SYLLABUS

DIPLOMA IN APPAREL TECHNOLOGY

Course Code: 1069

2015-2016

M - SCHEME

DIRECTORATE OF TECHNICAL EDUCATION
GOVERNMENT OF TAMILNADU

NEW SYLLABUS FOR FULLTIME
DIPLOMA IN APPAREL TECHNOLOGY
'M' SCHEME
FROM 2015 – 2016 BATCH ONWARDS

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DIPLOMA COURSES IN ENGINEERING/TECHNOLOGY

(SEMESTER SYSTEM)
(Implemented from 2015- 2016)
M – SCHEME

R E G U L A T I O N S*

***** *Applicable to the Diploma Courses other than Diploma in Hotel Management & Catering Technology and the Diploma Courses offered through MGR Film Institute, Chennai.*

1. Description of the Course:

a. Full Time (3 years)

The Course for the full Time Diploma in Engineering shall extend over a period of three academic years, consisting of 6 semesters* and the First Year is common to all Engineering Branches.

b. Sandwich (3½ years)

The Course for the Diploma in Engineering (sandwich) shall extend over a period of three and half academic years, consisting of 7 semesters* and the First Year is common to all Engineering Branches. The subjects of three years full time diploma course being regrouped for academic convenience.

During 4th and/or during 7th semester the students undergo industrial training for six months/ one year. Industrial training examination will be conducted after completion of every 6 months of industrial training

c. Part Time (4 years)

The course for the diploma in Engineering shall extend over a period of 4 academic years containing of 8 semesters*, the subjects of 3 year full time diploma courses being regrouped for academic convenience.

* Each Semester will have 15 weeks duration of study with 35 hrs. /Week for Regular Diploma Programme and 18hrs/ week (21 hrs. / Week I year) for Part-Time Diploma Programmes.

The Curriculum for all the 6 Semesters of Diploma courses (Engineering & Special Diploma Courses viz. Textile Technology, Leather Technology, Printing Technology, Chemical Technology etc.) have been revised and revised curriculum is applicable for the candidates admitted from 2015 – 2016 academic year onwards.

2. Condition for Admission:

Condition for admission to the diploma courses shall be required to have passed in

The S.S.L.C Examination of the Board of Secondary Education, TamilNadu.

(Or)

The Anglo Indian High School Examination with eligibility for Higher Secondary Course in TamilNadu.

(Or)

The Matriculation Examination of Tamil Nadu.

(Or)

Any other Examination recognized as equivalent to the above by the Board of Secondary Education, TamilNadu.

Note: In addition, at the time of admission the candidate will have to satisfy certain minimum requirements, which may be prescribed from time to time.

3. Admission to Second year (Lateral Entry):

A pass in HSC (Academic) or (Vocational) courses mentioned in the Higher Secondary Schools in TamilNadu affiliated to the TamilNadu Higher Secondary Board with eligibility for university Courses of study or equivalent examination, & Should have studied the following subjects.

Sl. No	Courses	H.Sc Academic	H.Sc Vocational	
		Subjects Studied	Subjects Studied	
			Related subjects	Vocational subjects
1.	All the Regular and Sandwich Diploma Courses	Maths, Physics & Chemistry	Maths / Physics / Chemistry	Related Vocational Subjects Theory & Practical
2.	Diploma course in Modern Office Practice	English & Accountancy English & Elements of Economics English & Elements of Commerce	English & Accountancy, English & Elements of Economics, English & Management Principles & Techniques, English & Typewriting	Accountancy & Auditing, Banking, Business Management, Co-operative Management, International Trade, Marketing & Salesmanship, Insurance & Material Management, Office Secretaryship.

- For the diploma Courses related with Engineering/Technology, the related / equivalent subjects prescribed along with Practical may also be taken for arriving the eligibility.

- Branch will be allotted according to merit through counseling by the respective Principal as per communal reservation.

- For admission to the Textile Technology, Leather Technology, Printing Technology, Chemical Technology and Modern Office Practice Diploma courses the candidates studied the related subjects will be given first preference.

- *Candidates who have studied Commerce Subjects are not eligible for Engineering Diploma Courses.*

4. Age Limit: No Age limit.

5. Medium of Instruction: English

6. Eligibility for the Award of Diploma:

No candidate shall be eligible for the Diploma unless he/she has undergone the prescribed course of study for a period of not less than 3 academic years in any institution affiliated to the State Board of Technical Education and Training, TamilNadu, when joined in First Year and two years if joined under Lateral Entry scheme in the second year and passed the prescribed examination.

The minimum and maximum period for completion of Diploma Courses are as given below:

Diploma Course	Minimum Period	Maximum Period
Full Time	3 Years	6 Years
Full Time(Lateral Entry)	2 Years	5 Years
Sandwich	3½ Years	6½ Years
Part Time	4 Years	7 Years

7. Subjects of Study and Curriculum outline:

The subjects of study shall be in accordance with the syllabus prescribed from time to time, both in theory and practical. The curriculum outline is given in Annexure **- I**

8. Examinations:

Board Examinations in all subjects of all the semesters under the scheme of examinations will be conducted at the end of each semester.

The Internal assessment marks for all the subjects will be awarded on the basis of continuous internal assessment earned during the semester concerned. For each subject 25 marks are allotted for internal assessment and 75 marks are allotted for Board Examination.

9. Continuous Internal Assessment:

A . For Theory Subjects:

The Internal Assessment marks for a total of 25 marks, which are to be distributed as follows:

i. Subject Attendance **5 Marks**

(Award of marks for subject attendance to each subject theory/practical will as per the range given below)

80%	- 83%		1 Mark
84%	- 87%		2 Marks
88%	- 91%		3 Marks
92%	- 95%		4 Marks
96%	- 100%		5 Marks

ii) Test # **10 Marks**

2 Tests each of 2 hours duration for a total of 50 marks are to be conducted. Out of which the best one will be taken and the marks to be reduced to: 05 marks

The Test – III is to be the Model test covering all the five units and the marks so obtained will be reduced to : 05 marks

Total **10 marks**

TEST	UNITS	WHEN TO CONDUCT	MARKS	DURATION
Test I	Unit – I & II	End of 6th week	50	2 Hrs
Test II	Unit – III & IV	End of 12th week	50	2 Hrs
Test III	**Model Examination** - **Compulsory** Covering all the 5 Units. (Board Examination-question paper-pattern).	End of 15th week	75	3 Hrs

 # - From the Academic year 2015-2016 onwards.

Question Paper Pattern for the Periodical Test :(Test - I & Test- II)

With no choice:

PART A type questions:	4 Questions X 2 mark	… … 8 marks
PART B type questions:	4 Questions X 3 marks	… … 12 marks
PART C type questions:	3 Questions X 10 marks	… … 30 marks

	Total	50 marks
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iii) Assignment **10 Marks**

For each subject Three Assignments are to be given each for 20 marks and the average marks scored should be reduced for 10 marks

All Test Papers and assignment notebooks after getting the signature with date from the students must be kept in the safe custody in the Department for verification and audit. It should be preserved for 2 Semesters and produced to the flying squad and the inspection team at the time of inspection/verification.

B. For Practical Subjects:

The internal assessment mark for a total of 25 marks which are to be distributed as follows:-

a)	Attendance (Award of marks as same as Theory subjects)	:	**5 Marks**
b)	Procedure/ observation and tabulation/ Other Practical related Work	:	**10 Marks**
c)	Record writing	:	**10 Marks**

	TOTAL	:	**25 Marks**

- *All the Experiments/exercises indicated in the syllabus should be completed and the same to be given for final board examinations.*
- The Record for every completed exercise should be submitted in the subsequent Practical classes and marks should be awarded for 20 for each exercise as per the above allocation.
- At the end of the Semester, the average marks of all the exercises should be calculated for 20 marks and the marks awarded for attendance is to be added to arrive at the internal assessment mark for Practical. (20+5=25 marks)

- The students have to submit the duly signed bonafide record note book/file during the Practical Board Examinations.
- *All the marks awarded for assignment, Test and attendance should be entered in the Personal Log Book of the staff, who is handling the subject. This is applicable to both Theory and Practical subjects.*

10. Life and Employability Skill Practical:

The Life and Employability Skill Practical with more emphasis is being introduced in IV Semester for Circuit Branches and in V Semester for other branches of Engineering.
Much Stress is given to increase the employability of the students:

Internal assessment Mark **….. 25 Marks**

11. Project Work:

The students of all the Diploma Programmes **(except Diploma in Modern Office Practice)** have to do a Project Work as part of the Curriculum and in partial fulfillment for the award of Diploma by the State Board of Technical Education and Training, Tamilnadu. In order to encourage students to do worthwhile and innovative projects, every year prizes are awarded for the best three projects i.e. institution wise, region wise and state wise. **The Project work must be reviewed twice in the same semester.**

a) Internal assessment mark for Project Work & Viva Voce:

Project Review I	…	**10 marks**
Project Review II	…	**10 marks**
Attendance	…	**05 marks** (award of marks same as theory subjects pattern)
Total	…	**25 marks**

Proper record to be maintained for the two Project Reviews, and It should be preserved for 2 Semesters and produced to the flying squad and the inspection team at the time of inspection/verification.

b) Allocation of Mark for Project Work & Viva Voce in Board Examination:

Viva Voce	…	**30 marks**
Marks for Report Preparation, Demo	…	**35 marks**
Total		**65 marks**

c) Written Test Mark (from 2 topics for 30 minutes duration): $

i) Environment Management	2 questions X 2 ½ marks	= **5 marks**
iI) Disaster Management	2 questions X 2 ½ marks	= **5 marks**
		10marks

$ **-** Selection of Questions should be from Question Bank, by the External Examiner.

No choice need be given to the candidates.

Project Work & Viva Voce in Board Examination	--	**65 Marks**
Written Test Mark (from 2 topics for 30 minutes duration)	--	**10 Marks**
TOTAL	--	**75 Marks**

A neatly prepared PROJECT REPORT as per the format has to be submitted by individual during the Project Work & Viva Voce Board examination.

12. Scheme of Examinations:

The Scheme of examinations for subjects is given in **Annexure - II.**

13. Criteria for Pass:

1. No candidate shall be eligible for the award of Diploma unless he/she has undergone the prescribed course of study successfully in an institution approved by AICTE and affiliated to the State Board of Technical Education & Training, Tamil Nadu and pass all the subjects prescribed in the curriculum.

2. A candidate shall be declared to have passed the examination in a subject if he/she secures not less than *40% in theory subjects* and *50% in practical subject* out of the total prescribed maximum marks including both the internal assessment and the Board Examination marks put together, subject to the condition that he/she secures at least a minimum of *30 marks out of 75 marks in the Board's Theory examinations and a minimum of 35 marks out of 75 marks in the Board Practical Examinations.*

14. Classification of successful candidates:

Classification of candidates who will pass out the final examinations from April 2018 onwards (Joined in first year in 2015-2016) will be done as specified below.

First Class with Superlative Distinction:

A candidate will be declared to have passed in **First Class with Superlative Distinction** if he/she secures not less than 75% of the marks in all the subjects and passes all the semesters in the first appearance itself and passes all subjects within the stipulated period of study 3/ 3½/ 4 years (Full Time/Sandwich/Part Time) without any break in study.

First Class with Distinction:

A candidate will be declared to have passed in **First Class with Distinction** if he/she secures not less than 75% of the aggregate of marks in all the semesters put together and passes all the semesters except the I and II semesters in the first appearance itself and passes all the subjects within the stipulated period of study 3/ 3½/ 4 years (Full Time/Sandwich/Part Time) without any break in study.

First Class:

A candidate will be declared to have passed in **First Class** if he/she secures not less than 60% of the aggregate marks in all semesters put together and passes all the subjects within the stipulated period of study 3/ 3½ / 4 years (Full Time/Sandwich/Part Time) without any break in study.

Second Class:

All other successful candidates will be declared to have passed in **Second Class.**

The above mentioned classifications are also applicable for the Sandwich / Part-Time students who pass out Final Examination from October 2018 /April 2019 onwards (both joined in First Year in 2015-2016)

15. Duration of a period in the Class Time Table:

The duration of each period of instruction is 1 hour and the total period of instruction hours excluding interval and Lunch break in a day should be uniformly maintained as 7 hours corresponding to 7 periods of instruction (Theory & Practical).

16. Seminar:

For seminar the total seminar 15 hours(15 weeks x 1hour) should be distributed equally to total theory subject per semester(i.e 15 hours divided by 3/4 subject). A topic from subject or current scenario is given to students. During the seminar hour students have to present the paper and submit seminar material to the respective staff member, who is handling the subject. It should be preserved for 2 Semesters and produced to the flying squad and the inspection team at the time of inspection/verification.

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DIPLOMA IN APPAREL TECHNOLOGY

Course Description with objectives:

Diploma course in Apparel technology deals with the design development of Made-ups & Apparels. At present the marketability of Made-ups, readymade apparels is very good both in the national and international market. The value added Made Ups and apparel items increase the sales value and earn valuable foreign currency, which our country needs now.

Apparel industry is competitive, Cost conscious, Labour intensive too. The need of the industry is quality technicians, designers, administrators, planners, quality controllers etc. Apparel industry is a value added industry and can be located at villages as well as in metros. It readily employs low level skilled people to high tech engineers. India is in an ideal position due to centuries old tradition, skilled manpower, abundant natural resources etcA.lso the opportunities and challenges are huge therefore we need well-educated trained manpower to utilize this evergreen, modular almost non-polluting industry.

After spinner makes yarn, weaver/knitter makes fabric and textile processor bleaches, colours and finally finishes the fabric, the work of the apparel maker starts. Usually apparels are not much made out of grey fabric due to poor dye absorbency, unattractive natural colour present on the fabric. Since the sale of apparels is on the increase as compared with fabric in both local and export market, it is very essential to have this technology imparted to students who will get lot of job opportunities in apparel factories, which are located throughout our country. In fact, there is a demand from the local market for a designer who knows apparel designing and apparels manufacturing. Since this is an elaborate topic which contains several smaller aspects, it is felt that a full time diploma course is necessary for giving sufficient working knowledge in Apparel technology. With this idea in mind the syllabus for the course is drafted.

Several subjects are dealt with which are of prime importance for a apparel technologist. Fibre Science, yarn & Fabric manufacture, Wet processing, Testing of Textiles (both physical and chemical testing), apparel designing, fashion designing, Pattern making, apparel construction, industrial clothing, home textiles and finishing of various type of apparels & apparel , Computer applications, Textile management are dealt with in this course.

Students who study this course will immense scope for self employment and employment in supervisory and finally in managerial level in established apparel manufacturing unit. Due to recent boost in the export of Made-ups apparels, the scope for this course at present is very high and there is no doubt that the demand will go on increasing in the years to come. This will enable the students to

complete this course to the expectations of apparel manufacturers. Sufficient practical subjects are also included for supporting theory subjects. The expectation from the students is that, after completing the course, they should be in a position to select goods suitable for apparel making, designing fashionable apparels and finally, stitch them to make the finished product. Industrial visits, In-plant training, Guest lecture, Seminars, Study tours and Project work/Project report gives students scope for working individually and this to a greater extent improves the self-reliance of the students.

ANNEXURE-I
DIPLOMA IN APPAREL TECHNOLOGY

Course code: 1069 **M Scheme**

CURRICULUM OUTLINE

THIRD SEMESTER

S.No.	Subject Code	SUBJECT	HOURS PER WEEK			
			Theory Hours	Tutorial / Drawing	Practical hours	Total Hours
3.1	36631	FIBRE SCIENCE AND YARN MANUFACTURE@	5	-	-	5
3.2	36632	FASHION DESIGNING@	5	-	-	5
3.3	36633	APPAREL DESIGNING@	5	-	-	5
3.4	36934	FASHION DESIGNING PRACTICAL	-	-	5	5
3.5	36935	EMBROIDERY PRACTICAL	-	-	5	5
3.6	36936	APPAREL DESIGNING PRACTICAL	-	-	5	5
3.7	30001	COMPUTER APPLICATIONS PRACTICAL**	-	-	4	4
SEMINAR			1	-	-	1
TOTAL			16	-	19	35

FOURTH SEMESTER

S.No.	Subject Code	SUBJECT	HOURS PER WEEK			
			Theory Hours	Tutorial / Drawing	Practical hours	Total Hours
4.1	36681	HOME TEXTILES@	5	-	-	5
4.2	36142	TECHNOLOGY OF FABRIC MANUFACTURE#	5	-	-	5
4.3	36643	CLOTHING MACHINERY AND EQUIPMENT@	5	-	-	5
4.4	36644	PATTERN DRAFTING AND CONSTRUCTION – I@	5	-	-	5
4.5	36945	PATTERN DRAFTING – I PRACTICAL	-	-	5	5
4.6	36946	GARMENT CONSTRUCTION –I PRACTICAL	-	-	5	5
4.7	30002	LIFE SKILLS AND EMPLOYABILITY PRACTICAL	-	-	4	4
SEMINAR			1	-	-	1
TOTAL			21	-	14	35

CURRICULUM OUTLINE

FIFTH SEMESTER

S.No.	Subject Code	SUBJECT	HOURS PER WEEK			
			Theory Hours	Tutorial / Drawing	Practical hours	Total Hours
5.1	36051	TEXTILE TESTING*	5	-	-	5
5.2	36052	TEXTILE WET PROCESSING*	5	-	-	5
5.3	36653	PATTERN DRAFTING AND CONSTRUCTION – II@	5	-	-	5
5.4	**ELECTIVE-1**					
5.4.1	36671	APPAREL MERCHANDISING@	5	-	-	5
5.4.2	36682	FASHION DRAPING@				
5.5	36955	TEXTILE TESTING AND WET PROCESSING PRACTICAL	-	-	4	4
5.6	36956	PATTERN DRAFTING – II PRACTICAL	-	-	5	5
5.7	36957	GARMENT CONSTRUCTION– II PRACTICAL	-	-	5	5
SEMINAR			1	-	-	1
TOTAL			21	-	14	35

**** - Common subject for all branches.**

 # - Common subject with Diploma in Textile Processing.

@- Common subject with Diploma in Garment Technology.

CURRICULUM OUTLINE

SIXTH SEMESTER

S.No.	Subject Code	SUBJECT	HOURS PER WEEK			
			Theory Hours	Tutorial / Drawing	Practical hours	Total Hours
6.1	36061	TEXTILE MANAGEMENT*	5	-	-	5
6.2	36662	APPAREL QUALITY CONTROL@	5	-	-	5
6.3	**ELECTIVE II**					
6.3.1	36641	APPAREL PRODUCTION PLANNING & CONTROL@	5	-	-	5
6.3.2	36982	INDUSTRIAL CLOTHING				
6.4	36964	FASHION AND GARMENT CAD PRACTICAL	-	-	5	5
6.5	36965	ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL	-	-	5	5
6.6	36966	FASHION DRAPING PRACTICAL	-	-	5	5
6.7	36967	PROJECT WORK	-	-	4	4
SEMINAR			1	-	-	1
TOTAL			16	-	19	35

**** - Common subject for all branches.**

 # - Common subject with Diploma in Textile Processing.

@- Common subject with Diploma in Garment Technology.

DIPLOMA IN APPAREL TECHNOLOGY

Course code: 1069 **M Scheme**

SCHEME OF EXAMINATION

THIRD SEMESTER

S.No.	Subject Code	SUBJECT	Examination Marks			Minimum for pass	Duration of Exam Hours
			Internal assessment Marks	Board Exam. Marks	Total Mark		
3.1	36631	FIBRE SCIENCE AND YARN MANUFACTURE@	25	75	100	40	3
3.2	36632	FASHION DESIGNING@	25	75	100	40	3
3.3	36633	APPAREL DESIGNING@	25	75	100	40	3
3.4	36934	FASHION DESIGNING PRACTICAL	25	75	100	50	3
3.5	36935	EMBROIDERY PRACTICAL	25	75	100	50	3
3.6	36936	APPAREL DESIGNING PRACTICAL	25	75	100	50	3
3.7	30001	COMPUTER APPLICATIONS PRACTICAL**	25	75	100	50	3
	TOTAL		175	525	700		

FOURTH SEMESTER

S.No.	Subject Code	SUBJECT	Examination Marks			Minimum for pass	Duration of Exam Hours
			Internal assessment Marks	Board Exam Marks	Total Mark		
4.1	36681	HOME TEXTILES@	25	75	100	40	3
4.2	36642	TECHNOLOGY OF FABRIC MANUFACTURE#	25	75	100	40	3
4.3	36643	CLOTHING MACHINERY AND EQUIPMENT@	25	75	100	40	3
4.4	36644	PATTERN DRAFTING AND CONSTRUCTION – I@	25	75	100	40	3
4.5	36945	PATTERN DRAFTING – I PRACTICAL	25	75	100	50	3
4.6	36946	GARMENT CONSTRUCTION –I PRACTICAL	25	75	100	50	3
4.7	30002	LIFE SKILL AND EMPLOYABILITY PRACTICAL**	25	75	100	50	3
	TOTAL		175	525	700		

**** - Common subject for all branches.**

 # - Common subject with Diploma in Textile Processing.

@- Common subject with Diploma in Garment Technology.

