Principles of Fabric Manufacturing	I	MMTT	Man Made Fabric Forming Technology-I	I
7.	TT/MMTT/FT	Computer Laboratory	I	TT/MMTT/FT	Computer Laboratory	I

FIRST YEAR B.TEXT.- M.M.T.T. (MAN MADE TEXTILE TECHNOLOGY) SEMESTER-II

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSE	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Mechanics	II	TT/MMTT/TPE/TC/FT	Applied Mechanics	II
2.	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II
3.	TT/MMTT/TC	Industrial Chemistry for Textiles	II	TT/MMTT/TC	Industrial Chemistry for Textiles	II
4.	TT/MMTT/TPE/TC/FT	Engineering Graphics	II	TT/MMTT/TPE/TC/FT	Engineering Graphics	II
5.	MMTT	Man Made Staple Yarn Manufacture-I	II	MMTT	Man Made Staple Yarn Manufacture-II	II
6.	TT/MMTT/TPE	Man Made Fabric Manufacture-I	II	MMTT	Man Made Fabric Forming Technology-II	II
7.	TT/MMTT	Language Laboratory	II	TT/MMTT	Communication Laboratory	II

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Equivalence of subject at First Year B.Text. to Revised Textile Courses.

FIRST YEAR B.TEXT.- T.P.E. (TEXTILE PLANT ENGINEERING) SEMESTER-I

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSES	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Physics	I	TT/MMTT/TPE/TC/FT	Applied Physics	I
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I
3.	TT/MMTT/TPE/TC/FT	Electrical Science	I	TT/MMTT/TPE/TC/FT	Electrical Science	I
4.	TT/MMTT/TPE/FT	Textile Fibres	I	TT/MMTT/TPE/FT	Textile Fibres	I
5.	TT/MMTT/TPE	Principles of Yarn Manufacturing	I	TPE	Yarn Manufacturing Machinery-I	I
6.	TT/MMTT/TPE	Principles of Fabric Manufacturing	I	TPE	Fabric Manufacturing Machinery-I	I
7.	TPE/TC	Language Laboratory	I	TPE/TC	Communication Laboratory	I

FIRST YEAR B.TEXT.-T.P.E.(TEXTILE PLANT ENGINEERING) SEMESTER-II

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSES	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Mechanics	II	TT/MMTT/TPE/TC/FT	Applied Mechanics	II
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II
3.	TPE	General Engineering	II	TPE	Manufacturing Processes-I	II
4.	TT/MMTT/TPE/TC/FT	Engineering Graphics	II	TT/MMTT/TPE/TC/FT	Engineering Graphics	II
5.	TPE	Yarn Manufacturing Machinery-I	II	TPE	Yarn Manufacturing Machinery-II	II
6.	TPE	Fabric Manufacturing Machinery-I	II	TPE	Fabric Manufacturing Machinery-II	II
7.	TPE/TC	Computer Laboratory	II	TPE/TC	Computer Laboratory	II

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Equivalence of subject at First Year B.Text. to Revised Textile Courses.

FIRST YEAR B.TEXT.- T.C. (TEXTILE CHEMISTRY) SEMESTER-I

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSE	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Physics	I	TT/MMTT/TPE/TC/FT	Applied Physics	I
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I
3.	TT/MMTT/TPE/TC/FT	Electrical Science	I	TT/MMTT/TPE/TC/FT	Electrical Science	I
4.	TC	Organic Chemistry-I	I	TC	Organic Chemistry-I	I
5.	TC	Physical Chemistry	I	TC	Physical Chemistry	I
6.	TC	Inorganic Chemistry	I	TC	Inorganic Chemistry	I
7.	TPE/TC	Language Laboratory	I	TPE/TC	Communication Laboratory	I

FIRST YEAR B.TEXT.- T.C. (TEXTILE CHEMISTRY) SEMESTER-II

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSE	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Mechanics	II	TT/MMTT/TPE/TC/FT	Applied Mechanics	II
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II
3.	TT/MMTT/TC	Industrial Chemistry for Textiles	II	TT/MMTT/TC	Industrial Chemistry for Textiles	II
4.	TT/MMTT/TPE/TC/FT	Engineering Graphics	II	TT/MMTT/TPE/TC/FT	Engineering Graphics	II
5.	TC	Organic Chemistry-II	II	TC	Organic Chemistry-II	II
6.	TC	Chemistry of Textile Fibres-I	II	TC	Chemistry of Textile Fibres-I	II
7.	TPE/TC	Computer Laboratory	II	TPE/TC	Computer Laboratory	II

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Equivalence of subject at First Year B.Text. to Revised Textile Courses.

FIRST YEAR B.TEXT.- F.T. (FASHION TECHNOLOGY) SEMESTER-I

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSE	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Physics	I	TT/MMTT/TPE/TC/FT	Applied Physics	I
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I	TT/MMTT/TPE/TC/FT	Textile Mathematics-I	I
3.	TT/MMTT/TPE/TC/FT	Electrical Science	I	TT/MMTT/TPE/TC/FT	Electrical Science	I
4.	TT/MMTT/TPE/FT	Textile Fibres	I	TT/MMTT/TPE/FT	Textile Fibres	I
5.	FT	Communication Skills	I	FT	Functional English-I	I
6.	FT	Introduction to Textile Manufacturing-I	I	FT	Introduction to Textile Manufacturing-I	I
7.	TT/MM/FT	Computer Laboratory	I	TT/MM/FT	Computer Laboratory	I

FIRST YEAR B.TEXT.- F.T. (FASHION TECHNOLOGY) SEMESTER-II

SR. NO.	COMMON TO COURSE	PRE-REVISED SUBJECTS	SEM-ESTER	COMMON TO COURSE	REVISED SUBJECTS	SEMESTER
1.	TT/MMTT/TPE/TC/FT	Applied Mechanics	II	TT/MMTT/TPE/TC/FT	Applied Mechanics	II
2	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II	TT/MMTT/TPE/TC/FT	Textile Mathematics-II	II
3.	FT	Elements of Fashion Design	II	FT	Concepts of Fashion Design	II
4.	TT/MMTT/TPE/TC/FT	Engineering Graphics	II	TT/MMTT/TPE/TC/FT	Engineering Graphics	II
5.	FT	Introduction to Textile Manufacturing-II	II	FT	Introduction to Textile Manufacturing-II	II
6.	FT	Testing of Fibres and Yarns	II	FT	Basics of Apparel Technology	II
7.	FT	Advanced Computer Laboratory	II	FT	Functional English-II	II