SCHEME OF THE EXAMINATION

FIFTH SEMESTER

S.No.	Subject Code	SUBJECT	Examination Marks			Minimum for pass	Duration of Exam Hours
			Internal assessment Marks	Board Exam. Marks	Total Mark		
5.1	36051	TEXTILE TESTING*	25	75	100	40	3
5.2	36052	TEXTILE WET PROCESSING*	25	75	100	40	3
5.3	36653	PATTERN DRAFTING AND CONSTRUCTION – II@	25	75	100	40	3
5.4	**ELECTIVE I**						
5.4.1	36671	APPAREL MERCHANDISING@	25	75	100	40	3
5.4.2	36682	FASHION DRAPING@					
5.5	36955	TEXTILE TESTING AND WET PROCESSING PRACTICAL	25	75	100	50	3
5.6	36956	PATTERN DRAFTING – II PRACTICAL	25	75	100	50	3
5.7	36957	GARMENT CONSTRUCTION– II PRACTICAL	25	75	100	50	3
	TOTAL		175	525	700		

SIXTH SEMESTER

S.NO.	Subject Code	SUBJECT	Examination Marks			Minimum for pass	Duration of Exam Hours
			Internal assessment Marks	Board Exam Marks	Total Mark		
6.1	36061	TEXTILE MANAGEMENT*	25	75	100	40	3
6.2	36662	APPAREL QUALITY CONTROL@	25	75	100	40	3
6.3	**ELECTIVE II**						
6.3.1	36641	APPAREL PRODUCTION PLANNING & CONTROL@	25	75	100	40	3
6.3.2	36982	INDUSTRIAL CLOTHING					
6.4	36964	FASHION AND GARMENT CAD PRACTICAL	25	75	100	50	3
6.5	36965	ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL	25	75	100	50	3
6.6	36966	FASHION DRAPING PRACTICAL	25	75	100	50	3
6.7	36967	PROJECT WORK	25	75	100	50	3
	TOTAL		175	525	700		

*** - Common subject with Diploma in Textile Technology.**

@- Common subject with Diploma in Garment Technology.

DIPLOMA IN APPAREL TECHNOLOGY

ALTERNATIVE SUBJECT

'L' SCHEME TO 'M' SCHEME FROM APRIL, 2015-2016

Sub. Code	SUBJECTS IN THE L – SCHEME	PROPOSED SUBJECTS IN THE M – SCHEME
III SEMESTER – W.E.F. OCT'16		
26631	FIBRE SCIENCE AND YARN MANUFACTURE	36631 FIBRE SCIENCE AND YARN MANUFACTURE
26632	FASHION DESIGNING	36632 FASHION DESIGNING
26633	APPAREL DESIGNING	36633 APPAREL DESIGNING
26934	FASHION DESIGNING PRACTICAL	36934 FASHION DESIGNING PRACTICAL
26935	EMBROIDERY PRACTICAL	36935 EMBROIDERY PRACTICAL
26936	APPAREL DESIGNING PRACTICAL	36936 APPAREL DESIGNING PRACTICAL
20001	COMPUTER APPLICATIONS PRACTICAL	30001 COMPUTER APPLICATIONS PRACTICAL
IV SEMESTER – W.E.F APR '17		
26641	HOME TEXTILES	36681 HOME TEXTILES
26142	TECHNOLOGY OF FABRIC MANUFACTURE	36142 TECHNOLOGY OF FABRIC MANUFACTURE
26643	CLOTHING MACHINERY AND EQUIPMENT	36643 CLOTHING MACHINERY AND EQUIPMENT
26644	PATTERN DRAFTING AND CONSTRUCTION– I	36644 PATTERN DRAFTING AND CONSTRUCTION – I
26945	PATTERN DRAFTING – I PRACTICAL	36945 PATTERN DRAFTING – I PRACTICAL
26946	GARMENT CONSTRUCTION –I PRACTICAL	36946 GARMENT CONSTRUCTION –I PRACTICAL
20002	COMMUNICATION AND LIFE SKILL PRACTICAL	30002 LIFE AND EMPOLYABILITY SKILL PRACTICAL
V SEMESTER – W.E.F OCT '17		
26051	TEXTILE TESTING	30651 TEXTILE TESTING
26052	TEXTILE WET PROCESSING	36052 TEXTILE WET PROCESSING
26653	PATTERN DRAFTING AND CONSTRUCTION II	36653 PATTERN DRAFTING AND CONSTRUCTION II
26671	APPAREL MERCHANDISING	36671 APPAREL MERCHANDISING
26672	INDIAN AND WESTERN COSTUMES	36672 INDIAN AND WESTERN COSTUMES
26955	TEXTILE TESTING AND WET PROCESSING PRACTICAL	36955 TEXTILE TESTING AND WET PROCESSING PRACTICAL
26956	PATTERN DRAFTING – II PRACTICAL	36956 PATTERN DRAFTING – II PRACTICAL
26957	GARMENT CONSTRUCTION– II PRACTICAL	36957 GARMENT CONSTRUCTION– II PRACTICAL

VI SEMESTER – W.E.F. APR '18		
26061	TEXTILE MANAGEMENT*	36061 TEXTILE MANAGEMENT*
26662	APPAREL QUALITY CONTROL[@]	36662 APPAREL QUALITY CONTROL[@]
26681	APPAREL PRODUCTION PLANNING & CONTROL[@]	36641 APPAREL PRODUCTION PLANNING & CONTROL[@]
26982	INDUSTRIAL CLOTHING	36682 INDUSTRIAL CLOTHING
26964	FASHION AND GARMENT CAD PRACTICAL	36964 FASHION AND GARMENT CAD PRACTICAL
26965	ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL	36965 ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL
26966	FASHION DRAPING PRACTICAL	36966 FASHION DRAPING PRACTICAL
26967	PROJECT WORK	36967 PROJECT WORK

Board Examination - Question paper pattern

Common for all theory subjects

PART A ***- (1 to 8) 5 Questions are to be answered out of 8 questions for 2 marks each.*****(Question No. 8 will be the compulsory question and *can be asked from any one of the units)(From each unit maximum of two 2 marks questions alone can be asked)***

PART B ***- (9 to 16)5 Questions are to be answered out of 8 questions for 3 marks each.*** **(Question No. 16 will be the compulsory question and *can be asked from any one of the units) (From each unit maximum of two 3 marks questions alone can be asked)***

PART C ***- (17 to 21) Five Questions will be in the Either OR Pattern. Students have to answer these five questions. Each question carries 10 marks. (Based on the discretion of the question setter, he/she can ask two five mark questions (with sub division A & sub division B) instead of one ten marks question if required)***

Any additional requirement, if necessary, should be mentioned in the question pattern. Graph sheet, Inch graph for design etc..

III SEMESTER

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

III SEMESTER

2015 – 2016 ONWARDS

FIBRE SCIENCE AND YARN MANUFACTURE

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME
(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36631
Semester : III Semester
Subject Title : FIBRE SCIENCE AND YARN MANUFACTURE

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36631 FIBRE SCIENCE AND YARN MANUFACTURE	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	INTRODUCTION AND NATURAL FIBRES	14
II	SYNTHETIC FIBRES	14
III	YARN MANUFACTURING PROCESS	14
IV	POST SPINNING AND MAN MADE FILAMENT PROCESSING	13
V	COMMERCIAL YARNS	13
	TEST & REVISION	7
Total		75

RATIONALE:

Textile begins with Fibres. The introduction to Fibre science is the basics for all Textiles and Garment related manufacturing. The application of fibre science makes the industries to produce right kind of products with required properties and end usage. The yarn manufacture part of this section provides a basic knowledge on the manufacturing of different types of yarn in the textile industry. This will make the students to select the appropriate raw material for Garment production.

The various divisions of Fibre science & Yarn Manufacture like Introduction and Natural Fibres, Synthetic Fibres, Yarn Manufacturing Process, Post Spinning and Man Made Filament Processing, Commercial yarns provide the foundation by enlightening the **Type of Fibres that dominates the Textile products, the basic production processes of yarn manufacturing and the different types of commercial yarns available in the markets.**

OBJECTIVES:

At the end of the study of III Semester the student will be able to

- Understand the classification & importance of Textile fibres.
- Acquire knowledge on properties and uses of Natural, Man-made, Synthetic fibres
- Study the manufacturing processes of Viscose Rayon, Polyester and Nylon 6 & 66
- Know the production sequence of Combed & Carded yarns.
- Gain knowledge on the latest spun yarn production systems.
- Understand the Post spinning process sequence.
- Learn about Texturisation, its types and manufacturing.
- Understand the types, properties and uses of fancy yarns.
- Study the manufacturing details of sewing thread.
- Understand the properties & uses of specialty fibres.

36631 FIBRE SCIENCE AND YARN MANUFACTURE

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topics	Hours
I	**INTRODUCTION AND NATURAL FIBRES** Textile Fibres – Definition – Classification – Important properties of an ideal Textile Fibre. Identification of Textile Fibres (Cotton, Silk, Wool, Polyester, Nylon and Acrylic) - Burning test, Solvent test and Microscopic appearance. Cotton fibres – Content – Indian varieties - Physical and Chemical properties – uses. Linen and Flax fibres - uses. Silk Fibre – Varieties - degumming of silk – Weighting of silk - Properties - Uses. Wool fibre – Varieties based on fleece – Properties and uses.	**14 Hrs**
II	**SYNTHETIC FIBRES** Manmade fibre spinning techniques - Wet, Melt, Dry spinning system. Viscose rayon – Manufacturing flow chart - Properties and uses. Properties uses of Lyocel, Modal and Bamboo. Polyester fibre (PET) – Manufacture flow chart - Properties and uses. Nylon 6-6 fibre – Manufacturing flow chart – Properties and uses. Acrylic fibre – Manufacturing flow chart – Properties and uses. Properties and uses of Nomex and Kevlar.	**14 Hrs**
III	**YARN MANUFACTURING PROCESS** Ginning – definition- Objects of Mixing and Blending – Sequence of processes involved in Carded and Combed yarn manufacturing- Objects of blow room , carding, drawing, comber, simplex & ring frame – Brief study of open end spinning – Differences between carded and combed yarn – Differences between ring yarn and OE yarn - Brief study of Compact, Friction and Air-jet spun yarn production systems.	**14 Hrs**
IV	**POST SPINNING AND MAN-MADE FILAMENTS PROCESSING** Doubling – Objects – Passage of material through doubling. Two for One Twister – Objects – Passage of material through Two for One Twister. Brief study of Reeling and Bundling processes. Filament yarn and Staple fibre manufacturing process. Texturisation - Definition – Objects – Study of texturing of yarn by Stuffer box, Flase twist and Air Texturisation methods.	**13 Hrs**

V	**COMMERCIAL YARNS** Definition of – Slub yarns – Flock or Flake yarns – Boucle yarn – Gimp yarn – Spot and Knot yarns – Loop or Curl yarn – Grandrelle yarns – Spiral or Cork screw yarns – Chenille yarn – Covered yarn – Core yarn – Faciated yarn – mélange yarns- Elastomeric yarns – Metallic yarns– (No method of production details). Sewing threads – Manufacturing flow chart for cotton and spun polyester sewing thread manufacture, 2 ply & 3 ply yarns, Embroidery threads – Properties of Viscose Rayon and Trilobal polyester thread.	**13 Hrs**

Text Book :

Title	Author	Publisher	Year
A Text book of Fibre science and Technology	S.P.Mishra	New Age International Pvt. Ltd, Delhi- 110002	2005
Yarn Preparation	Sengupta	The Textile Institute, Manchester, UK	1970
Textiles Fibre to Fabric	Corbman	Mc Graw-Hill international editions, Singapore	1983
Textile Science	E.P.G. Gohl, L.D.Vilensky	CBS Publishers & Distributers, Delhi.	1990
Textile Terms and definitions	The Textile Institue, UK	The Textile Institue, UK	1975
Man-Made fibres	William Moncrieff	Butter worth & Co. Ltd., London	1975

Reference:

Title	Author	Publisher	Year
Manual of cotton Spinning	Shirley. C	The Textile Institute, Manchester, UK	1965
Practical guide to opening & Carding	Klein.W	The Textile Institute, Manchester, UK	1987
Open End Spinning	Rohlena	Elscvier Scientific Publishing Co.,	1974
Handbook of Textile fibres Vol I & II- Natural Fibres	J.Gardon Cook	Wood Head Publishing Ltd	2005
Spinning of Man-mades and Blends on Cotton	Salhotra K R	Textile Association(India), Mumbai	-

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

III SEMESTER

2015 – 2016 ONWARDS

FASHION DESIGNING

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name **:** DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code **:** 36632
Semester **:** III Semester
Subject Title **:** FASHION DESIGNING

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36632 FASHION DESIGNING	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	ELEMENTS & PRINCIPLES OF DESIGN	14
II	COLOUR ASPECTS	14
III	DESIGN DEVELOPMENT	14
IV	WARDROBE PLANNING	13
V	FASHION INDUSTRY	13
	TEST & REVISION	7
Total		75

RATIONALE:

Garments are the value added products of Textiles, which improves the economy of our country. Fashion designing is part of the subject which enhances the value of the products further. The fashion designing subject provides in depth knowledge on sketching, drawing, colouring, creation of styles, illusions and fashion industry work nature.

OBJECTIVES:

At the end of the study of III Semester the student will be able to

- Understand the elements and principles of fashion design
- Study the tools & equipment used in sketching.
- Learn about the colour theory
- Understand the procedure for making proper color schemes.
- Know how to prepare different kinds of board preparation
- Study about various patterns and to develop designs
- Analyze wardrobe planning & lifestyle
- Develop designs for various seasons
- Understand the systems of fashion industry
- Learn steps involved in fashion forecasting

36632 FASHION DESIGNING

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**ELEMENTS & PRINCIPLES OF DESIGN** Elements of designs - Different types of lines on dresses - Different types of dress Shapes - Different types of Texture on dresses - Light and Shade effects on dresses. Illusion created by Lines, Shapes, Texture, Colour. Principles of Design - Unity on dress - Emphasis on dress - Balance on dress - Proportion on dress - Harmony on dress - Rhythm on dress. Objects of Radiation and Gradation on dress. Equipments for sketching - different types of pencils, markers, brushes, papers.	**14 Hrs**
II	**COLOR ASPECTS** Introduction to colour theory - Pigment colour theory – Primary, Secondary, Intermediate and Tertiary colours in pigment theory – Study of 12 colour wheel. Study of Colour dimensions - Hue, Value, Intensity, and Tints & Shades - Warm and Cool colours. Study of Colour Scheme – Related colour scheme – Mono chromatic, Neutral, Analogous Contrast colour scheme – Simple contrast, Double contrast, Split, Triad - Psychology of colour on dress - Application of colour on different seasons. Brief study of Munsell colour systems and Brief study of Colour harmony.	**14 Hrs**
III	**DESIGN DEVELOPMENT** Design development –Motif – Definition – Types of motifs – Development of motifs – Motifs on the fabrics – Steps in design development – Sources of Inspirations – Design development through natural sources. Study of Pattern in fabrics - Naturalistic abstract - Conventional – Geometric - Animate - Abstract - floral design – Half drop design & Reverse half drop design. Study of Structural and Decorative Design - Different types of Structural design on dress - Study of Decorative items - Different types of decorative design on dress - Characteristics of good decorative design.	**14 Hrs**

IV	**WARDROBE PLANNING** Life style analysis- Pre-existing wardrobe analysis- Factors influencing personality- Study of Wardrobe planning-Formal wear, Casual wear, Leisure wear and Accessories- Factors to be considered-economic factors-social factors - Purchase planning - Selection of materials - Wardrobe plans for Teen age and middle age people - Dress for occasions- Dress for seasons.	**13 Hrs.**
V	**FASHION INDUSTRY** Introduction to Fashion industry - Mood board, fabric board, colour board, accessory board. Understanding the fabrics, construction and embellishments. - Work of Fashion Director - Work of Fashion Designer – Well known fashion designer of India, USA, UK, and France - Fashion capitals - Fashion shows and its importance – Procedure to conduct fashion show – Importance of Fashion magazines – Importance of Fashion forecasting and steps involved in forecasting.	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
Illustrating Fashion	Kathryn McKelvey& Janine Munslow	Blackwell Publishing	**2005**
Fashion Design Process, Innovation & Practice	Kathryn McKelvey& Janine Munslow	Blackwell Publishing	**2003**
Art in everyday life	Goldstein and Goldstein	-do-	
Elements of Design & Apparel Design	Sumathi.G.J	New Age International, Delhi	**2002**

Reference:

Title	Author	Publisher	Year
The Psychology of dress	Frank Alvah	Double day Page & Co.	**1982**
The arts of costume & Personal appearance	Grace Margarit Morton	John wiley &Sons London.	**1985**
How you look and dress	Byrta Carson	Mcgraw - Hill Book co.London.	**1981**
Fabrics and dress	Ruthtone and Tarplay	Houghton Mifflin London	**1981**
Elementry Costume design	Harisonfeather	John Wiley and Sons Stone Dorothy	**1983**
Dress Designing	H.F.Kepworth	The English Univ. Press Ltd., London	**1981**
Individuality and Cloths	Margaret story	Funle & Wsanalls Lippion cott.	**1985**
Essential of Design	Degrmo Winslow	Macillion Co. New York.	**1986**
Men's wardrobe	Thames and Hudson	London	**1996**
Art & Fashion	Dr.Alice Mackrell	Batsford Publication	**2005**

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

III SEMESTER

2015 – 2016 ONWARDS

APPAREL DESIGNING

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name **:** DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code **:** 36633
Semester **:** III Semester
Subject Title **:** APPAREL DESIGNING

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
36633 APPAREL DESIGNING	5 Hrs	75 Hrs	Internal Assessment	Board Examination	Total	
			25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	BASICS OF APPAREL DESIGN	14
II	PATTERN LAYOUT	14
III	SEAM, SEAM FINISHES AND PLACKETS	14
IV	YOKE, COLLARS AND SLEEVES	13
V	CUFF, POCKETS AND FULLNESS.	13
	TEST & REVISION	7
Total		75

RATIONALE:

Style of every garment needs various design techniques for improvising the garment. The garment construction includes various types of stitches, seams, collars, cuffs, plackets, pockets, neckline finishes and fullness effect. Each and every item is used depending on the style, the personality of the wearer, the occasions and the aesthetics. This subject enriches

the knowledge on the design techniques of the various parts of the garment so as to make it perfect and beautiful.

OBJECTIVES:

At the end of the study of III Semester the student will be able to

- Understand the importance of Human Anatomy.
- Learn the basics of Measurements, Fabric Details and Garment construction.
- Learn different types of Seams.
- Understand the types of Plackets.
- Understand the types of Yokes.
- Study the selection of Collars and Neckline finishes.
- Know about Sleeves and its types.
- Learn different types of Pockets.
- Understand the types of Darts, Pleats and Tucks.
- Understand the types of Gathers Shirrs, Flares, Godets and Frills.

36633 APPAREL DESIGNING

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**BASICS OF APPAREL DESIGN** Eight head theory and its importance in apparel manufacturing, Garment Construction Tools & Equipment **–** Measuring, Marking, Cutting, Pressing and General tools. Measurements – Importance, Procedure for taking measurements and Various body measurements for Kid's, Lady's & Gent's. Pattern – Definition and importance of paper patterns, Types and its merits and demerits of patterns. Fabric Details – Kinds of fabrics for Garment Constructions- Plain, Striped, Checked, Napped, Pile, one way, Printed designs.	**14 Hrs**
II	**PATTERN LAYOUT** Fabric grains – types of grain and its importance. Principles in pattern making – Pattern layout and its importance – Principles in pattern layout – Different types fabric folding for layout – Special types of Layout – Procedure for economical layout- Insufficient fabric layout – Marshdan layout for bulk production and its importance –Type of Lays – Lay length and marker – Marker efficacy – Lay efficiency.	**14 Hrs**
III	**SEAMS, SEAM FINISHES & PLACKETS** Seams – Definition- Different types of seams- Plain, French, Welt seam, Top stitch seam. Seam finishes- Piped, crossed, Bound and Pinked. Hems – definition – types of hems – Slip, Catch stitch, Invisible, Herring bone. Plackets & Openings – definition- characteristics of good plackets. Types of plackets – One piece, Two pieces, Tailored and Zipper plackets.	**14 Hrs**
IV	**YOKE, COLLARS AND SLEEVES** Yoke – definition- selection of yoke design. Different types of yokes – Partial, Midriff, and Yoke with fullness. Collars – Types of collar like Shirt, Stand, Ruffle, Roll, Shawl, Peter pan, Square and Neck line finishes. Sleeves – types of sleeves such as Plain, Puff, Bell, Circular, Leg-O-mutton, Magyar, and Raglan sleeves.	**13 Hrs.**

V	**CUFFS, POCKETS AND FULLNESS** Types of cuffs - Round, Gauntlet and pointed. Pockets - Different types of pockets such as Patch, Welt, front Hip and Set in pocket. Fullness – definition, Single and double pointed darts, Relocation of dart by slash and spread method. Types of tucks like pin tuck, cross tuck, piped tuck, shell tuck and importance, Types of pleats like Knife pleat, Box pleat, Kick pleat, Cartridge pleat, Pinch pleat and its importance. Gathers and Frills.	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
Practical clothing construction Part I& II	Mary Mathews	Bhattarans Reprographics (P) Ltd., Chennai.	**1974**
The Art of Sewing	Anna Jacob Thomas	UBS Publisher,Delhi	**2001**
Practical dress Design	Enwin, M.D.	The MacMillan Comp., New York.	**1982**

Reference:

Title	Author	Publisher	Year
Complete guide to sewing	Reader's digest sewing guide	The reader's digest Association, Inc. New York.	**1976**

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

III SEMESTER

2015 – 2016 ONWARDS

FASHION DESIGNING PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name: APPAREL TECHNOLOGY

Subject Code: **36934**

Semester: III Semester

Subject Title: FASHION DESIGNING PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36934 FASHION DESIGNING PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	5	75	25			75	100	3 Hrs.

RATIONALE:

In Diploma level engineering education skill development plays a vital role. The skill development can be achieved by providing practical experience in creating sketches and drawings of fashionable styles of garment for various purposes. The colour aspects and illusion effects are also understood through drawings.

GUIDELINES:

- **All the twelve experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate drawing table for exposing the skills in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than three students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Experiment	60 marks
Write up	10 marks
Viva	05 marks
Total	75 Marks

THIRD SEMESTER
36934 FASHION DESIGNING PRACTICAL
OBJECTIVES:

1. HUMAN ANATOMY

To draw male and female figure using Eight head theory .
To draw different posures of Human figure.

2A.PPAREL DESIGNING

To design and draw Basic garment shapes, pleats, collars.

3. COLOUR

To draw 12 colour wheel- Prang colour chart.
To draw Colour board for related colour scheme.
To draw Colour board for contrasting colour scheme.

4. STYLE DRAWING

To create Fabric board for casual wear for ladies with suitable colors.
To draw Winter wear for men with suitable colors.
To create board for structural & decorative garments.
To draw Fashion garment having flared effect & decorate it.
To draw Fashion garment having fitted effect decorate it.
To draw Garment for men based on your own taste.
To draw Garment for women based on your own taste.

THIRD SEMESTER
36934 FASHION DESIGNING PRACTICAL

LIST OF EQUIPMENT

Drawing table- 30 nos.

Materials required :

Chart paper- A4/ A3 size- 30 nos. / expt./ batch of 30 students.

Drawing tools & colouring tools- 30nos./ expt./ batch of 30 students.

THIRD SEMESTER
36934 FASHION DESIGNING PRACTICAL
LIST OF EXPERIMENTS

1. Draw Male and Female figures using Eight head theory.
2. Draw basic garment shapes- pleats, collars etc.
3. Prepare 12 colour wheel chart.
4. Prepare chart for Tint and Shade.
5. Prepare colour board for Mono chromatic Colour Scheme.
6. Prepare colour board for Analogous Colour Scheme.
7. Prepare colour board for Complimentary Colour Scheme.
8. Prepare colour board for Simple Contrast Colour Scheme.
9. Prepare colour board for Split Contrast Colour Scheme.
10. Prepare colour board for Warm and cool colours.
11. Design a garment for Men based on your own taste.
12. Design a garment for Women based on your own taste.

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DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

III SEMESTER

2015 – 2016 ONWARDS

EMBROIDERY PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name: APPAREL TECHNOLOGY

Subject Code: **36935**

Semester: III Semester

Subject Title: EMBROIDERY PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36935 EMBROIDERY PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	5	75	25			75	100	3 Hrs.

RATIONALE:

Value addition to garment and made-ups are achieved through enriching the products with decorative items. Embroidery is one of the decorative techniques and is made either through Hand or Machine embroidery. Now a days both domestic and international market demand is towards embroidered textile and garment materials.

This practical subject provides hands on experience on the types of embroidery techniques, the stitches and the type of tools and equipment used in garment industry.

GUIDELINES:

- **All the sixteen experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate sewing machines with embroidery frame and threads for exposing the skills in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than two students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Experiment	50 marks
Write up	20 marks
Viva	05 marks
Total	75 Marks

THIRD SEMESTER

36935 - EMBROIDERY PRACTICAL

OBJECTIVES OF THE EXPERIMENTS:

HAND EMBROIDERY

To practice Running & Double running stitches.

To practice Stem & Back stitches.

To practice Chain Stitch & three of its variations.

To practice Lazy Daisy Stitch & three of its Variations.

To practice Button hole Stitch &three of its Variations.

To practice Blanket stitch.

To practice Fly Stitch.

To practice Fish-Bone & herring bone stitches.

To practice Feather & three of its Variations.

To practice Knot & three of its Variations.

To practice Satin Stitch

To practice Zardoshi work.

To practice Stone work.

To practice Appliqué work.

Machine Embroidery.

To practice Running Stitch

To practice Satin stitch.

THIRD SEMESTER

36935 - EMBROIDERY PRACTICAL
LIST OF EQUIPMENT

Hand / Machine embroidery tools & machineries:-

Embroidery frame- 30 nos.
Hand needles- 30 nos.
Tracing wheel- 30 nos.
Thimbles- 30 nos.

Embroidery machines:

Lock stitch sewing or embroidery machine- 30 nos.
Zig -Zag machine*
Fashion Maker*
Multi head multi needle embroidery machine*
***- Optional**

Materials required:
2 meter fabric/ expt/ batch of 30 students
1 meter Non-woven or Sponge sheet / expt/ batch of 30 students
10 sheets of tracing paper/expt/batch of 30 students
Embroidery threads- 30skeins of assorted colors/expt/ batch of 30 students

THIRD SEMESTER
36935 - EMBROIDERY PRACTICAL
LIST OF EXPERIMENTS

1. Prepare Embroidery Design using Running Stitch & Double running stitch.
2. Prepare Embroidery Design using Stem Stitch & Back stitch.
3. Prepare Embroidery Design using Chain Stitch.
4. Prepare Embroidery Design using Lazy Daisy Stitch.
5. Prepare Embroidery Design using Button hole Stitch.
7. Prepare Embroidery Design using Fly Stitch or Feather stitch.
8. Prepare Embroidery Design using Fish-Bone or Herring bone.
9. Prepare Embroidery Design using Knot stitch.
10. Prepare Embroidery Design using Satin Stitch.
11. Prepare Embroidery Design using Zardoshi and stone work.
12. Prepare Machine Embroidery Design using Running and Satin stitch.

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DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

III SEMESTER

2015 – 2016 ONWARDS

APPAREL DESIGNING PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name: APPAREL TECHNOLOGY

Subject Code: **36936**

Semester: III Semester

Subject Title: APPAREL DESIGNING PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36936 APPAREL DESIGNING PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	5	75	25			75	100	3 Hrs.

RATIONALE:

Style of every garment needs various design techniques for the parts of the garment. The garment construction includes various types of stitches, seams, collars, cuffs, plackets, pockets, neckline finishes and fullness effect. This practical subject provides hands on experience on the preparation of stitches, seams, collars, cuffs, plackets, pockets, neckline finishes and fullness effect that are major items of garment construction.

GUIDELINES:

- **All the sixteen experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate sewing machines and required attachments for exposing the skills in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than two students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Experiment	50 marks
Write up	20 marks
Viva	05 marks
Total	75 Marks

THIRD SEMESTER
36936 APPAREL DESIGNING PRACTICAL
EXPERIMENTS OBJECTIVE:

Seams, Seam finishes & Hems
- To Construct Seams – Plain, French, Welt seam- Top stitch seam,
- To Construct seam finishes- Piped, crossed, Bound, Pinked
- To Construct Hems– Slip, Catch stitch, Invisible, Herring bone.

Plackets & Pockets
- To Construct Plackets– One piece, Two piece, Tailored, Zipper.
- To Construct Pockets– Patch, Welt, Bound, front Hip and Pocket in seam pockets..

Sleeves
- To Prepare patterns and Construct Plain sleeve.
- To Prepare patterns and Construct Puff sleeve
- To Prepare patterns and Construct Bell sleeve.

Collars
- To Prepare patterns and Construct Shirt collar.
- To Prepare patterns and Construct Peter pan collar.
- To Prepare patterns and Construct Shawl collar.

Darts, Pleats and Tucks
- To Construct different types of Darts and Godets.
- To Relocate darts by slash and spread method in the given bodice block.
- To Construct Knife, Box, Cartridge and Pinch pleats.
- To Construct Tucks– pin tuck, cross tuck, piped tuck, shell tuck.

Frills, Gathers & Neck line finishes
- To Construct different types of Frills and Gathers.
- To Construct Neck Line Finishes– facings and bindings.

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THIRD SEMESTER

36936 APPAREL DESIGNING PRACTICAL
LIST OF EQUIPMENT

Equipment required:

Measuring tools
Pattern making tools
Construction tools
General tools
Sewing machines:- Lock stitch- 15 m/cs.
Over lock- 2 m/c.
Flat lock- 1 m/c
Button hole- 1 m/c
Button stitch- 1 m/c

Materials required:
3- 5 meters of fabric/ expt./ batch of 30 students.
Sewing threads:- white and assorted – 30 nos..

THIRD SEMESTER
36936 APPAREL DESIGNING PRACTICAL
LIST OF EXPREIMENTS

1. Construct different types of Seams – any three.
2. Construct different types of Hems– any three.
3. Construct different types of Plackets– any three.
4. Construct different types of Pockets– any three.
5. Prepare patterns and Construct any two sleeves.
6. Prepare patterns and Construct Shirt collar.
7. Prepare patterns and Construct Peter pan collar.
8. Construct different types of Darts.
9. Construct Knife, Box, Cartridge and Pinch pleats.
10. Construct different types of Tucks– any three.
11. Construct different types of Frills and Gathers.
12. Construct different types of Neck Line Finishes– any two

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

III SEMESTER

2015 – 2016 ONWARDS

COMPUTER APPLICATION PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU.

M- SCHEME

(Implemented from the academic year 2016-2017 onwards)

Course Name : For All Branches

Subject Code : 30001

Semester : III

Subject title : COMPUTER APPLICATIONS PRACTICAL

TEACHING & SCHEME OF EXAMINATION:

No. of weeks per Semester: 15 Weeks

Course	Instruction		Examination			
			Max.			Duration
	Hours/ week	Hours/ Semester	Internal Assessment	Board Examination	Total	
COMPUTER APPLICATIONS PRACTICAL	4Hrs	60 Hrs	25	75	100	3Hrs

RATIONALE:

The application of Computer knowledge is essential the students of all disciplines of Engineering in addition to their respective branch of study. The Computer Application Practical course facilitates the necessary knowledge and skills regarding creating, working and maintaining the documents and presentation of documents with audio visual effects ina computer and produces necessary skills in E- Learning and Chatting tools..

OBJECTIVES:

On completion of the following exercises, the students will be able to

- Use the GUI operating systems
- Familiarize and customize the desktop
- Use the different facilities available in the word processor
- Prepare Power Point presentation with different formats
- Expose E-learning tools and chatting tools
- Analyze the datasheet
- Create and manipulate the database
- Create different types of charts
- Prepare PowerPoint presentation

- Understand Internet concepts and usage of e-mail

GUIDELINES:

- All the experiments given in the list of experiments should be completed and all the experiments should include for the end semester practical examination.
- The computer systems should be 1:1ratioforpracticalclasses

SYLLABUS
LAB EXERCISES
SECTION – A

GRAPHICAL OPEARTING SYSTEM

Introduction to GUI OS; Features and various versions of GUI OS & its use; Working with GUI OS; My Computer & Recycle bin ; Desktop, Icons and Explorer; Screen description & working styles of GUI OS; Dialog Boxes & Toolbars; Working with Files & Folders; simple operations like copy, delete, moving of files and folders from one drive to another, Shortcuts &Autostart; Accessories and Windows Settings using Control Panel- setting common devices using control panel, modem, printers, audio, network, fonts, creating users, internet settings, Start button & Program lists; Installing and Uninstalling new Hard ware & Software program on your computer - Copying in CD/DVD settings – Recording Audio files.

Exercises

1. a. Installing screen saver and change the monitor resolution by 1280X960
   b. Setting wall papers
   c. Creating, moving, deleting and renaming a folder
   d. Copy, paste and cut a folder/file
   e. Displaying the properties for a file or folder
2. a. Restoring files and folders from Recycle bin
   b. Creating short cuts for folder/file
   c. Finding a file or folder by name
   d. Selecting and moving two or more files/folders using mouse
   e. Sorting folders/files.

WORD PROCESSING

Introduction to Word Processing – Examples- Creation of new documents, opening document, insert a document into another document. Page setup, margins, gutters, font properties, Alignment, page breaks, header footer deleting, moving, replace, editing text in document. Saving a document, spell checker.

Printing a document. Creating a table, entering and editing, Text in tables. Changing format of table, height width of row or column. Editing, deleting Rows, columns in table. Borders,

shading, Templates, wizards, drawing objects, mail merge.

Exercises

3. Create the following table and perform the operations given below

<table>
<tr><th>DAYS</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th></tr>
<tr><td>MON</td><td colspan="2">←TEST→</td><td colspan="3">A: JPP
B:RDBMS</td><td>CA</td><td>RDBMS</td><td>TUT</td></tr>
<tr><td>TUE</td><td>CA</td><td>OOP</td><td>CN</td><td>RDBMS</td><td colspan="3">A: RDBMS
B: JPP</td></tr>
<tr><td>WED</td><td>CN</td><td>RDBMS</td><td>OOP</td><td>RDBMS</td><td>COMMUNICATION</td><td>CN</td><td>CA</td></tr>
<tr><td>THU</td><td>OOP</td><td colspan="3">A: JPP
B: RDBMS</td><td>CA</td><td>RDBMS</td><td>CN</td><td>OOP</td></tr>
<tr><td>FRI</td><td colspan="2">COMMUNICATION</td><td colspan="2">A: RDBMS
B: JPP</td><td>OOP</td><td>CN</td><td>RDBMS</td><td>CA</td></tr>
<tr><td>SAT</td><td>OOPS</td><td>RDBMS</td><td>CN</td><td>CA</td><td colspan="4">---------</td></tr>
</table>

4. Create a standard covering letter and use mail merge to generate the customized letters for applying to a job in various organizations. Also, create a database and generate labels for the applying organizations.

5. Create a news letter of three pages with two columns text. The first page contains some formatting bullets and numbers. Set the document background colour and add 'confidential' as the watermark. Give the document a title which should be displayed in the header. The header/ footer of the first page should be different from other two pages. Also, add author name and date/ time in the header. The footer should have the page number.

SPREADSHEET

Introduction to Analysis Package – Examples - Concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations & Functions; Cell Formatting including Borders & Shading; Working with Different Chart Types; Printing of Workbook & Worksheets with various options.

Exercises

6. Create a result sheet containing Candidate's Register No., Name, Marks for six subjects. Calculate the total and result. The result must be calculated as below and failed candidates should be turned to red.

   Result is Distinction if Total >= 70 %

   First Class if Total > = 60 % and < 70 %

   Second Class if Total >= 50 % and < 60 %

   Pass if Total >= 35 % and < 50 %

   Fail otherwise

   Create a separate table based on class by using auto filter feature.

7. Create a table of records with columns as Name and Donation Amount. Donation amount should be formatted with two decimal places. There should be at least twenty records in the table. Create a conditional format to highlight the highest donation with blue color and lowest donation with red colour. The table should have a heading.

8. Create line and bar chart to highlight the sales of the company for three different periods for the following data.

SALES BAR CHART

Period	Product1	Product2	Product3	Total
JAN	35	40	50	125
FEB	46	56	40	142
MAR	70	50	40	160

SECTION – B

DATABASE

Introduction – Menus – Tool bar – Create – Edit – Save – Data types – Insert – Delete – Update – View – Sorting and filtering – Queries – Report – Page setup – Print.

Exercises

9. Create Database to maintain at least 10 addresses of your class mates with the following constraints

   - Roll no. should be the primary key.
   - Name should be not null

10. create a students table with the following fields: Sr.No, Reg. No, Name, Marks in 5 subjects. Calculate total and percentage of 10 students. Perform the following queries.

    - To find the details of distinction student
    - To find the details of first class students
    - To find the details of second class students

11. Design a report for the above exercise to print the consolidated result sheet and mark card for the student.

PRESENTATION

Introduction - Opening new presentation, Parts of PowerPoint window – Opening -Saving and closing presentations - Features of PowerPoint, Background design, Word art, Clip art, Drawings,3D settings - Animations, Sound, Views, types of views - Inserting and deleting slides, arranging slides, slides show, rehearsal, setup show, custom show - Creating custom presentations, action setting, auto content wizard, working with auto content wizard

Exercises

12. Make a marketing presentation of any consumer product with at least 10 slides. Use different customized animation effects on pictures and clip art on any four of the ten slides.
13. Create a Presentation about our institution or any subject with different slide transition with sound effect.

INTERNET

Introduction – Getting acquainted with Internet Connection - Browsers – Website URL - Open a website – Net Browsing - Email: Creating E-mail id – Sending , receiving and deleting E-mail - Email with Attachments – CC and BCC - Chatting – Creating Group mail - Google docs – Search Engines – Searching topics .

Most Popular Social Networking Sites : History – Features – Services – Usage of Face book , Twitter and Linkdln.

Transferring data through wifi / bluetooth among different devices.

Introduction to cybercrime – Software Piracy – Viruses – Antivirus Software

Exercises

14. Create an e-mail id and perform the following
    - Write an e-mail inviting your friends to your Birthday Party.
    - Make your own signature and add it to the e-mail message.
    - Add a word attachment of the venue route
    - Send the e-mail to at least 5 of your friends.

15. Create a presentation on Google docs. Ask your friend to review it and comment onit. Use "Discussion" option for your discussions on the presentation.

Hardware and Software Requirements

Hardware Requirements:

- Computers – 36Nos
    - Intel Core i3 Processor
    - 500 GB Hard Disk, 2 MB RAM
    - 14” Monitor
- Projector – 1 Nos
- Laser Printer – 1 No
- Internet Connection – Minimum of 512 KB

Software Requirement

- Any GUI Operating System
- Open Source Software / MS- Office

1. SemesterEndExamination–75 Marks

Content	Max.Marks
Writing Procedure – One Question from Section A	15
Demonstration	15
Results with Printout	5
Writing Procedure – One Question from Section B	15
Demonstration	15
Results with Printout	5
Viva voce	5
Total	**75MARK**

IV SEMESTER

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

IV SEMESTER

2015 – 2016 ONWARDS

HOME TEXTILES

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME
(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name **:** DIPLOMA IN APPAREL TECHNOLOGY

Course Code : 1069

Subject Code **:** **36681**

Semester **:** IV Semester

Subject Title **:** HOME TEXTILES

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36681 HOME TEXTILES	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	INTRODUCTION, WALL & FLOOR COVERINGS	14
II	FURNITURE COVERINGS	14
III	KITCHEN & BATH LINEN	14
IV	PACKING AND PRODUCT CARE	13
V	INTERIOR DECORATION	13
	TEST & REVISION	7
Total		75

RATIONALE:

Home Textile exports in India are in boom now a day. Karur is the major Home textile centre in Tamil nadu. Variety of Made-ups are produced in India and are being exported to Europe, UK, USA, Australia, Canada etc and which fetches a good amount of foreign exchange to our country.

This subject deals with the variety of Home Textile items like wall, floor, furniture, kitchen, bath coverings. Its production process, decorative materials, packing methods, product care and costing are part of the subject. Knowing all these one can able to handle the production and export of these items in a better manner.

OBJECTIVES:

At the end of the study of IV Semester the student will be able to

- Study about domestic and International needs.
- Understand the Various types of Floor & Wall coverings.
- Know about the Furniture coverings.
- Understand the quality parameters of the products.
- Know the types of Kitchen & bath articles.
- Have knowledge of decorating things.
- Understand the packing materials and procedures.
- Learn about types of Care Labeling and its contents.
- Study the various components of cost.
- Understand the cost calculations of various products.

36681 HOME TEXTILES

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**INTRODUCTION, WALL & FLOOR COVERINGS** Home textiles- definition, Classification- Domestic and international market needs- India's home textile exports. Wall coverings:- Draperies & Curtains- Plain, with Loop, Loop with Button, Tier curtain, valance, window panel, Tab top curtain, Eyelid, Rod Pocket Panel (RPP)- Brief study of Front and back Curtains, Day and night curtains. Floor coverings- Mats, Carpets, Rugs- types- features- Different types of surface, appearance and Texture used in Floor coverings- Study of decorative methods, quality parameters and costing of the above products.	**14 Hrs**
II	**FURNITURE COVERINGS** Chair Linen: - Chair Pad, Chair Cushion, Chair cover, Seat pad (Sutton), Arm cap. Cushions: - Classification-Types -with tassels, piping and border, Bolsters. Cushion Filling:- Types, properties. Upholstery - Types- Sofa cover, Automobile Seat Cover. Bed Linen: - Bed Spread, Duvet, Flat sheet, Fitted sheet, Pillow Shan, Quilt, Bed ruffle- Classification of Mattresses and pillows, Comforters and Blankets- Study of decorative methods, quality parameters and costing of the above products	**14 Hrs**
III	**KITCHEN & BATH LINEN** Kitchen articles: - Apron, Mitten, Pot Holders, Kitchen Towel, Bread basket, Tea cozy- Table cloth, Napkin, Mat, Runner Bath Linen: -Shower curtains, Bath rope, Bath Towel, Pool / Beach Towel, Bath Mat, Bath Sheet-Study of decorative methods, quality parameters and costing of the above products.	**14 Hrs**

IV	**PACKING & PRODUCT CARE** Folding and Packing- importance- materials used- specification- folding machines used- Types of Folding and Packing –Wall Covering, Curtains, Chair Linen, Floor Covering, Upholstery, Kitchen Articles, Table Linen and Bed Linen. Care labelling- Washing, Bleaching, Drying, Ironing and Dry Cleaning Instructions- Placement of labels on Home textiles- Consumer care guide to home textiles- Practices in storage of house hold linen- Pressing and Airing, Storing.	**13 Hrs**
V	**INTERIOR DECORATION** Definition- factors affecting the selection of Home furnishing- Role of colours in interior decoration- lighting arrangements in living room- furniture selection- dining room- decorative methods- pictures for interior decoration- types- flower arrangements- types- interior decoration for Hotel & marriage hall- recommendation for good interior decoration.	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
Textiles – Fibre to Fabric	P.Corbaman	TATA Mcgraw Hill	1983
Textile fabrics and their selection	Isabel.B.Wingate	Prentice Hall – Englewood Cliffs, New Jersey	1976
Easy bazaar crafts	Gerald.M.Knox	Meredith Corporation	1990
Furniture Upholstery	Michal Scofield Sudha Irwin Holly Lyman Antolini	Lane Publishing Co. Monlo Park, California	1980
The Complete Home Decorator	Conran's habitat	Caroline Clifton – Mogg Portland House, New York	1991
Fashion Apparel Accessories & Home Furnishing	Jay Diamond & Ellen Diamond	Dorling Kindrsley Ind. Pvt. Ltd., New Delhi-110092	2008

Reference:

Title	Author	Publisher	Year
ASTM Standards related to stitches and seams	Robert.F.Allen	ASTM, 100 Barr Harbour drive West Conshohocken	1998
Hand woven carpets oriental and Europian	A.F.Kendrick	Dover Publicaions,INC, New York	1973
Oriental carpet Designs in Full color	Saraf Friedrich Trenkwano	Dover Publications INC, New York	1979
The mccalls Book of Quilts	John Murray	Mcall's Needle work The mccall pattern company	1964
Hand Woven fabric of India	Jasteen Dhamija & Jyotindra Jain	Mapin Publishing Pvt. Ltd., Ahmedabad.	1989
Designs and Pattern of North African Carpets and Textiles	Jacquar Rovailt	Dover Pulbication, New York	

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

IV SEMESTER

2015 – 2016 ONWARDS

TECHNOLOGY OF FABRIC MANUFACTURE

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36142
Semester : IV Semester
Subject Title : TECHNOLOGY OF FABRIC MANUFACTURE

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36142 TECHNOLOGY OF FABRIC MANUFACTURE	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	PREPARATORY PROCESS	14
II	WOVEN FABRIC FORMATION	14
III	KNITTED FABRIC FORMATION	14
IV	FABRIC STRUCTURES	13
V	NONWOVEN & SPECIAL FABRICS	13
	TEST & REVISION	7
Total		75

RATIONALE:

Fabrics are the raw material for garment construction. Knowing the construction particulars, the weaves, method of manufacturing of fabrics are the most needed one for a garment technologist. In these subject types of looms/ knitting machines employed in fabric

manufacture, the basic weaves of garmenting fabrics, the quality parameters, the defects of woven and knitted fabrics are dealt with A.part from that detailed structural analysis of the fabrics, basics of nonwoven, lace and braided fabrics are also covered.

OBJECTIVES:

At the end of the study of IV Semester the student will be able to

- Study about the preparatory processes in weaving.
- Learn the different types of knotting equipment.
- Know the fundamentals on looms.
- Understand the features of shuttleless looms.
- Understand the basic terms & elements in knitting
- Know the basic principles & working of plain weft knitting machines.
- Know and analyze the different types of woven structure.
- Understand the defects in woven fabric.
- Know and analyze the different types of knit structure.
- Have knowledge on special fabrics and its applications.

TECHNOLOGY OF FABRIC MANUFACTURE
DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**Weaving Preparatory Process :** Sequence of processes involved in Weaving preparatory with objectives- winding, warping, sizing - Passage of material in Autoconer- Features of Autoconer- Functions of Tensioners, Slub catchers, Electronic Clearers and Splicer – Comparison between Knotting and Splicing – Advantages of splicing. – Object of Sectional Warping and its salient features - Passage of material in Beam warping - Passage of material in Sizing machine.	**14Hrs**
II	**Woven Fabric Formation** Looms- types- Features of Tappet, Dobby, Jacquard looms – Object of Drawing-In and Denting - Passage of Warp in a conventional Plain loom – Objects of Primary, Secondary & Auxiliary motions in a Plain loom – Features of Automatic Shuttle Loom and Shuttleless Loom - Shuttleless looms Classification (Flexible Rapier, Projectile, Air jet and Water jet) and its advantages - Defects in Woven fabrics - Missing ends, Warp & weft streaks, Floats, Temple marks and Stains.	**14Hrs**
III	**Knitted Fabric Formation** Knitting – Definition, Classification – Uses- Comparison between knitting and weaving - Important Knitting terms - Course, Wales, Texture, Gauge, Loop length, Loop density, Face loop, Back loop- Knitting elements -. Needles (Latch, Beard and Compound), Sinker, Cam- Passage of material in a Circular plain Weft knitting machine - Knitting cycle of Latch needle in plain weft knitting machine- Uses of Double Jersey, Flat and Warp knitting machine. Defects in Weft knit fabrics - Vertical lines, Horizontal lines, Drop stitches, Distorted stitches and Press off - Comparison between woven and knitted fabrics.	**14Hrs**
IV	**Fabric Structures** **Woven Structures:** Definition of Design, Draft, Peg plan – Design, Draft & Peg plan for Plain weave– 4x4 Matt weave– 2/1, 3/1 Twill weave – 5 end Satin weave and Sateen weave – End uses of above fabrics.	**13Hrs**

	Knit Structures: Knit, Tuck and Miss Stitches – Drawing of Graphical and Needle (Diagrammatic) notation of single jersey Plain, purl and Double jersey Rib. Drawing of Needle (Diagrammatic) notation of Interlock and Lacoste fabrics.	
V	**Non Woven and Special Fabrics** Non-Woven fabrics – definition - uses - classification of Non Woven Fabrics. Web Formation Techniques – Staple Fibre Webs – Wet laid webs, Dry laid webs, Parallel, Cross and Random laid webs – Continuous Filament webs – Spun laid webs and Melt blown webs. Non Woven Fabric Formations Techniques – Adhesive bonding, Thermal Bonding, Needle punching and bonding of spun laid webs. Definition of Lace fabrics and Braided fabrics.	**13Hrs**

Title	Author	Publisher	Year
Text books:			
Principles of weaving	R Marks ATC Robinson	The Textile Institute, Manchester, UK	1976
The Motivate Series	Andrea Wynne	MacMillan Education Ltd, London and Basingstoke.	1997
Cotton Yarn Weaving	Kanungo R.N	Textile Association India, Ahmedabad	1980
Weaving machines, Mechanisms & Management	M K Talukdar P K Sriramulu D.B Ajgaonkar	Mahajan Publications Pvt Ltd, Ahmadabad-9	1998
Modern Weaving Technology	J K Arora	Abhisek Publications, Chandigarh- 17	2008
Principles of Knitting	D B Ajgaonkar	Universal Publishing Corporation	1988
Knitting Technology	David J Spencer	Pergamon Press Oxford	1988
Reference books:			
Warp Knitting	D G B Thomas	Merro Pub. Co. ISA Buld. UK	1976
Textile Fibre to Fabric	Bernard P. Corbman	McGraw –Hill Book co.,Singapore.	1983
Yarns and Technical Textiles	K.P.Chellamani	SITRA, Coimbatore	1999
High speed Weaving	Jeyachandran.K	P.S.G.Tech,Coimbatore.	1990

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

IV SEMESTER

2015 – 2016 ONWARDS

CLOTHING MACHINERY AND EQUIPMENTS

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36643
Semester : IV Semester
Subject Title : CLOTHING MACHINERY AND EQUIPMENT

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36643 CLOTHING MACHINERY AND EQUIPMENT	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	BASIC MECHANICAL ENGINEERING	14
II	BASIC ELECTRICAL & ELECTRONICS ENGINEERING	14
III	BASIC SEWING MACHINES	14
IV	SPECIAL MACHINES & ATTACHMENTS	13
V	CUTTING, FINISHING MACHINES & MAINTENANCE	13
	TEST & REVISION	7
Total		75

RATIONALE:

Machineries are the important section of garment construction. The quality of the product is determined to certain extent by the construction quality. Even the wright kind of sewing machines and the attachments play a vital role in deciding the quality of the end product. To achieve the required quality, it is imperative to understand the type of sewing machines, its parts and functions, the maintenance part, the attachments along with various special machines that generally used in garment manufacturing.

OBJECTIVES:

At the end of the study of IV Semester the student will be able to

- Understand the functions of belts, gears, cams, clutch and bearings.
- Learn the various system of lubrication.
- Understand the basics of dc motor.
- Learn the basics of electronic items.
- Learn the functions of LCD & LED
- Understand the functions of lock stitch, over lock and zig zag sewing machines.
- Learn the various defects in sewing.
- Understand the functions of special sewing machines.
- Learn the functions of guides and attachments.
- Understand the functions of finishing machines.
- Learn the maintenance of sewing and other machines.

36643 CLOTHING MACHINERY AND EQUIPMENT

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**BASIC MECHANICAL ENGINEERING** Transmission of Motion and Power: Types of belt drives and its advantages. Gear drive – Classification of Gear drives and its advantages. (Spur, Bevel, Helical and Worm Gear) Cams – definition – Types of Cams. Clutch – Functions of clutch – Principle and working of single plate friction Clutch with diagram. Brakes – Principle & working of Hydraulic Brake with diagram. Bearings – Type and importance. Lubrications – Purpose – types such as Liquid, Semi-liquid & Solid. Lubrication Systems – Gravity circulation System, Pressure circulating systems with diagram.	**14 Hrs**
II	**BASIC ELECTRICAL & ELECTRONICS ENGINEERING.** Fundamentals of AC and DC. Terminologies such as Voltage, Current, Resistance, Watts, Power, Power factor. Difference between AC and DC. AC Generator- Working Principle with diagram. AC Motor- Principle & Construction with diagram. Features of Stepper motor and Servo motor. Objectives of devices such as Limit Switch, Push Button Switch, Sensors, Resistors and its Colour code, Inductor, and Transistor. Brief study of LCD and LED.	**14 Hrs**
III	**BASIC SEWING MACHINES** Single needle Lock stitch machines – Parts and Functions, Timed sequence in stitch formation in single needle lock stitch machine, Needle bar mechanism with diagram. Brief study of Shuttle and Hook mechanism with diagram. Study of thread tension variation and its adjustment in needle and Bobbin. Different types of needles and Needle Number. Threading procedure of 3 threads over lock. Causes and remedies for sewing defects. Merits of Computerized sewing machine.	**14 Hrs**
IV	**SPECIAL MACHINES & ATTACHMENTS** Different types of Feed mechanism in sewing machine. Flat lock Machine (5 Thread) – Threading Procedures with diagram Brief Study of Button hole & Button Stitch Machines – Elastic tape Stitch Machine – Collar turner- Feed-Off-Arm machine – Chain Stitch Machine – Bar Tacking machine – Blind stitch Machine – Zig Zag machines – Computerized embroidery machine. Brief study of Hemmer Foot, Cording Foot, Piping Foot, Quilter & Guide Foot with diagram. Brief study of special attachments and uses – Folders, Binders & Guides.	**13 Hrs**

V	**CUTTING, FINISHING MACHINES & MAINTENANCE** Objectives of Spreading – Brief study of manual and automatic machine. Types of Cutting machines – Straight Knife, Band Knife, Die Cutting and Laser Cutting. Brief study about Computerized cutting machine. Fusing – Elements of fusing, Types of Fusing machine and working of continuous fusing machine with diagram. Brief Study of Thread Sucking Equipment with diagram – Brief study of needle detector. Pressing – types of pressing system. Finishing – form finishers, tunnel finishers. Maintenance of Machines – Importance – Maintenance Schedule in Garment Units	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
Mechanical Technology	V Sivarajan	V K Pub. Bangalore	
Theory of Machines	S S Rattan	Tata Mc GRAW – Hill Pub. Co .Ltd. New Delhi-110033	1996
Text book of Electrical Technology	B L Theraja A K Theraja	S. Chand & Co. New Delhi	2002
Essentials of Electricity	K C Graham	D B Tarapore wala Mumbai	
Technology of Clothing Manufacture	Carr & Lathem	Blackwell Sci.Pub New ork	2004
Introduction to Clothing Manufacture	Gerry Cooklin	Blackwell Sci.Pub New ork	2005

Reference:

Title	Author	Publisher	Year
Theory of Machines	P L Ballaney	Kanna Pub., Delhi.	1980
Complete Guide to Sewing		Readers Digest.	1999
The complete book of sewing	Dorling Kindersley	London	1999
A Text book of Machine Design	R S Khurmi J K Gupta	Eurasia Pub., New Delhi	1998

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

IV SEMESTER

2015 – 2016 ONWARDS

PATTERN DRAFTING AND CONSTRUCTION - I

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Code : 1069
Subject Code **:** 36644
Semester **:** IV Semester
Subject Title **:** PATTERN DRAFTING AND CONSTRUCTION- I

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36644 PATTERN DRAFTING AND CONSTRUCTION- I	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	PATTERN DRAFTING FOR INFANTS WEAR	14
II	PATTERN DRAFTING FOR CHILDREN'S WEAR	14
III	PATTERN DRAFTING FOR GIRLS WEAR	14
IV	PATTERN DRAFTING FOR BOYS` WEAR	13
V	PATTERN DRAFTING FOR LADIES ` WEAR	13
	TEST & REVISION	7
Total		75

RATIONALE:

Pattern drafting is the nerve centre of garment making. Every garment parts are draft to its size for lateral assembling into a garment. This procedure helps to make perfect garment to various sizesA.ny alteration is also made within the pattern. The patterns can also be

stored for ever and repeated orders are carried out at ease. From the patterns layout is made simple and better marker efficiency is achieved for minimum consumption of fabrics.

OBJECTIVES:

At the end of the study of IV Semester the student will be able to

- Understand the drafting procedure for infants' style.
- Learn the layout and construction procedure for infants' style.
- Understand the drafting procedure for children's style.
- Learn the layout and construction procedure for children's style.
- Understand the drafting procedure for girls' style.
- Learn the layout and construction procedure for girls' style.
- Understand the drafting procedure for boys' style.
- Learn the layout and construction procedure for boys' style.
- Understand the drafting procedure for ladies style.
- Learn the layout and construction procedure for ladies style.

36644 PATTERN DRAFTING AND CONSTRUCTION- I

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**PATTERN DRAFTING FOR INFANTS WEAR** Pattern making for Bib, Pilch Knicker, Zabla, Bloomer, Body suit (One piece baby cloth) – with styles description – suitable fabrics - Layout, fabric consumption calculation and construction procedure.	**14 Hrs**
II	**PATTERN DRAFTING FOR CHILDREN'S WEAR** Pattern making for A line Frock, Yoke Frock, Umbrella Frock, Sun suit- with style description – suitable fabrics - Lay out, Fabric Consumption Calculation and Construction procedure.	**14 Hrs**
III	**PATTERN DRAFTING FOR GIRLS WEAR** Pattern making for Pleated Skirt, Pinafore, Skirt blouse, Peddle Pusher- with style description- suitable fabrics – Lay out, Fabric Consumption Calculation and construction procedure.	**14 Hrs**
IV	**PATTERN DRAFTING FOR BOYS WEAR.** Pattern making for Boys shorts, Bermuda shorts, Pyjama, Slack shirt - with style description – suitable fabrics- Lay out, Fabric Consumption Calculation and Construction procedure.	**13 Hrs**
V	**PATTERN DRAFTING FOR LADIES WEAR.** Pattern making for, Modern Salwar, Chudidar, Kameez, Ladies skirt shorts - with style description – suitable fabrics - Lay out, Fabric Consumption Calculation and Construction procedure.	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
The Art Of Sewing	Anna Jacob Thomas.	Ubs Publishers, Delhi.	2001
Practical Clothing Constructions Part I & II	Mary Mathews	Paprinpack Printers,Chennai.	1985
Zarapkar System Of Cutting.	K.R.Zarapkar	Navneet Publications (I) Ltd.,Dantali. Gujarat.	2005

Reference:

Title	Author	Publisher	Year
Sew It Yourself.	Lippman (Gidon)	Prentice Hall Inc New Jersey	2002
Metric Pattern Cutting For Children's Wear	Winfred Aldrich	Blackwell science	1991
Pattern Design For Children's Clothes	Gloria Mortimer-Dunn	BT Batsford Ltd,London	1996
Clothing For Moderns	Erwine	Macmillan Pub.Co., New York.	1992
Comparative Clothing Construction Techniques	Virginn Stolpe Lewis	Surjeetpublications Delhi.	
Scientific Garments Cutting	K.M.Hegde	K.M.Hegde & Sons, Poona	1989
Art In Everyday Life	Harriet Goldstein Vetta Goldstein	Oxford & IBH Publishing	1982

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

IV SEMESTER

2015 – 2016 ONWARDS

PATTERN DRAFTING AND CONSTRUCTION - I

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : APPAREL TECHNOLOGY
Subject Code : **36945**
Semester : IV Semester
Subject Title : PATTERN DRAFTING- I PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36945 PATTERN DRAFTING- I PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	5	75	25			75	100	3 Hrs

RATIONALE:

Garment production starts with drafting of patterns of various parts of the garment. This technique helps the manufacturers in assembling the parts perfectly in the next process. Further it assists to calculate the requirement of fabric for garment construction and subsequently reduced fabric consumption and increased profits. This practical subject provides hands on experience on the method of drafting each every part of garment like front, back, yoke, collar, cuff, skirt panels etc., for various styles.

GUIDELINES:

- **All the sixteen experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate drafting table and drafting tools for creating patterns of various parts in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than two students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Pattern preparation	50 marks
Drafting procedure	20 marks
Viva	05 marks
Total	75 Marks

THIRD SEMESTER
36945 PATTERN DRAFTING- I PRACTICAL
EXPERIMENTS OBJECTIVE:

Infants' wears.

To prepare the paper pattern for the Garment - Pilch Knicker

To prepare the paper pattern for the Garment - Zabala

To prepare the paper patter for the Garment – Bloomer

Children's wears.

To prepare the paper pattern for the Garment –-A line Chemise

To prepare the paper pattern for the Garment -Yoke Frock

To prepare the paper pattern for the Garment -Umbrella Frock

To prepare the paper pattern for the Garment – Pleated Skirt

To prepare the paper pattern for the Garment – Pinna fore

To prepare the paper pattern for the Garment – Peddle Pusher

Boys' wears.

To prepare the paper pattern for the Garment – Slack shirt

To prepare the paper pattern for the Garment – Shorts

To prepare the paper pattern for the Garment – Pyjama

To prepare the paper pattern for the Garment – Bermudas.

Ladies' wears.

To prepare the paper pattern for the Garment – Salwar

To prepare the paper pattern for the Garment – Kameez

To prepare the paper pattern for the Garment – Ladies shirt

THIRD SEMESTER
36945 PATTERN DRAFTING- I PRACTICAL
LIST OF EQUIPMENT

Equipment required:

Pattern table- 8'x4' table- 4 nos.

Materials required:

Pattern paper-30 nos./expt /batch of 30 students
Measuring, drafting & general tools-30/ batch of 30 students

THIRD SEMESTER
36945 PATTERN DRAFTING- I PRACTICAL
LIST OF EXPREIMENTS

1. Prepare the paper pattern and calculate fabric consumption for the Garment – Plitch nicker.
2. Prepare the paper pattern and calculate fabric consumption for the Garment - Zabala
3. Prepare the paper pattern and calculate fabric consumption for the Garment – Bloomer
4. Prepare the paper pattern and calculate fabric consumption for the Garment – Body suit.
5. Prepare the paper pattern and calculate fabric consumption for the Garment – A line Frock
6. Prepare the paper pattern for the Garment – Umbrella Frock
7. Prepare the paper pattern for the Garment – Pinna fore
8. Prepare the paper pattern for the Garment – Slack shirt
9. Prepare the paper pattern for the Garment – Boys Shorts
10. Prepare the paper pattern for the Garment – Pyjama
11. Prepare the paper pattern for the Garment – Modern Salwar
12. Prepare the paper pattern for the Garment – Kameez.

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

IV SEMESTER

2015 – 2016 ONWARDS

GARMENT CONSTRUCTION – I PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : APPAREL TECHNOLOGY
Subject Code : **36946**
Semester : IV Semester
Subject Title : GARMENT CONSTRUCTION- I PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36946 GARMENT CONSTRUCTION- I PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	4	60	25			75	100	3 Hrs.

RATIONALE:

Garment construction is the assembling of parts of the garment. It is an art of making the garment. Various stitches, seams and accessories are used in the conversion of the individual parts into a final garment. This practical subject provides hands on experience on the method of constructing each and every part of the garment into a final assembled product.

GUIDELINES:

- **All the sixteen experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate sewing machine with attachments for creating garments in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than two students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Garment Construction	50 marks
Layout & Construction Procedure	20 marks
Viva	05 marks
Total	75 Marks

FOURTH SEMESTER
36946 GARMENT CONSTRUCTION – I PRACTICAL
OBJECTIVES:

Infants' wears:

Laying and Cutting of parts of Pilch Kincker, Zabla and Bloomer on fabric.

Stitching of various parts of Pilch Kincker, Zabla and Bloomer.

Finishing the Pilch Kincker, Zabla and Bloomer.

Children's wears:

Laying and Cutting of parts of A line frock, Yoke frock, Umbrella frock, Pinnafore and Peddle Pusher on fabric.

Stitching of various parts of A line frock, Yoke frock, Umbrella frock, Pinnafore and Peddle Pusher

Finishing the A line frock, Yoke frock, Umbrella frock, Pinnafore and Peddle Pusher.

Boys' wears:

Laying and Cutting of parts of Pleated skirts, Slack shirt, Shorts, Pyjama and Bermudas.

Stitching of various parts of Pleated skirts, Slack shirt, Shorts, Pyjama and Bermudas.

Finishing the Pleated skirts, Slack shirt, Shorts, Pyjama and Bermudas.

Ladies' wears:

Laying and Cutting of parts of Salwar, Kameez, Ladies Shirt

Stitching of various parts of Salwar, Kameez, Ladies Shirt

Finishing the Salwar, Kameez, Ladies Shirt

FOURTH SEMESTER
36946 GARMENT CONSTRUCTION- I PRACTICAL

LIST OF EQUIPMENT

Equipment / Machines required:

Sewing machines-

Lock stitch- 15 m/cs.
Over lock- 2 m/cs
Flat lock- 1 m/c
Button hole- 1 m/c
Button stitch- 1 m/c
4- Needle trimmer*- 1 m/c
Chain stitch*- 1 m/c
Feed- off-arm*- 1 m/c
Iron press- 1m/c
*Optional

Material required:

1.5 – 2 meters of fabric/ expt. / batch of 30 students.
Sewing threads- white, assorted
Decorative materials

FOURTH SEMESTER
36946 GARMENT CONSTRUCTION – I PRACTICAL
LIST OF EXPRIMENT

1. Prepare the paper pattern and calculate fabric consumption for the Garment – Plitch nicker.
2. Prepare the paper pattern and calculate fabric consumption for the Garment - Zabala
3. Prepare the paper pattern and calculate fabric consumption for the Garment – Bloomer
4. Prepare the paper pattern and calculate fabric consumption for the Garment – Body suit.
5. Prepare the paper pattern and calculate fabric consumption for the Garment – A line Frock
6. Prepare the paper pattern for the Garment – Umbrella Frock
7. Prepare the paper pattern for the Garment – Pinna fore
8. Prepare the paper pattern for the Garment – Slack shirt
9. Prepare the paper pattern for the Garment – Boys Shorts
10. Prepare the paper pattern for the Garment – Pyjama
11. Prepare the paper pattern for the Garment – Modern Salwar
12. Prepare the paper pattern for the Garment – Kameez.

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DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

II YEAR

M – SCHEME

IV SEMESTER

2015 – 2016 ONWARDS

LIFE SKILLS AND EMPOLYABILITY PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU

DIPLOMA IN ENGINEERING – SYLLABUS – M Scheme

(Being implemented from the Academic Year 2016-2017 onwards)

Course Name : **All Branches of Diploma in Engineering and Technology and Special Programmes**

Subject Code : **30002**

Semester : **IV**

Subject Title : **LIFE AND EMPLOYABILITY SKILLS PRACTICAL**

Teaching and Scheme of Examination: **No. of Weeks per Semester: 15 Weeks**

Subject	Instruction		Examination			
			Marks			
	Hours/ Week	Hours/ Semester	Internal assessment	Board Examination	Total	Duration
Life and Employability Skills	4 Hours	60 Hours	25	75	100	3 Hours

Topics and Allocation of Hours:

Sl. No.	Section	No. of Hours
1	**Part – A** Communication	**30**
2	**Part – B** Entrepreneurship, Project Preparation, Productivity, Occupational Safety, Health, Hazard, Quality Tools& Labour Welfare	**20**
3	**Part – C** Environment, Global Warming, Pollution	**10**
TOTAL		**60**

RATIONALE

Against the backdrop of the needs of the Industries, as wells as based on fulfilling the expectations of the Industries, the Diploma Level students have to be trained directly and indirectly in toning up their competency levels. Proficiency in Communication only, equips them with confidence and capacity to cope with the employment. Hence, there is a necessity to focus on these in the curriculum. At the end of the Course, the student is better equipped to express himself in oral and written communication effectively.

SPECIFIC INSTRUCTIONAL OBJECTIVES

1. Emphasize and Enhance Speaking Skills

2. Increase Ability to Express Views & Opinions

3. Develop and Enhance Employability Skills

4. Induce Entrepreneurship and Plan for the Future

5. Expose & Induce Life Skills for Effective Managerial Ability

LIFE AND EMPLOYABILITY SKILLS PRACTICAL

SYLLABUS

Unit	Topics	Activity	Hours
I	**Communication, Listening, Training, Facing Interviews, Behavioural Skills**	-- instant sentence making – say expressions/phrases-- self- introduction/another higher official in company – describe/explain product – frame questions based on patterns – make sentences based on patterns	**30**
II	**Entrepreneurship, Project Preparation, Marketing Analysis, Support & Procurement**	-- prepare an outline of a project to obtain loan from bank in becoming an entrepreneur – prepare a resume	**10**
III	**Productivity – comparison with developed countries, Quality Tools, Circles, Consciousness, Management, House Keeping**	-- search in the website -- prepare a presentation – discuss & interact	**05**
IV	**Occupational Safety, Health Hazard, Accident & Safety, First-Aid,Labour Welfare Legislation, Welfare Acts**	-- search in the website -- prepare a presentation – discuss & interact	**05**

V	**Environment, Global Warming, Pollution**	-- taking down notes / hints – answering questions -- fill in blanks the exact words heard	**10**

LEARNING STRUCTURE **100 Marks**

-- Focus more on Speaking & Listening Skills
-- Attention less on Reading & Writing Skills
-- Apply the skills in fulfilling the Objectives on Focused Topics

a) Listening **25 Marks**

1. Deductive Reasoning Skills (taking down notes/hints) **10**
2. Cognitive Skills (answering questions) **10**
3. Retention Skills (filling in blanks with exact words heard) **05**

b) Speaking Extempore/ Prepared **30 Marks**

1. Personality/Psychological Skills (instant sentence making) **05**
2. Pleasing & Amiable Skills (say in phrases/expressions) **05**
3. Assertive Skills (introducing oneself/others) **05**
4. Expressive Skills (describe/explain things) **05**
5. Fluency/Compatibility Skills (dialogue) **05**
6. Leadership/Team Spirit Skills (group discussion) **05**

c) Writing & Reading **20 Marks**

1. Creative & Reasoning Skills (frame questions on patterns) **05**
2. Creative & Composing Skills (make sentences on patterns) **05**
3. Attitude & Aim Skills (prepare resume) **05**
4. Entrepreneurship Skills (prepare outline of a project) **05**

d) Continuous Assessment (Internal Marks) **25 Marks**

(search,read, write down, speak, listen, interact & discuss)

1. Cognitive Skills (Google search on focused topics)
2. Presentation Skills& Interactive Skills (after listening, discuss)

Note down and present in the Record Note on any 5 topics **10 Marks**
Other activities recorded in the Record note **10 Marks**
Attendance **05 Marks**

INTERNAL MARKS **25 MARKS**

EXTERNAL MARKS AT END EXAMINATION **75 MARKS**

MODEL QUESTION

Time: 3 Hours **Maximum Marks: 75**

A. LISTENING **25 Marks**

1. Listen to the content and take down notes/hints 10
2. Listen to the content and answer the following questions. 10
3. Listen to the content and fill in the blanks the exact words heard. 05

B. SPEAKING **30 Marks**

1. Say in a sentence instantly on hearing the word(5 words, one after another). 05
2. Say any five expressions commonly used in communication. 05
3. Imagine, a consultant has come to your department.
   Introduce him to your subordinates. 05
4. Explain/describe the product you are about to launch in the market. 05
5. Speak with your immediate boss about the progress you have made. 05
6. Discuss within the group on the topic of focus in the syllabus. 05

C. WRITING & READING **20 Marks**

1. Frame new questions from the pattern given by changing sets of words with your own. 05

a.	When	do	you	return?
b.	How	is	his performance?	
c.	Where	has	the manager	gone?
d.	What	is	the progress	today?
e.	Why	are	the machines	not functioning?

2. Make sentences from the pattern given by changing sets of words with your own. 05

a.	The workers	are	on strike		
b.	The labourers	are paid	well	in this factory	

c.	There	is	a rest room	for the workers	
d.	These	are	the new products	launched	by our company
e.	Almost everyone	come	to the company	on motorbikes	

3. Prepare a resume for the post of Department Manager. 05

4. Prepare an outline of a project to obtain a loan. (Provide headings and subheadings) 05

I. Guidelines for setting the question paper:

A. LISTENING :

ONLY TOPICS related to
POLLUTION /
ENVIRONMENT /
GLOBAL WARMING are to be taken.
These topics are common for all the three types of evaluation.

B. SPEAKING :

1. WORDS of common usage
2. Fragments – expression of politeness, courtesy, cordiality
3. Introduce yourself as an engineer with designation or
   Introduce the official visiting your company/department

4. Describe/Explain the product/machine/department
5. Dialogue must be with someone in the place of work.
6. Group of six/eight

Discuss the focused topic prescribed in syllabus

C. WRITING & READING:

1. Provide five different structures.
   Students are to substitute at least one with some other word/words
2. Provide five different structures.
   Students are to substitute at least one with some other word/words
3. Provide some post related to industries.
4. Outline of the project (skeleton/structure)
   Only the various headings and subheadings
   Content is not needed

II. Guidelines for recording the material on the Focused Topics in the Record note.

Write in the record note, **on any five topics**, from the list of topics given below. **10 Marks**
(5 topics x 10 marks = 50 marks. Thus, the **Average of 5 topics is 10 Marks)**

1. Productivity in Industries – Comparison with developed countries
2. Quality Tools, Quality Circles and Quality Consciousness
3. Effective Management
4. House Keeping in Industries
5. Occupational Safety and Hazard
6. Occupational Accident and First Aid
7. Labour Welfare Legislations
8. Labour Welfare Acts and Rights
9. Entrepreneurship
10. Marketing Analysis, Support and Procurement

LABORATORY REQUIREMENT:

1. An echo-free room
2. Necessary furniture and comfortable chairs
3. A minimum of two Computers with internet access
4.A minimum of two different English dailies
5. A minimum of Three Mikes with and without cords
6. Colour Television (minimum size – 29")
7. DVD/VCD Player with Home Theatre speakers
8. Smart board
9. Projector

Suggested Reading:

1. Production and Operations Management by S.N. Chary, TMH
2. Essentials of Management by Koontz &Weihrich, TMH
3. Modern Production / Operations Management by E.S. Buffa and R.K. Sarin, John Wiley & Sons
4. Production Systems: Planning, Analysis and Control by J.L.Riggs, 3rd ed., Wiley.
5. Productions and Operations Management by A.Muhlemann, J.Oakland and K.Lockyer, Macmillan
6. Operations Research - An Introduction by H.A.Taha, Prentice Hall of India
7. Operations Research by J.K.Sharma, Macmillan
8. Business Correspondence & Report Writing by R.C. Sharma and K.Mohan, TMH
9. How to prepare for Group Discussion & Interview (With Audio Cassette) by Prasad, TMH
10. Spoken English – A self-learning guide to conversation practice (with Cassette)
11. Introduction to Environmental Engineering by Mackenzie, L. Davis and A. David, Cornwell, McgrawHill, 3rd Ed.
12. Environmental Engineering by Peary, Rowe and Tchobanoglous, McgrawHill
13. Total Quality Management – An Introductory Text by Paul James, Prentice Hall
14. Quality Control and Applications by Housen&Ghose
15. Industrial Engineering Management by O.P. Khanna

V SEMESTER

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

V SEMESTER

2015 – 2016 ONWARDS

TEXTILE TESTING

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36051
Semester : V Semester
Subject Title : TEXTILE TESTING

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36051 TEXTILE TESTING	5	75	25	75	100	3 Hrs

Topics and allocation of hours:

Sl.No.	Topic	Time (hrs.)
I	MOISTURE AND ITS RELATIONS IN TEXTILES	14
II	FIBRE TESTING	14
III	YARN TESTING:	14
IV	FABRIC TESTING:	13
V	STATISTICAL QUALITY CONTROL	13
	TEST & REVISION	7
Total		75

RATIONALE:

This subjects deals about moisture & its relations in textiles, fibre testing, yarn testing, fabric testing, statistical quality control . After studying this subject the student will be able to understand the principles of testing instruments.

OBJECTIVES

- Know the relationship of moisture with textile and related terms & definition.,
- Understand principle and the methods of determining the moisture in the atmosphere and the textile materials.
- Know the properties and their importance of fibre which is the raw material for all the textile goods.
- Understand the principles and the methods of testing the fibres to their basic characteristics.
- Know the properties and their importance of the yarn.
- Understand the principles and the method of testing the yarn to determine the properties
- Know the quality characteristics of the fabric required for different end uses.
- Study the principles and the methods of testing the fabric to determine their quality characteristics.
- Study the statistical methods involved in controlling the quality of the textile products during their manufacture
- Learn about the application of the statistical methods to suit textile processes.

36051 TEXTILE TESTING

DETAILED SYLLABUS

Unit	Name of the Topic	Hours
I	**MOISTURE AND ITS RELATIONS IN TEXTILES** **Humidity and its importance in Textiles** - Definitions of Absolute Humidity, Relative Humidity, Standard Testing atmospheric condition, Measurement of Humidity - Wet and dry bulb Hygrometer, Definition of Moisture content, Moisture regain - Estimation of moisture content and regain using Conditioning oven and Shirley Moisture meter, Standard regain – Definition - standard regain values of cotton, viscose, silk, wool, nylon and polyester - Effect of moisture regain on fibre properties	14
II	**FIBRE TESTING** Length – Importance of fibre length - Definition of effective length - Methods of measuring fibre length by Baer Sorter and Digital Fibro graph. Fibre fineness - Importance of fibre fineness - Methods of measuring fibre fineness by Sheffield micronaire instrument. Fibre maturity – Importance, measurement of fibre maturity by sodium hydroxide swelling method - Maturity ratio and Maturity coefficient. Fibre strength - Importance and method of measuring fibre strength by Stelometer . Estimation of trash content by Shirley Trash Analyser. Fibre Quality Index - Brief idea about High volume instrument and Advanced Fibre Information System(AFIS)	14
III	**YARN TESTING** Yarn count – Determination of yarn count by Auto sorter and Beesley balance - Importance of CSP and RKM - Importance of Twist - Estimation of yarn twist – single yarn, doubled yarn. Importance of yarn strength - Principle of working of yarn strength testers – CRE,CRL and CRT - Working of single yarn strength tester of pendulum lever type, lea strength tester and principle of Instron tester. Yarn irregularities – thick, thin, slub, nep - Methods of Assessing yarn evenness by yarn - appearance board and Uster Evenness Tester - Brief study of Uster classimate.	14

IV	**FABRIC TESTING** Crimp-Definition, Importance – Shirley crimp tester. Study of Shirley stiffness tester and Shirley crease recovery tester. Definition of fabric handle, serviceability, abrasion, pilling and drape. Importance of fabric tensile strength, tearing strength and bursting strength. Study of fabric tensile strength tester. Definition of Fabric Air Permeability and Fabric Air Resistance	13
V	**STATISTICAL QUALITY CONTROL** Classification and Tabulation of Data - Frequency Diagram – Histogram and frequency polygon. Measures of Central tendency - Mean, Median, Mode. Simple Calculation of Mean, Median, Mode. Measures of dispersion - Mean Deviation, Percent Mean Deviation, Standard Deviation and Co-efficient of variation. Simple calculation of MD,PMD,SD & CV. Normal distribution curve and its properties. Quality Control Chart - Definition, use, Construction of control chart for Averages and Ranges.	13

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TEXT BOOKS:

S.No	Titile	Authors	Publisher	Year
1	Hand Book of Textile Testing and quality Control	E.B.Groover and D.S.Hamby	Mohinder Singh Sejwal (for Wiley Eastern Ltd New Delhi,India	1960
2	Hand Book of Methods of Test for Cotton Fibers Yarn and Fabrics	V.Sundaram and R.L.N.Iyengar	CTRL.,Mumbai	1988
3	ISI Hand book of Textile Testing		Indian Standard Institution, New Delhi, India	1982

REFERENCE BOOKS:

S.No	Titile	Authors	Publisher	Year
1	Principles of Textile Testing	J.E.BOOTH	Butterworth Scientific London	1996
2	The Characteristics of Raw Cotton Vol II Part-I in the series manual of Cotton Spining	E.Lord	The Textile Institute and Butterworth,England	1961
3	Methods of Test for Textiles – B.S.Hand book No.11,	B.S.I	British Standards Institution,London, England	1963
4	Method of Test for Textiles BS Hand book NO 11,	B.S.I	British Standards Institution,London, England	1963
5	Statistical methods	Gupta	S.Chand & Co,.New Delhi	1983
6	An Outline of statistical methods for use in the Textile Industry	A.Brearley & D.R.Cox	WIRA, LEEDS,U.K.	1974
7	Theory and problems of Statistics	M.R.Spiegel	McGraw Hill, International Book company Newyork,London	1972

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

V SEMESTER

2015 – 2016 ONWARDS

TEXTILE WET PROCESSING

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name **:** DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code **:** 36052
Semester **:** V Semester
Subject Title **:** TEXTILE WET PROCESSING

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36052 TEXTILE WET PROCESSING	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	PREPARATORY AND BLEACHING PROCESS	14
II	DYEING PROCESS	14
III	PRINTING PROCESS	14
IV	FINISHING PROCESS	13
V	QUALITY AND POLLUTION CONTROL	13
	TEST & REVISION	7
Total		75

RATIONALE:

Garments to have elegant look are to be made out of dyed, printed and finished fabrics. The raw fabric obtained out of weaving units need to undergo wet processing treatments. They are generally desized, scoured, bleached, dyed, printed and finished with required chemicals for using it as a dress, made-up materials. These fabrics when constructed into garments produce charming look and handle as well as fetch better sales value. This subject gives an in depth knowledge about these process so that the students be able to follow the wet processing procedures during garment making.

OBJECTIVES:

At the end of the study of V Semester the student will be able to

- Understand the Preparatory process of Textiles
- Learn about Process of Bleaching.
- Learn different types of Dyes and applications
- Learn about varies processing machineries.
- Understand the types of Printing and Techniques
- Know about the screen preparation
- Know about different Textile finishes and Application
- Learn about special finishes and advantages
- Understand the Quality control methods in Wet Processing.
- Understand the Eco- friendly Processing& Effluent Treatment process

36052 TEXTILE WET PROCESSING

DETAILED SYLLABUS

Content : Theory

Unit	Name of the Topic	Hours
I	**Preparatory and Bleaching Process** Impurities present in grey cotton and cotton fabric - sequence of wet processing treatments with objectives of each treatment - Singeing - Gas Singeing Machine for woven fabric with line diagram - Desizing - Continuous desizing method and its merits - Enzyme desizing - Scouring - Mechanism of scouring - Process of caustic scouring using high pressure kier. **Bleaching** – Hydrogen Peroxide Bleaching- Continuous scouring and bleaching using Continuous Bleaching Range (CBR) –Optical Brightening Agent treatment	14
II	**Dyeing Process** Definition of dyeing - Classification of dyes based on their mode of application - Dyeing of cotton with Reactive dyes and vat dyes - Dyeing of wool with acid dyes - Dyeing of silk with basic dyes - Dyeing of Polyester with Disperse dyes - Dyeing machines - Working of jigger Soft flow jet dyeing machine - HTHP Beam dyeing machine, cheese dyeing machine. Garment dyeing – Advantage and disadvantage – Working of drum type Garment dyeing machine.	14
III	**Printing Process** Definition and objective of printing - Comparison between dyeing and printing –Styles and methods of printing - Definition and functions of Ingredients of printing paste. Direct style of printing with pigments on cotton - Direct style of printing with reactive dyes on cotton - Direct style of printing with Disperse dyes on polyester - Screen preparation - Flat bed screen printing machine - Rotary screen printing machine - curing machine -steamer	14
VI	**Finishing Process** Purpose of finishing - Stiff finishing of cotton fabric with Starch,	13

	Polyvinyl Acetate –Types of softeners and their properties - wrinkle free finish-Sanforizing – Mercerisation - Advantages – Chainless mercerising machine - calendering - Hot air stenters Anti crease finish with DMDHEU Resin - Brief study on antimicrobial finish - UV protective finish - water repellent finish - Flame retardant finish (Only objectives and recipe)	
V	**Quality and pollution Control** Importance of Quality Control –Different Fastness Tests for dyed and printed materials - Determination of wash fastness - Wet and Dry rubbing fastness – Computer Colour Matching - Objectives & Limitations – Importance and need of environment protection - Air, water and noise pollution. Brief study on Effluent Treatment Process flow chart only. Brief study on eco-friendly processing - List of banned chemicals and alternatives.	13

TEXT BOOKS:

S.No	Titile	Authors	Publisher	Year
1	Technology of Textile Processing Vol.3 Technology of Bleaching	Shenai V.A.	Shevak Publications 306 Shri Hanuman Industrial Estate Gousmbekar Road,Wadala Mumbai – 37	1981
2	Technology of Textile Processing, Vol.2 Chemistry of dyes & Principles of dyeing	Shenai V.A.	Shevak Publications 306 Shri Hanuman Industrial Estate Gousmbekar Road Wadala, Mumbai - 37	1983
3	Technology of Textile Processing, Vol.6 Technology of Dyeing	Shenai V.A.	Shevak Publications 306 Shri Hanuman Industrial Estate Gousmbekar Road Wadala, Mumbai - 37	1980

REFERENCE BOOKS :

S.No	Titile	Authors	Publisher	Year
1	Technology of Textile Processing, Vol.4 Technology of Printing	Shenai V.A.	Shevak Publications 306 Shri Hanuman Industrial Estate Gousmbekar Road Wadala, Mumbai - 37	1979
2	Technology of Textile Processing, Vol. 10 Technology of Finishing	Shenai V.A.	Shevak Publications 306 Shri Hanuman Industrial Estate Gousmbekar Road Wadala Mumbai – 37	1987
3	Textile Printing	Miles L.W.C.	Society of Dyers & Colourist Perlein House 82 Gratlan Road, Broard fard West Yarkshire, England	1981
4	An Introduction to Textile Finishing	Marsh J.T.	B.I.Publications 54 Janpath New Delhi 110 001	1982

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

V SEMESTER

2015 – 2016 ONWARDS

PATTERN DRAFTING AND CONSTRUCTION - II

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36653
Semester : V Semester
Subject Title : PATTERN DRAFTING AND CONSTRUCTION- II

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36653 PATTERN DRAFTING AND CONSTRUCTION- II	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	PATTERN DRAFTING FOR MEN'S WEAR – I	14
II	PATTERN DRAFTING FOR MEN'S WEAR – II	14
II	PATTERN DRAFTING FOR LADIES' WEAR-I	14
III	PATTERN DRAFTING FOR LADIES' WEAR-II	13
V	PATTERN GRADING,FITTING & ALTERATION	13
	TEST & REVISION	7
Total		75

RATIONALE:

Pattern drafting is the nerve centre of garment making. Every garment parts are draft to its size for lateral assembling into a garment. This procedure helps to make perfect garment to various sizes. Any alteration is also made within the pattern. The patterns can also be

stored for ever and repeated orders are carried out at ease. From the patterns layout is made simple and better marker efficiency is achieved for minimum consumption of fabrics. This part of the subject deals with the complex styles of garments, their pattern drafting, laying & construction.

OBJECTIVES:

At the end of the study of V Semester the student will be able to

- Understand the drafting procedure for children's' style.
- Learn the layout and construction procedure for children's style.
- Understand the drafting procedure for ladies' style.
- Learn the layout and construction procedure for ladies' style.
- Learn about pattern grading, fitting and pattern alterations.
- Understand the drafting procedure for men's style.
- Learn the layout and construction procedure for men's style.

36653 PATTERN DRAFTING AND CONSTRUCTION- II

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**PATTERN DRAFTING FOR MEN'S WEAR I** Pattern drafting procedure for Full sleeve shirt - Pleated trousers - Nehru's Kurta with chinese mandarin collar – Jeans - Pattern layout - Calculation of material consumption - Construction procedure	**14 Hrs**
II	**PATTERN DRAFTING FOR MEN'S WEAR II** Pattern drafting procedure for SB Waist Coat – Nehru Jakit - Sherwani – Dressing Gown - Pattern layout - Calculation of material consumption – Construction procedure.	**14 Hrs**
II	**PATTERN DRAFTING FOR LADY'S WEAR I** Pattern drafting procedure for 6 panels Sari petticoat - Garara skirt - Cut Choli – Ladies shirt - Straight jacket with front open and Leg-o-mutton sleeve-Pattern layout-Calculation of material consumption - Construction procedure.	**14 Hrs**
IV	**PATTERN DRAFTING FOR LADY'S WEAR II** Pattern drafting procedure for Night dress with Front full opening and shawl collar - Survar on bias cutting - Full Maxi with Magyar sleeve – Culottes (Divided skirt) - Pattern layout-Calculation of material consumption - Construction procedure.	**13 Hrs**
V	**PATTERN GRADING,FITTING & ALTERATIONS** Define pattern grading - Pattern grading procedure for bodice front, back & sleeve-Variables for fitting-Importance of altering patterns- General principles for pattern alteration- Study of fitting problems and alterations in the following parts- Bust line- Neckline- Shoulder line- Armhole- Bodice back- Sleeves- Study	**13 Hrs**

	of fitting problems and alterations in Trousers	

Text Book:

Title	Author	Publisher	Year
The Art Of Sewing	Anna Jacob Thomas.	Ubs Publishers, Delhi.	2001
Practical Clothing Constructions Part I & II	Mary Mathews	Paprinpack Printers,Chennai.	1982
Zarapkar System Of Cutting.	K.R.Zarapkar	Navneet Publications (I) Ltd.,Dantali. Gujarat.	2005
Sew it Yourself	Lippman (Gidon)	Prentice Hall Inc New Jersey	2002

Reference:

Comparative Clothing Construction Techniques	Virginn Stolpe Lewis	Surjeet Publications, Delhi	1985
Scientific Garments Cutting	K.M. Hedge	K.M. Hedge & Sons., Poona	1998
Pattern Cutting For Women's Outer Wear	Gerry Cooklin	Blackwell Science Publication, London	2001
Metric Pattern Cutting	Winfred Aldrich	Blackwell Science Publication, London	2003
Metric Pattern Cutting For Children 's Wear	Winfred Aldrich	Blackwell Science Publication, London	2004
Pattern grading for Mens' Clothes	Gerry Cooklin	Blackwell Science Publication, London	2000

Pattern grading for Children's Clothes	Gerry Cooklin	Blackwell Science Publication, London	1991
Pattern Grading for womens' Clothiing	Gerry Cooklin	Blackwell Science Publication, London	2004
Step by Step Dress Making course	Leela Aitken	BBC Books, London	1992

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

V SEMESTER

2015 – 2016 ONWARDS

APPAREL MERCHANDISING

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36671
Semester : V Semester
Subject Title : APPAREL MERCHANDISING

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36671 APPAREL MERCHANDISING	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	INTRODUCTION TO MERCHANDISING	14
II	RETAIL MERCHANDISING	14
III	VISUAL MERCHANDISING	14
IV	MERCHANDISE PLANNING	13
V	MARKETING TECHNIQUES & SALES PROMOTION	13
	TEST & REVISION	7
Total		75

RATIONALE:

Apparel merchandising is the common word prevailing in the Garment Industry. Every export unit is having merchandising wing. The officials in this wing are responsible for the execution of orders right from receiving orders to despatching of goods. This subject gives an indepth

knowledge on various type of merchandising, the planning, the nature of work of an merchandiser alongwith the marketing tecniques and sale promotion activities.

OBJECTIVES:

At the end of the study of V Semester the student will be able to

- Understand the merchandising procedures.
- Learn the functions of merchandiser.
- Understand the retail merchandising procedures.
- Learn the prizing procedures.
- Understand the visual merchandising procedures.
- Learn the trends in visual merchandising.
- Understand the merchandising plan.
- Learn to prepare merchandising calendar and activities.
- Learn the marketing techniques.
- Understand the advertising techniques.
- Learn the sales promotion techniques.

36671 APPAREL MERCHANDISING

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**INTRODUCTION TO MERCHANDISING** Merchandising – Definition – Principles & Techniques – Role of merchandiser – Skills of Merchandiser - Functions of Merchandiser – Types of approval - Sampling – Types of samples- development sample, salesman sample, Approval sample, Preproduction sample, Production sample, shipment sample – Check points for a proper approval – Approving sewing operations and various processes. Product Research – Product Development – Planning – Presentation.	**14 Hrs**
II	**RETAIL MERCHANDISING** Introduction to Retail Merchandising – Types of retail merchandising- Department stores – Discounters – Off-price retailers – Outlet source – Close out - Warehouse clubs. Garment Costing – Fabric consumption – Sewing thread consumption - CMT charges for various styles – Costing of woven garment full Sleeve shirt and Trouser– Costing of Knitted garment - T shirt, night gown. Retail pricing – Mark up – Price point – Markdown – Promotional pricing – Deceptive pricing – Non-store retailing – Mail order Merchants – E Tailing – Tele shopping.	**14 Hrs**
III	**VISUAL MERCHANDISING** Definition – Elements of Visual Merchandising – Displays – Principles of Displays – Window display – Interior Display – Mannequins – Department displays – Signs – Lighting – Fixtures. Special events –The Environments of visual presentation– Trends in visual merchandising – Small store applications – Boutique - Assessment of Visual Merchandising Programme	**14 Hrs**

IV	**MERCHANDISE PLANNING** Merchandising plan – Planning sales goals –Buying plan – Assortment Planning – Open to buy – Purpose of a six months plan, Elements of a six month plan – Analysis of previous merchandising plan and developing a new plan - Planning components - Merchandising calendar and scheduling. Direct order - Merchant order - CMT order - Vendor and sub-contractor - Requirement of a purchase order – Amendment sheet – Types of Buyer and buying offices- Buyer seller meet.	**13 Hrs.**
V	**MARKETING TECHNIQUES & SALES PROMOTION** Marketing – definition - principles – objectives - strategies – Advertisement Techniques – Broadcast Advertising – Radio advertising – Television Advertising – Advantages & Disadvantages – Magazines – Out-of-home advertising – Direct mail. Advertisement effectiveness. Brief study of E marketing. Sales promotion approaches, effectiveness -Distribution channels – Consumer behaviour in fashion.	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
Marketing Management	Philip . Kotler Kevin Lane Keller	Prentice Hall	2006
Fashion Marketing & Merchandising	Manmeet Sodhia	Kalyani Publishers	
Fashion buying & Merchandising Management	Tim Jackson & David Shaw	Palgrave Master Series	2001
Apparel Manufacturing	Ruth E. Glock Grace I. Kunz	A Simson & Schuster company, Singapore	1995

Reference:

Title	Author	Publisher	Year
Export management	Balagopal.T.A.S	Himalaya Publishing House, Bombay.	1984
Inside the fashion business	Kitty G. Dicerson	Dorling Kindesley(India) Pvt Ltd., New Delhi	2007
Fashion Retailing	Ellen Diamond	Dorling Kindesley(India) Pvt Ltd., New Delhi	2007
Foundations of advertising Theory & Practice	Chunnawala Sethia	Himalaya Publishing House, Bombay	1985
Retail Merchandising	Ernest H Rich	Merrill Publishing company	
Fashion Sales Promotion	Pamela M.Phillips	A Simson & Schuster company , New Jersy	1985
Fashion Marketing	Mike Easey	Blackwell Publishing	2005
Fashion Marketing	Hines & Bruce	Butter worth - Heinemann	2006
Merchandise Buying and Management	Donnellecen John	Fairchild Publication Inc., NY	1999

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

V SEMESTER

2015 – 2016 ONWARDS

FASHION DRAPING

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36682
Semester : V Semester
Subject Title : FASHION DRAPING

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36682 FASHION DRAPING	5 Hrs	75Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	INTRODUCTION TO DRAPING	14
II	DRAPING OF BODICE BLOCKS & VARIATIONS	14
III	DRAPING OF SKIRTS& SLACKS	14
IV	DRAPING OF YOKES, SLEEVES &COLLAR	13
V	DRAPING OF ADVANCED DESIGN VARIATIONS & KNIT GARMENTS	13
	TEST & REVISION	7
Total		75

RATIONALE:

Draping is an art of wrapping the dress materials on the body. The same technique is extended to produce required patterns of basic and complicated styles of garment. This subject deals with the preparation of patterns of various parts of the garment without drawing tools, measurements but with the aid of relevant dummy or mannequin.

OBJECTIVES:

At the end of the study of V Semester the student will be able to

- Understand the Draping tools & Procedure.
- Learn about draping of basic bodice& sleeves
- Understand the draping of Bodice blocks & its variations.
- Learn about introduction of varies fullness.
- Understand the draping of Skirts
- Understand the draping of Slacks.
- Learn the draping of Yokes & collars
- Understand the draping of sleeves.
- Understand the draping of advanced design variations.
- Learn the draping of knit garments.

36682 FASHION DRAPING

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**INTRODUCTION TO DRAPING** Definition of Draping – Draping Tools & Equipments – Draping principles – Preparation of muslin for Draping – Seam allowance – Preparation of Dress form for Draping Draping of Basic Bodice front – Preparation of muslin – Draping steps – Marking – Truing - Draping of Basic Bodice Back – Draping of Basic Sleeve – Draping of Basic Skirt.	**14 Hrs**
II	**DRAPING OF BODICE BLOCKS & VARIATIONS** Front Bodice with under arm Dart – Back Bodice with Neckline Dart – Dart manipulation – Waist line Dart – Dart at waistline and centre front – French Dart – Double French Dart – Flange Dart – Neckline Dart -– Neckline variations – Front & Back Armhole variations – Typical sleeveless – Squared – Cutaway Waist line variation – lowered – Empire – Shortened – Scalloped – Pointed. The Princes Bodice – Cowls -front–– Under arm cowl – Wrapped neckline cowl. Twists – Butterfly Twist –– Neck yoke twist – Bust twist.	**14 Hrs**
III	**DRAPING OF SKIRTS & SLACKS** Draping of one piece basic skirt – Gored skirt – Flared skirt – Pleats in the flared skirt – Gathers in the flared skirt – Pleated skirt – Side & Box pleated skirt – Kick pleated and inverted pleated skirt. Draping of basic straight slacks – Fitted slacks – Tapered slacks – Pegged slacks – Divided skirt	**14 Hrs**

IV	**DRAPING OF YOKES, SLEEVES & COLLARS** Draping of fitted midriff Yoke –– Shirt yoke – Hip Yoke. Draping of – Mandarin Collar – Convertible collar – Peterpan collar. Draping of Basic Dolman sleeve – Long fitted Dolman sleeve –– Reglan sleeve – Kimono sleeve with a gusset.	**13 Hrs**
V	**DRAPING OF ADVANCED DESIGN VARIATIONS & KNIT GARMENTS** Draping of bias – Cut slip Dress – Bustier Designs – basic Knit Bodice Dress – Knit Halter - Knit Leotard - Knit Panties. Draping of Flounces – Circular flounce – Shirred Flounce – Draping of Ruffles – Variable Ruffle finishes – Draping of peplums. Draping of 'A'line shift – Draping of Princess Dress – Draping of Basic Jacket.	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
The Art of Fashion Draping	Connie Amaden Crawford	Fair Child Publication, New York Om Books International, New Delhi	2005
Draping for Fashion Design	Hilde Jaffe & Nurie Relis	Prentice Hall career & Technology, Engle wood Cliffs, USA	2002

Reference:

Title	Author	Publisher	Year
Draping for Fashion Design	Hilde Jaffe & Nurie Relis	Dorling Kindersley India Pvt Ltd., New Delhi-110092	**2009**

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

V SEMESTER

2015 – 2016 ONWARDS

TEXTILE TESTING AND WET PROCESSING PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME
(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name: APPAREL TECHNOLOGY
Subject Code: **36955**
Semester: V Semester
Subject Title: TEXTILE TESTING AND WET PROCESSING PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:
No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36955 TEXTILES TESTING AND WET PROCESSING PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	4	60	25			75	100	3 Hrs

RATIONALE:

All garments before and after production under goes many type of testing for fibre, yarn, fabric and garment properties. The passing of exports and repeat orders are achieved by maintain the required quality of garments. This subject deals with the testing of above said properties, the procedures adopted in the testing laboratories, the analysis of the structure of the fabric, the analysis of the result and determination of quality of fibre, yarn, fabric and garments.

GUIDELINES:

- **All the twelve experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate drafting table and drafting tools for creating patterns of various parts in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than three students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Experiment	50 marks
Write up	20 marks
Viva	05 marks
Total	75 Marks

FIFTH SEMESTER
36955 TEXTILE TESTING AND WET PROCESSING PRACTICAL
OBJECTIVES:

Wet Processing

To learn Desizing, Scouring & Bleaching of fabrics.
To practice dyeing of Reactive, Acid, Disperse dyes on relevant fabrics.
To learn different Printing techniques on fabrics using Reactive and Pigment dyes.

Fabric analysis

To draw Design, Draft and Peg plan for Plain, Twill, regular Sateen weave fabric.
To determine the quality particulars like Ends/inch, Picks/inch, Warp & Weft count, Warp & weft crimp, Warp, weft and cloth cover factors for the above fabrics.

Textile Testing

To understand the properties of yarn & fabrics namly

Lea strength of yarn
Count Strength product.
Twist per Inch of Single yarn
Tensile strength of fabric.
Tearing strength of fabric
Bursting strength of the fabric.

To calculate the coefficient of variation of test results.

FIFTH SEMESTER
36955 TEXTILE TESTING AND WET PROCESSING PRACTICAL
LIST OF EQUIPMENT

Equipments / Machines / Instruments required:

Wet processing

Beaker-	30 N0s.
Glass rod-	30 N0s.
Steel tumbler-	30 N0s.
Dye bath (6 tumbler/ Bath)-	30 N0s.
Physical balance-	1 No
Electronic balance*-	1 No
Burners	5 Nos.
HTHP dyeing machine-	1 No
Screens-	5 Nos.
Squeezer	5 Nos.
Printing table	1 No
Padding mangles*	1 No
Crock meter	1 No
Tensile strength tester- fabric	1 No
Tearing strength tester	1 No
Bursting strength tester	1 No
Yarn Lea strength tester	1 No
Twist tester- single yarn	1 No
Beesley balance	1 No
Wrap reel	1 No
Counting glass	30 Nos

*** optional**

Material required :

2-3 meters of fabric/ expt./ batch of 30 students.
20^S- 40^S Yarn, Plain ,Twill, regular Sateen fabrics for testing

FIFTH SEMESTER
36955 TEXTILE TESTING AND WET PROCESSING PRACTICAL
LIST OF EXPREIMENTS

1. De-size & Scour the given woven fabric.
2. Bleach the given cotton fabrics with Hydrogen peroxide.
3. Dye the given Cellulosic fabric with Reactive dyes.
4. Print the given cotton fabrics with Reactive dyes.
5. Draw Design, Draft and Peg plan for Plain weave fabric and determine the quality particulars.
6. Draw Design, Draft and Peg plan for Twill weave fabric and determine the quality particulars.
7. Draw Design, Draft and Peg plan for Regular Sateen weave fabric and determine the quality particulars.
8. Determine the Lea strength of yarn using Lea tester and calculate the Count Strength product.
9. Determine the Twist per Inch of Single yarn using Twist tester.
10. Determine the Tensile strength of fabric using Tensile strength tester.
11. Determine the Tearing strength of fabric using Tearing strength tester.
12. Determine the Bursting strength of the fabric using Bursting tester.

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DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

V SEMESTER

2015 – 2016 ONWARDS

PATTERN DRAFTING - II PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME
(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : APPAREL TECHNOLOGY

Subject Code : **36956**

Semester : Ⅴ Semester

Subject Title : PATTERN DRAFTING- II PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:
No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36956 PATTERN DRAFTING- II PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	5	75	25			75	100	3 Hrs

RATIONALE:

Garment production starts with drafting of patterns of various parts of the garment. This technique helps the manufacturers in assembling the parts perfectly in the next process. Further it assists to calculate the requirement of fabric for garment construction and subsequently reduced fabric consumption and increased profits. This practical subject provides hands on experience on the method of drafting each every part of complex styled garments with variety of front, back, yoke, collar, cuff, skirt panels etc.

GUIDELINES:

- **All the twelve experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate drafting table and drafting tools for creating patterns of various parts in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than three students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Pattern preparation	50 marks
Drafting procedure	20 marks
Viva	05 marks
Total	75 Marks

FIFTH SEMESTER
36956 PATTERN DRAFTING- II PRACTICAL
OBJECTIVES:

Children's wears.

To prepare the paper pattern for the Garment - Party dress - Frock with Peter Pan collar, Puff sleeve & Frilled skirt
To prepare the paper pattern for the Garment - Garara Skirt
To prepare the paper pattern for the Garment - Divided skirt (culottes)

Ladies' wears.

To prepare the paper pattern for the Garment – Sari petti-coat - 6 panels
To prepare the paper pattern for the Garment – Night dress -Front full opening
To prepare the paper pattern for the Garment – Survar – bias cutting
To prepare the paper pattern for the Garment – Nehru's Kurta with chinese mandarin collar
To prepare the paper pattern for the Garment – Cut choli
To prepare the paper pattern for the Garment – Magyar choli

Gents' wears.

To prepare the paper pattern for the Garment – Full sleeve shirt
To prepare the paper pattern for the Garment – Pleated trouser
To prepare the paper pattern for the Garment – Sherwani

FIFTH SEMESTER
36956 PATTERN DRAFTING- II PRACTICAL
LIST OF EQUIPMENT

Equipment required:

Pattern table- 8'x4' table- 4 nos.

Materials required:

Pattern paper-30 nos./expt /batch of 30 students
Measuring, drafting & general tools-30/ batch of 30 students

FIFTH SEMESTER
36956 PATTERN DRAFTING- II PRACTICAL
LIST OF EXPREIMENTS

1. Prepare the paper pattern for the Garment – Men's full sleeve shirt
2. Prepare the paper pattern for the Garment - Garara Skirt
3. Prepare the paper pattern for the Garment – Divided skirt (culottes)
4. Prepare the paper pattern for the Garment – Sari petti-coat - 6 panels
5. Prepare the paper pattern for the Garment - Night dress -Front full opening
6. Prepare the paper pattern for the Garment – Survar – bias cutting
7. Prepare the paper pattern for the Garment – Nehru's Kurta with chinese mandarin collar
8. Prepare the paper pattern for the Garment – Cut choli.
9. Prepare the paper pattern for the Garment – Full maxi.
10. Prepare the paper pattern for the Garment – Ladies shirt.
11. Prepare the paper pattern for the Garment – Pleated trouser
12. Prepare the paper pattern for the Garment – Sherwani

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DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

V SEMESTER

2015 – 2016 ONWARDS

GARMENT CONSTRUCTION - II PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : APPAREL TECHNOLOGY

Subject Code : **36957**
Semester : V Semester
Subject Title : GARMENT CONSTRUCTION- II PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36957 GARMENT CONSTRUCTION- II PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	5	75	25			75	100	3 Hrs

RATIONALE:

Garment construction is the assembling of parts of the garment. It is an art of making the garment. Various stitches, seams and accessories are used in the conversion of the individual parts into a final garment. This practical subject provides hands on experience on the method of constructing each and every part of the complex natured styles of garment into a final assembled product.

GUIDELINES:

- **All the sixteen experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate sewing machine with attachments for creating garments in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than two students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Garment construction	50 marks
Layout & construction procedure	20 marks
Viva	05 marks
Total	75 Marks

FIFTH SEMESTER
36957 GARMENT CONSTRUCTION- II PRACTICAL
EXPERIMENTS OBJECTIVE:

Children's wears:
Cutting of parts of Party dress- Frock with Peter Pan collar Puff sleeve & frilled skirt- Garara skirt- Divided skirt

Stitching of various parts of Party dress-Frock with Peter Pan collar Puff sleeve & frilled skirt- Garara skirt- Divided skirt

Finishing the Party dress- Frock with Peter Pan collar Puff sleeve & frilled skirt- Garara skirt- Divided skirt

Ladies' wears:

Cutting of parts of Night dress with Front full opening and shawl collar -Survar on bias cutting-Full Maxi with Magyar sleeve-Nehru's Kurta with chinese mandarin collar-Cut choli-Katori choli-Raglon choli-Magyar choli- Brassiere-Sari petticoat – 4 panels Sari petticoat - 6 panels.

Stitching of various parts of Night dress with Front full opening and shawl collar -Survar on bias cutting-Full Maxi with Magyar sleeve-Nehru's Kurta with chinese mandarin collar- Cut choli-Katori choli-Raglon choli-Magyar choli- Brassiere-Sari petticoat – 4 panels Sari petticoat - 6 panels

Finishing the Night dress with Front full opening and shawl collar -Survar on bias cutting-Full Maxi with Magyar sleeve-Nehru's Kurta with chinese mandarin collar- Cut choli-Katori choli-Raglon choli-Magyar choli- Brassiere-Sari petticoat – 4 panels Sari petticoat - 6 panels.

Gents' wears:

Cutting of parts of Full sleeve shirt -Pleated trousers- Sherwani-Jeans

Stitching of various parts of Full sleeve shirt -Pleated trousers- Sherwani-Jeans

Finishing the Full sleeve shirt -Pleated trousers- Sherwani-Jeans

FIFTH SEMESTER
36957 GARMENT CONSTRUCTION- II PRACTICAL
LIST OF EQUIPMENT

Equipment / Machines required:

Sewing machines-

Lock stitch- 15 m/cs.
Over lock- 2 m/cs
Flat lock- 1 m/c
Button hole- 1 m/c
Button stitch- 1 m/c
4- Needle trimmer*- 1 m/c
Chain stitch*- 1 m/c
Feed- off-arm*- 1 m/c
Iron press- 1m/c
*Optional

Material required:

1.5 – 2 meters of fabric/ expt. / batch of 30 students.
Sewing threads- white, assorted
Decorative materials

FIFTH SEMESTER
36957 GARMENT CONSTRUCTION- II PRACTICAL
LIST OF EXPREIMENTS

1. Using the paper pattern cut, stitch and finish the Garment – Men's f/s shirt.
2. Using the paper pattern cut, stitch and finish the Garment - Garara Skirt
3. Using the paper pattern cut, stitch and finish the Garment - Divided skirt (culottes)
4. Using the paper pattern cut, stitch and finish the Garment – Sari petti-coat - 6 panels
5. Using the paper pattern cut, stitch and finish the Garment - Night dress -Front full opening
6. Using the paper pattern cut, stitch and finish the Garment - Survar – bias cutting
7. Using the paper pattern cut, stitch and finish the Garment – Nehru's Kurta with chinese mandarin collar
8. Using the paper pattern cut, stitch and finish the Garment – Full Maxi
9. Using the paper pattern cut, stitch and finish the Garment – Cut choli
10. Using the paper pattern cut, stitch and finish the Garment – Ladies' shirt.
11. Using the paper pattern cut, stitch and finish the Garment – Pleated trouser
12. Using the paper pattern cut, stitch and finish the Garment – Sherwani

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VI SEMESTER

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

VI SEMESTER

2015 – 2016 ONWARDS

TEXTILE MANAGEMENT

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME
(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36061
Semester : VI Semester
Subject Title : TEXTILE MANAGEMENT

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36061 TEXTILE MANAGEMENT	5	75	25	75	100	3 Hrs

Topics and allocation of hours:

Sl.No.	Topic	Time (hrs.)
I.	INTRODUCTION TO MANAGEMENT, SITE SELECTION, PLANT LAY OUTS	13
II.	PRODUCTION AND FINANCIAL MANAGEMENT	14
III.	HUMAN RESOURCE MANA	14
IV.	SUPERVISORY AND SAFETY MANAGEMENT	13
V.	EXPORT AND CONTEMPORARY MANAGEMENT	14
	TEST & REVISION	7
Total		75

Objectives

- Know about the fundamentals of management and the various functions of personnel management.
- Have knowledge about components and systems of wage payment.
- Know about the various labour welfare activities.in a textile mill.
- Know about the layouts and industrial buildings, factors influencing selection of site.
- Know about productivity, labour and machine productivity and the factors affecting them.
- Know about the role of supervisor in a textile unit, causes and precautions and prevention of industrial accidents and safety devices used in textile mills..
- Know about inventory control and the methods adopted, material handling in textile mills.
- Know about financial management, cost and its components, calculation of ex mill price and break even analysis.
- Know about export policy of india, export promoting agencies and their functions, export order processing and export pricing methods.

36061 TEXTILE MANAGEMENT
DETAILED SYLLABUS

Content : Theory

Sl.No.	Topic	Time
I.	**INTRODUCTION TO MANAGEMENT, SITE SELECTION, PLANT LAY OUTS** Definition of Management. Functions of management – Organising, Staffing, Directing, and Controlling. Organisation structure-line, staff, line and staff, committee organisation. Selection of site-advantage and disadvantages and various factors of site selection for various textile industries. Importance and types industrial buildings, lightings, ventilations and humidification. Control of air, water and land pollution in textile industry. Plant layout-process, product, combined and fixed layouts-their merits and demerits. Type of layout suitable for spinning, weaving, textile processing and garment industries	13
II.	**PRODUCTION AND FINANCIAL MANAGEMENT** Factors affecting production. Productivity- Factors affecting productivity. Labour productivity and machine productivity. Work Study–Method Study and Work Measurement. Procedures of method study and work measurement. Importance of Material handling and various machineries of it in textile industry. Production Planning and Control (PPC) – Functions of PP&C. Inventory control - Economic Order Quantity (EOQ), ABC and VED Analysis. Financial Management – Capital Cost and Working Capital - Sources of Finance. Elements of Cost - Method of calculating Ex Mill Price. Break even analysis. Depreciation. Enterprise Resource Planning (ERP)	14
III.	**HUMAN RESOURCE MANAGEMENT** Importance of Human Resource management in an industry. Man power planning –Definition of job analysis and job description – methods of job description and job analysis. Recruitment – Sources, merits and demerits. Selection process in recruitment. Training of Employees – advantages and types of training. Wages and its Components-Basic pay, DA, HRA, bonus, incentive. Method of wage payment- time rate, piece rate, combination of time and piece rate. Incentives – types and their merits and demerits. Labour Welfare activities – Role of Labour Welfare Officer. Labour grievances - causes and effects of grievances. Grievance handling procedures. Grievance handling mechanisms.	14
IV.	**SUPERVISORY AND SAFETY MANAGEMENT** Define Supervision-Role of supervisor, characteristics of effective supervision. Role and characteristics of leadership.	13

	Difference between leader and manager. Motivation- need, importance and types of motivation-Maslow's theory, XYZ theory in motivation. Communication- Principle of effective communication - types of communication - barriers of communication. Labour welfare activities with respect to factories act. Industrial safety- Causes for accidents, preventive measures. Guards and safety devices in textile mill. Types of fire and fire prevention. Application of 5 S and Kaizen principles for effective supervision.	
V.	**EXPORT AND CONTEMPORARY MANAGEMENT** Importance and benefits of international marketing. World Trade Organisaiton (WTO) – functions of WTO. Various export promotion measures by government of India. Functions of TEXPROCIL, AEPC, PEDEXIL, HEPC, Textile committee, Textile commissioner's office. Export procedure-receipt of confirmed order-export production-export documentation - Export incentives. Importance of Shipping bill and bill of lading. Export finance –pre shipment finance and post shipment finance. Letter of Credit. Export price composition. Export pricing-Ex factory, Free Along Side (FAS), Free On Board (FOB), Cost Insurance Freight (CIF) and Franco pricing. Management Information System (MIS),Just In Time (JIT),Total Quality Management (TQM),	14

TEXT BOOKS:

S.NO	TITLE	AUTHOR	PUBLISHERS	YEAR
1	Principles Of Management	P.C.Tripathi	Tata Mcgrow Publishing Compny Ltd, New Delhi	2001
2	Management Of Textiles	DudegAV.D	Trade Press, Textile Indistry ,Ahemadabad	1981

REFERENCE:

S.NO	TITLE	AUTHOR	PUBLISHERS	YEAR
1	Industrial Eng. And Management	Balasundaram.K	Sri. Ramalingasowdeswari Publications, Coimbature.	2005
2	Personnel Management Of Human Resources	MamoriAC.B	Himalaya Publishing House, Mumbai	1999
3	Organisational Theory Behaviour	Luthans.F	Printece Hall Of India	2001
4	Management Of Textile	Ormerod.A	Butter Worth &Company	1979
5	Industrial Eng. &Management Science	BaugAT.R;Etal	Khanna Publisher New Delhi	1996
6	Business Management Theory	SingA J.C & Mugali.V.N	Edition (5) R.Chand & Co, New Delhi	2002
7	Costing In Textile Mills	Sitra	Sitra, Coimbatore	2002

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

VI SEMESTER

2015 – 2016 ONWARDS

APPAREL QUALITY CONTROL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36662
Semester : VI Semester
Subject Title : APPAREL QUALITY CONTROL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36662 APPAREL QUALITY CONTROL	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	INTRODUCTION AND INSPECTION METHODS	14
II	TESTING OF GARMENTS	14
III	PACKING ACCESSORIES	14
IV	CARE LABELLING AND GARMENT DEFECTS	13
V	GARMENT INDUSTRY CERTIFICATION	13
	TEST & REVISION	7
Total		75

RATIONALE:

The demand and repeat orders are obtained only when the quality of the products are maintained. The industries concentrate more on their product quality and a separate wing operates for achieving the quality Any negligence in product quality leads to heavy loss particularly in export orders. This subject deals with the quality measurement, assurance of the raw material, in process and final products and the various tests that are being carried out with respect to garment products. The care labelling and certification part is also included.

OBJECTIVES:

At the end of the study of VI Semester the student will be able to

- Understand the inspection methods.
- Learn the sampling procedure and quality audit.
- Understand the various testing procedures to produce quality woven garments.
- Learn the various testing procedures to produce quality knitted garments.
- Learn the various packing accessories in garment industries
- Understand the packing procedure
- Learn the different types of care labeling systems..
- Learn the various defects in garments and analyzing the reasons for them.
- Learn the quality control programs
- Understand the concept of TQM

36662 APPAREL QUALITY CONTROL

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**INTRODUCTION TO INSPECTION METHODS** Quality control - Definition - Importance of quality – Inspection process - Raw material Inspection - Fabric Inspection - 4 point System - 10 point System - Inspection of Sewing Thread, Zippers, Button, Buckles, Snap Fasteners. In process Inspection - During production checks in Spreading, Cutting, Sewing, Pressing / Finishing. Final Inspection - AQL random sampling inspection - Sampling Plans - Acceptance Sampling - Product Quality Audit - Documents required before inspection.	**14 Hrs**
II	**PACKING AND ACCESSORIES FOR PACKING.** Classification of Packing - Stand up pack - Flat pack - Hanger pack - Hanger with sandwich pack - Dead man pack - its importance. Mass packing – Ratio pack, Size wise pack, Colour wise pack, Assorted pack and Un-assorted pack. Different types of packing materials and its quality parameter - Poly bag – plain / gazetted bag - Back support board - Window board - Plain board - Inner collar patty – PVC patty - Outer patty - Butterfly - Plastic clips - Pins - plain and ball head - Hang tags - Price ticket - Fabric tag - Tissue paper -Size sticker - Warning sticker- Cello tape – Cartons.	**14 Hrs**
III	**TESTING OF GARMENTS** Seam strength Testing - Testing of Fabric Stretch properties - Dimensional changes due to Laundering, Dry cleaning and Steaming & Pressing - Durable Press Evaluation of Fabrics and Apparel - Needle cutting / yarn severance - Sew ability of fabrics - Bow and Skewness in Woven and Knitted fabrics - Distortion of yarn in Woven Fabrics – Testing of Water Resistance and Water Repellency – Testing for Soil / Stain releasing - Testing of Fusible Interlinings and Elastic Waist Band - Pantyhose Testing - Wear Testing.	**14 Hrs**

IV	**CARE LABELING & GARMENT DEFECTS.** Introduction to Care labels - its importance - Different systems of Care labelling - American - British - Canadian - Japanese - and International labelling – Eco-labelling. Shade sorting - Introduction - importance Instrumental shade sorting. Flammability - Introduction - Degree Flammability Test method - 45^{o} and Vertical Flammability Tests. Defects in garments – Classification of major, minor and critical defects, pattern defects, spreading defects, cutting defects, stitching defects and seam defects.	**13 Hrs**
V	**GARMENT INDUSTRY CERTIFICATION** Quality Control Program - Seven tools of quality controls – Importance of Garment Industry certification – TQM - ISO 9000 standards - Procedure of obtaining ISO 9000 series standards - WRAP Certification & Procedures - SA 8000 certification – GOTS certificate – Eco label certification – Green leaf mark for Garment.	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
An Introduction to Quality control for The Apparel Industry	Pradip V Mehta	ASQC Quality press., New York.	**2002**
Managing Quality in the Apparel Industry	Pradip V Mehta Satish k Bhardwaj	New Age International Publishers	**1998**

Reference:

Title	Author	Publisher	Year
ISO 9000 Series Manual		New Delhi.	
Knitted clothing Technology	Terry Brackenbary	Black well science Ltd	**1996**

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

VI SEMESTER

2015 – 2016 ONWARDS

APPAREL PRODUCTION PLANNING AND CONTROL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36641
Semester : VI Semester
Subject Title : APPAREL PRODUCTION PLANNING AND CONTROL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36641 APPAREL PRODUCTION AND CONTROL	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	Introduction	14
II	Apparel Engineering	14
III	Production planning and Materials Management	14
IV	Balancing, MRP and Quick response	13
V	Industrial Engineering	13
	TEST & REVISION	7
Total		75

RATIONALE:

The planning of production process and productivity are the managerial point of view within the industry. Improving the productivity through proper production system increases the profit and performance level of the industry. This subject covers topic like Apparel engineering, Production planning, Materials management and Balancing, MRP and Quick response for better understanding of the subject.

OBJECTIVES:

At the end of the study of IV Semester the student will be able to

- To know about production control and systems.
- Understand the apparel business
- Study the merchandising activity
- Know the basic concepts of Apparel Engineering.
- Know about the production systems in apparel industry.
- Study the fundamentals of production planning.
- Understand the resource management in Apparel Industry
- Obtain knowledge on selection of raw material.
- Know the purchasing procedures
- Understand the basics of production balancing.
- Know about MRP and Sourcing strategies.
- Understand the IE concepts.
- Understand the SAM, Target fixing and Balancing of sewing machines

36641 APPAREL PRODUCTION PLANNING AND CONTROL

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**INTRODUCTION** Production Control – Objectives – Relationship with functional areas of Manufacturing – elements of production control system- strategy for implementing a production control system- Business preplan – objectives- Merchandising preplanning- Basic strategy- Financial planning- Cash flow analysis- production preplanning.	**14 Hrs**
II	**APPAREL ENGINEERING** Basic concept of Apparel engineering – Flexible Manufacturing – Throughput – Work flow – Plant layout- materials handling- Production systems – Progressive Bundle system- Unit Production system- Modular Production system – Individual finishing system – Group system – Combination of Production system – Mass production system – Lean production system – Comparison of lean and mass production system – Ergonomics.	**14 Hrs**
III	**PRODUCTION PLANNING AND MATERIAL MANAGEMENT** Production planning- Plant capacity- Committed Capacity- Available capacity- Potential capacity- Required capacity- Individual operation capacity- Excess capacity- Relationship of production Standards to capacity. Basic principles in material management – Principles of purchasing – Purchasing system based on Sales plan. Inventory control – Economic order quantity.	**14 Hrs**
IV	**BALANCING, MRP AND QUICK RESPONSE** Introduction- Basics of Sectionalization – Basics of Balancing – Scheduling of machines- Theoretical Balancing- Balancing of work force- Principles of Manufacturing Resource Planning (MRP)- Critical assessment of MRP- Clothing industry experiences of MRP- Organizational strategies for Quick Response- Standardization affecting the materials supply chain- Buyer / Supplier relationship- Brief study of Sourcing strategies- Just in time suppliers- Overseas sourcing.	**13 Hrs**

V	**INDUSTRIAL ENGINEERING** Role IE in garment production management - Implementation procedure – Time study – Definition, Calculation of basic time, Calculation for standard time, Definition of SAM - SAM calculation through time study - Steps in production line setup – make operation breakdown - Define machine for each operation - Calculate production/Hour and no. of machine and Balancing of machine.	**13 Hrs**

Text Book:

Title	Author	Publisher	Year
Introduction to Clothing Production Management	Chuter AJ	Blackwell Science	**1998**
Materials Management In Clothing Production	David J Taylor	BSP Professional Books London	**2001**

Reference:

Title	Author	Publisher	Year
Apparel manufacturing	Ruth E Glock Grace I Kunz	Prentice hall New Jersy	**1987**
Industrial Engineering in Apparel Production	Ramesh Babu V	Woodhead Publishing India	**2012**
Industrial Engineering and Management	N V S Raju	Cengage Learning	**2013**

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

VI SEMESTER

2015 – 2016 ONWARDS

INDUSTRIAL CLOTHING

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME
(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : DIPLOMA IN APPAREL TECHNOLOGY
Course Code : 1069
Subject Code : 36982
Semester : VI Semester
Subject Title : INDUSTRIAL CLOTHING

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject Title	Instructions		Examination			
	Hours /Week	Hours /Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
36982 INDUSTRIAL CLOTHING	5 Hrs	75 Hrs	25	75	100	3 Hrs

Topics and Allocation of Hours:

Sl.No.	Topic	Time(Hrs)
I	BASIC UNIFORM CLOTHING	I5
II	PROTECTIVE CLOTHING	15
III	SPECIAL CLOTHING	15
IV	MEDICAL CLOTHING	15
V	SHELTER / TRANSPORT CLOTHING	15
Total		75

RATIONALE:

Industrial clothing represents the manufacturing of various industrial safety garments so as to work with full satisfaction, without fatigue and fear. This subject includes various Protective Textiles, Medical Textiles and Transport Clothing. These topics give

enough input to the students on various industrial related Textile productsA.lso it gives an idea about drafting and construction procedure for various industrial clothing.

OBJECTIVES:

At the end of the study of VI Semester the student will be able to

- Understand the fabric selection for various types of uniforms.
- Know the color choice & accessory requirement for various type of garments.
- Get knowledge on protective clothing and types.
- Know the various types of finishes used for various purpose.
- Get knowledge on high performance clothing.
- Understand the fabric selection and finishes required for special clothing.
- Study the clothing for medical field.
- Know about cloth particulars and finishes for medical textiles.
- Get knowledge on clothes used for agriculture industry.
- Understand the fabric particulars for footwear, automobiles, train, aircraft fields.

36982 INDUSTRIAL CLOTHING

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the Topic	Hours
I	**BASIC UNIFORM CLOTHING** Requirements of Uniform materials- types of uniforms- Design and Style features of Foundry wear- Coat- Cap- gloves- Socks- Design and Style features of Sportswear- Military uniforms- Mountaineers wear- Basic Accessories requirement- selection of colour- Drafting and construction procedure for foundry coat-cap- gloves.	**15 Hrs**
II	**PROTECTIVE CLOTHING** Study of Clothing for chemical warfare - wind proof clothing - water proof clothing- Insect proof clothing - snow Protection clothing – Radiation proof clothing- Fire proof clothing- Chemical proof clothing- Fabric selection- accessory requirements - selection of Finishes.	**15 Hrs**
III	**SPECIAL CLOTHING** Study of Ballistic Protection Garments- Low heat stress- High performance clothing- Requirements of insulation and moisture- vapour permeability- High speed race track Drivers- Clothing for Divers and marine operators- Space travellers- Fabric selection- accessory requirements - selection of Finishes.	**15 Hrs**
IV	**MEDICAL CLOTHING** Study of Dresses for Patients - Normal - ICU- Hospital uniforms - Gowns for operating staff - Theatres masks- Non Woven swabs- post operation dress - Beddings - Bed spreads - Pillow covers - Furnishing Cloth - Cleaning and disposing the medical cloths- Fabric selection- accessory requirements - selection of Finishes.	**15 Hrs**

V	**SHELTER / TRANSPORT CLOTHING** Brief study of Tents for Deserts - Jungles - sea shores - Mountains- Polar Raglans - Transport coverage for trucks / ships - Sails - Ships - Carpets for oil industry - Geo textiles - Clothing for Green Houses - Agriculture applications - Clothing for footwear - Clothing for Interiors of Automobiles / Train / Aircraft- Fabric selection- accessory requirements - selection of Finishes.	**15 Hrs**

Text Book:

Title	Author	Publisher	Year
The Design of Textiles for Industrial Application	P.W. HARRISON	The Textile Institute Manchester	
Textiles Fibre to Fabrics	CORBANAN, B.P	Mcgraw Hill Inc., Singapore	**1985**

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

VI SEMESTER

2015 – 2016 ONWARDS

FASHION AND GARMENT CAD PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : APPAREL TECHNOLOGY
Subject Code : **36964**
Semester : VI Semester
Subject Title : FASHION AND GARMENT CAD PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	**Instruction**		**Examination** **Assessment Marks**					
36964 FASHION AND GARMENT CAD PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	6	90	25			75	100	3 Hrs

RATIONALE:

To improve the production process and productivity, the management of industries are going for computerization wherever possible with in the industry. In garment units computerization is observed in fields like Pattern making, layout and Marker preparation, Grading, Fashion designing, cut order planning, MIS and ERP. This subject provides practical hands on experience in developing computer based Pattern making, layout, Marker preparation, Grading, and Fashion designing.

GUIDELINES:

- **All the sixteen experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate sewing machine with attachments for creating garments in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than two students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Fashion / Pattern/ Layout/ Grading sketching	50 marks
Write up	20 marks
Viva	05 marks
Total	75 Marks

SIXTH SEMESTER
36964 FASHION AND GARMENT CAD PRACTICAL
EXPERIMENTS OBJECTIVE:

To draw
Free Hand Sketches,
figure of gents & Ladies
spring wear for children
summer wear for Ladies
winter wear for senior citizen
Striped, Checked Printed and One Way Fabric Design.

To draft patterns for
Sun Suit
Shirt with full sleeves
Shorts
Party dress
Kameez
Salwar
Gents Trouser

To prepare Layout and calculate the fabric requirement for minimum 2 sizes.

Full sleeve Shirt
Gents Trouser

To draw pattern for full sleeve shirt and grade it to any two sizes

Suggested software:

- Coral Draw.
- Photoshop.
- Windows – Paint
- Any Garment CAD software
- Any Garment fashion software.

SIXTH SEMESTER
36964 FASHION AND GARMENT CAD PRACTICAL
LIST OF EQUIPMENT

Equipments / Machines / Instruments required:
Computer system- 10 Nos.
Colour Printer- I No Scanner- I No
Suggested Software-
Windows- Paint
Coral Draw
Photoshop
Auto CAD
Garment CAD.
Material required : Printing paper

SIXTH SEMESTER
36964 FASHION AND GARMENT CAD PRACTICAL
LIST OF EXPREIMENTS

1. Draw Free Hand Sketches using any relevant software.
2. Draw Fashion figure of gents & Ladies using any relevant software
3. Draw a spring wear for children using any relevant software
4. Draw a summer wear for Ladies using any relevant software
5. Draw a winter wear for senior citizen using any relevant software
6. Draw Striped, Checked Printed and One Way Fabric Design using any relevant software.
7. Practice drafting patterns of Sun Suit for the given size using any relevant software.
8. Practice drafting patterns of Shirt with full sleeves for the given size using any relevant software.
9. Practice drafting patterns of Shorts for the given size using any relevant software.
10. Practice drafting patterns of Salwar for the given size using any relevant software.
11. Practice drafting patterns of Gents Trouser for the given size using any relevant software.
12. Practice pattern for full sleeve shirt and grade it to any two sizes using any relevant software.

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

VI SEMESTER

2015 – 2016 ONWARDS

ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : APPAREL TECHNOLOGY
Subject Code : **36965**
Semester : VI Semester
Subject Title : ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	Instruction		Examination Assessment Marks					
36965 ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	5	75	25			75	100	3 Hrs

RATIONALE:

Garment production starts with drafting of patterns of various parts of the garment. This technique helps the manufacturers in assembling the parts perfectly in the next process. Further it assists to calculate the requirement of fabric for garment construction and subsequently reduced fabric consumption and increased profits. This practical subject provides hands on experience on the method of drafting each every part of advanced styles of garments with variety of front, back, yoke, collar, cuff, skirt panels etc.

GUIDELINES:

- **All the sixteen experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate drafting table and drafting tools for creating patterns of various parts in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than two students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Pattern preparation / Garment construction	50 marks
Write up	20 marks
Viva	05 marks
Total	75 Marks

SIXTH SEMESTER
36965 ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL
EXPERIMENT OBJECTIVES:

Children's wears:

To prepare the paper pattern for the Garment – Padded Snow Suit for children using the style features given below.

- Loose Fitting
- Trousers attached at the waist line of body part.
- Body part with head bonnet
- Leg Open and front half open.
- ¾ Sleeves.

To Prepare Layout and Sew Padded Snow Suit.
To Prepare Layout and Sew Party dress for kids with suitable fullness.
To prepare the paper pattern for the Garment – Peplum Blouse for children using the style features given below.

- Back Open.
- Normal Fitting.
- Short Gathers in waist (Peplum).
- Short Puff Sleeve.

To Prepare Layout and Sew Peplum Blouse with stone work.
To get practical knowledge on advanced garment styles.
To get knowledge on various value addition techniques on garments.
To know the introduction of various fullness and Decoration on garments

Ladies' wears.

To prepare the paper pattern for the styles given below

Sari blouse with the following details.

- Tight Fitting.
- Front Open & Front Waist Yoke.
- Petal Sleeve.
- Decorative Back Neck.

Bridal Gown

To Prepare Layout and Sew Sari blouse with suitable decorations.
To Prepare Layout and Sew Ladies party wear with suitable decorations.
To Prepare pattern and sew a Designer Hand Bag.

Gents' wears.

To prepare the paper pattern for the styles given below.

- S.B.Coat -Single Breast.

To Prepare pattern and sew Industrial Gloves.

SIXTH SEMESTER
36965 ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL
LIST OF EQUIPMENT

Equipment required:

Pattern table- 8'x4' table- 4 nos.

Materials required:

Pattern paper-30 nos./expt /batch of 30 students
Measuring, drafting & general tools-30/ batch of 30 students

SIXTH SEMESTER

36965 ADVANCED PATTERN DRAFTING AND CONSTRUCTION PRACTICAL LIST OF EXPREIMENTS

1. Using the given pattern cut and Sew Party dress for kids with suitable fullness.
2. Prepare pattern of Peplum Blouse for children using the style features given below.
    - Back Open.
    - Normal Fitting.
    - Short Gathers in waist (Peplum).
    - Short Puff Sleeve.
3. Using the given pattern cut and Sew Peplum Blouse with stone work.
4. Prepare pattern of sari blouse using the style features given below.
    - Tight Fitting.
    - Front Open & Front Waist Yoke.
    - Petal Sleeve.
    - Decorative Back Neck.
5. Using the given pattern cut and Sew Sari blouse with suitable decorations.
6. Prepare pattern for Men's coat.
7. Prepare pattern for Laboratory over coat.
8. Prepare pattern and sew a Designer Hand Bag.
9. Prepare pattern and sew Kitchen apron.
10. Prepare Curtain using different types of pleats.
11. Prepare table linen with suitable decoration.
12. Prepare Tea cozy.

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

VI SEMESTER

2015 – 2016 ONWARDS

FASHION DRAPING PRACTICAL

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M-SCHEME

(To be implements from the students admitted from the year 2015-2016 onwards)

Course Name : APPAREL TECHNOLOGY
Subject Code : **36966**
Semester : VI Semester
Subject Title : FASHION DRAPING PRACTICAL

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	**Instruction**		**Examination Assessment Marks**					
36966 FASHION DRAPING PRACTICAL	Hours/Week	Hours/Semester	Internal Marks			Board Exam	Total	Duration
			10	10	5			
	5	75	25			75	100	3 Hrs

RATIONALE:

Draping is an art of wrapping the dress materials on the body. The same technique is extended to produce required patterns of basic and complicated styles of garment. This practical subject deals with the preparation of patterns of various parts of the garment without drawing tools, measurements but with the aid of relevant dummy or mannequin. The students are provided with either dummy or mannequin for draping exercise and pattern will be drawn and cut.

GUIDELINES:

- **All the twelve experiments given in the list of experiments should be completed and given for the end semester practical examination.**
- **In order to develop best skills every students should be provided with a separate sewing machine with attachments for creating garments in the laboratory.**
- **The external examiners are requested to ensure that a single experimental question should not be given to more than three students while examining a batch of 30 students during Board Examinations.**

ALLOCATION OF MARKS

Draped pattern preparation	50 marks
Write up	20 marks
Viva	05 marks
Total	75 Marks

SIXTH SEMESTER

36966 FASHION DRAPING PRACTICAL
EXPERIMENTS OBJECTIVE:

To prepare pattern using Draping Technique.

- Basic bodies' - Front & Back
- Basic Skirt.
- Basic Sleeve.
- Lowered Waistline.
- Pointed Waistline.
- Empire Waistline.
- Princess Bodies.
- Pleated Skirt.
- Tapered Slacks.
- Skirt with Hip Yoke.
- Reglan Sleeve.
- Basic Jacket.

SIXTH SEMESTER
36966 FASHION DRAPING PRACTICAL
LIST OF EQUIPMENT

Equipments / Machines / Instruments required:
Dress forms
Mannequin
Pattern/ cutting table
Measuring tools
Drafting tools
Construction tools
General tools

Sewing machines-

Lock stitch-	10 Nos.
Over lock-	1 No
Flat lock	1 No
Button hole	I No
Button stitch	1 No
4- needle trimmer	1 No
Chain stitch*	1 No
Feed- off-arm*	1 No

***- OPTIONAL**

Material required:
10 meters of fabric/ expt./ batch of 30 students.
Sewing threads- white, assorted
Decorative materials.

SIXTH SEMESTER
36966 FASHION DRAPING PRACTICAL
LIST OF EXPREIMENTS

1. Prepare basic bodies' pattern for Front & Back by Draping Technique.
2. By draping technique Prepare patterns for Basic Skirt.
3. By draping technique Prepare patterns for Basic Sleeve.
4. Using draping technique Prepare pattern for Lowered Waistline.
5. Using draping technique Prepare pattern for Pointed Waistline.
6. Using draping technique Prepare pattern for Empire Waistline.
7. Using draping technique Prepare pattern for Princess Bodies.
8. Using draping technique Prepare pattern for Pleated Skirt.
9. Using draping technique Prepare pattern for Tapered Slacks.
10. Using draping technique Prepare pattern for Skirt with Hip Yoke.
11. Using draping technique Prepare pattern for Reglan Sleeve.
12. Using draping technique Prepare pattern for Basic Jacket.

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DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN APPAREL TECHNOLOGY

III YEAR

M – SCHEME

VI SEMESTER

2015 – 2016 ONWARDS

PROJECT WORK

CURRICULUM DEVELOPMENT CENTRE

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU
DIPLOMA IN APPAREL TECHNOLOGY
M -SCHEME

(to be Implements for the student Admitted from the year 2015-2016 onwards)

Course Name	:	DIPLOMA IN APPAREL TECHNOLOGY
Course Code	:	1066
Subject Code	:	36667
Semester	:	VI Semester
Subject Title	:	PROJECT WORK

TEACHING AND SCHEME OF EXAMINATION:

No of weeks per semester: 15 weeks

Subject	Instructions		Examination			
	Hours / Week	Hours / Semester	Marks			Duration
			Internal Assessment	Board Examination	Total	
PROJECT WORK	4 Hrs	60 Hrs	25	75	100	3 Hrs

Minimum Marks for Pass is 50 out of which minimum 35 marks should be obtained out of 75 marks in the board Examination alone.

OBJECTIVES:

- Implement the theoretical and practical knowledge gained through thecurriculum into an application suitable for a real practical working environment preferably in an industrial environment
- Get exposure on industrial environment and its work ethics.
- Understand what entrepreneurship is and how to become an entrepreneur.
- Learn and understand the gap between the technological knowledge acquired through curriculum and the actual industrial need and to compensate it by
- acquiring additional knowledge as required.
- Carry out cooperative learning through synchronous guided discussions within the class in key dates, asynchronous document sharing and discussions, as well as to prepare collaborative edition of the final project report.

- Understand the facts and importance of environmental management.
- Understand and gain knowledge about disaster management

INTERNALASSESSMENT:

The internal assessment should be calculated based on the review of the progress of the work done by the student periodically as follows.

Detail of assessment	Period of assessment	Max. Marks
First Review	6th week	10
Second Review	12th week	10
Attendance	Entire semester	5
Total		25

EVALUATION FOR BOARD EXAMINATION:

Details of Mark allocation	Max Marks
Marks for Report Preparation, Demo, Viva-voce	65
Marks for answers of 4 questions which is to be set by the external examiner from the given question bank consisting of questions in the following two topics Disaster Management and Environmental Management. Out of four questions two questions to appear from each of the above topics i.e. 2 questions x 2 topics = 4 questions 4 questions x 2 ½ marks = 10 Marks	10
Total	**75**

DETAILED SYLLABUS

ENVIRONMENTAL & DISASTER MANAGEMENT

1. ENVIRONMENTAL MANAGEMENT

Introduction – Environmental Ethics – Assessment of Socio Economic Impact – Environmental Audit – Mitigation of adverse impact on Environment – Importance of Pollution Control – Types of Industries and Industrial Pollution.

Solid waste management – Characteristics of Industrial wastes – Methods of Collection, transfer and disposal of solid wastes – Converting waste to energy – Hazardous waste management Treatment technologies.

Waste water management – Characteristics of Industrial effluents – Treatment and

disposal methods – Pollution of water sources and effects on human health.

Air pollution management – Sources and effects – Dispersion of air pollutants – Air pollution control methods – Air quality management.

Noise pollution management – Effects of noise on people – Noise control methods.

2. DISASTER MANAGEMENT

Introduction – Disasters due to natural calamities such as Earthquake, Rain, Flood, Hurricane, Cyclones etc – Man made Disasters – Crisis due to fires, accidents, strikes etc – Loss of property and life..

Disaster Mitigation measures – Causes for major disasters – Risk Identification – Hazard Zones – Selection of sites for Industries and residential buildings – Minimum distances from Sea – Orientation of Buildings – Stability of Structures – Fire escapes in buildings - Cyclone shelters – Warning systems.

Disaster Management – Preparedness, Response, Recovery – Arrangements to be made in the industries / factories and buildings – Mobilization of Emergency Services - Search and Rescue operations – First Aids – Transportation of affected people – Hospital facilities – Fire fighting arrangements – Communication systems – Restoration of Power supply – Getting assistance of neighbors / Other organizations in Recovery and Rebuilding works – Financial commitments – Compensations to be paid – Insurances – Rehabilitation.

LIST OF QUESTIONS

1. ENVIRONMENTRAL MANAGEMENT

1. What is the responsibility of an Engineer-in-charge of an Industry with respect to Public Health?
2. Define Environmental Ethic.
3. How Industries play their role in polluting the environment?
4. What is the necessity of pollution control? What are all the different organizations you know, which deal with pollution control?
5. List out the different types of pollutions caused by a Chemical / Textile / Leather / Automobile / Cement factory.
6. What is meant by Hazardous waste?
7. Define Industrial waste management.
8. Differentiate between garbage, rubbish, refuse and trash based on their composition and source.
9. Explain briefly how the quantity of solid waste generated in an industry could be reduced.

10. What are the objectives of treatments of solid wastes before disposal?
11. What are the different methods of disposal of solid wastes?
12. Explain how the principle of recycling could be applied in the process of waste minimization.
13. Define the term 'Environmental Waste Audit'.
14. List and discuss the factors pertinent to the selection of landfill site.
15. Explain the purpose of daily cover in a sanitary landfill and state the minimum desirable depth of daily cover.
16. Describe any two methods of converting waste into energy.
17. What actions, a local body such as a municipality could take when the agency appointed for collecting and disposing the solid wastes fails to do the work continuously for number of days?
18. Write a note on Characteristics of hazardous waste.
19. What is the difference between municipal and industrial effluent ?
20. List few of the undesirable parameters / pollutants anticipated in the effluents from oil refinery industry / thermal power plants / textile industries / woolen mills / dye industries / electroplating industries / cement plants / leather industries (any two may be asked)
21. Explain briefly the process of Equalization and Neutralization of waste water of varying characteristics discharged from an Industry.
22. Explain briefly the Physical treatments "Sedimentation" and "Floatation" processes in the waste water treatment.
23. Explain briefly when and how chemical / biological treatments are given to the waste water.
24. List the four common advanced waste water treatment processes and the pollutants they remove.
25. Describe refractory organics and the method used to remove them from the effluent.
26. Explain biological nitrification and de-nitrification.
27. Describe the basic approaches to land treatment of Industrial Effluent.
28. Describe the locations for the ultimate disposal of sludge and the treatment steps needed prior to ultimate disposal.
29. List any five Industries, which act as the major sources for Hazardous Air Pollutants.
30. List out the names of any three hazardous air pollutants and their effects on human health.
31. Explain the influence of moisture, temperature and sunlight on the severity of air pollution effects on materials.
32. Differentiate between acute and chronic health effects from Air pollution.
33. Define the term Acid rain and explain how it occurs.
34. Discuss briefly the causes for global warming and its consequences

35. Suggest suitable Air pollution control devices for a few pollutants and sources.
36. Explain how evaporative emissions and exhaust emissions are commonly controlled.
37. What are the harmful elements present in the automobile smokes? How their presence could be controlled?
38. What is the Advantage of Ozone layer in the atmosphere? State few reasons for its destruction.
39. Explain the mechanism by which hearing damage occurs.
40. List any five effects of noise other than hearing damage.
41. Explain why impulsive noise is more dangerous than steady state noise.
42. Explain briefly the Source – Path – Receiver concept of Noise control.
43. Where silencers or mufflers are used ? Explain how they reduce the noise.
44. Describe two techniques to protect the receiver from hearing loss when design / redress for noise control fail.
45. What are the problems faced by the people residing along the side of a railway track and near to an Airport? What provisions could be made in their houses to reduce the problem?

2. DISASTER MANAGEMENT

1. What is meant by Disaster Management? What are the different stages of Disaster management?
2. Differentiate Natural Disasters and Man made Disasters with examples.
3. Describe the necessity of Risk identification and Assessment Surveys while planning a project.
4. What is Disasters recovery and what does it mean to an Industry?
5. What are the factors to be considered while planning the rebuilding works after a major disaster due to flood / cyclone / earthquake? (Any one may be asked)
6. List out the public emergency services available in the state, which could be approached for help during a natural disaster.
7. Specify the role played by an Engineer in the process of Disaster management.
8. What is the cause for Earthquakes? How they are measured? Which parts of India are more vulnerable for frequent earthquakes?
9. What was the cause for the Tsunami 2004 which inflicted heavy loss to life and property along the coast of Tamilnadu ? Specify its epicenter and magnitude.
10. Specify the Earthquake Hazard Zones in which the following towns of Tamilnadu lie: (a) Chennai (b) Nagapattinam (c) Coimbatore (d) Madurai (e) Salem.
11. Which parts of India are experiencing frequent natural calamities such as (a) heavy rain fall (b) huge losses due to floods (c) severe cyclones

12. Define basic wind speed. What will be the peak wind speed in (a) Very high damage risk zone – A, (b) High damage risk zone, (c) Low damage risk zone.
13. Specify the minimum distance from the Sea shore and minimum height above the mean sea level, desirable for the location of buildings.
14. Explain how the topography of the site plays a role in the disasters caused by floods and cyclones.
15. Explain how the shape and orientation of buildings could reduce the damages due to cyclones.
16. What is a cyclone shelter ? When and where it is provided ? What are its requirements ?
17. What Precautionary measures have to be taken by the authorities before opening a dam for discharging the excess water into a canal/river ?
18. What are the causes for fire accidents ? Specify the remedial measures to be taken in buildings to avoid fire accidents.
19. What is a fire escape in multistoried buildings ? What are its requirements ?
20. How the imamates of a multistory building are to be evacuted in the event of a fire/Chemical spill/Toxic Air Situation/ Terrorist attack, (any one may be asked).
21. Describe different fire fighting arrangements to be provided in an Industry.
22. Explain the necessity of disaster warning systems in Industries.
23. Explain how rescue operations have to be carried out in the case of collapse of buildings due to earthquake / blast / Cyclone / flood.
24. What are the necessary steps to be taken to avoid dangerous epidemics after a flood disaster?
25. What relief works that have to be carried out to save the lives of workers when the factory area is suddenly affected by a dangerous gas leak / sudden flooding ?
26. What are the difficulties faced by an Industry when there is a sudden power failure? How such a situation could be managed?
27. What are the difficulties faced by the Management when there is a group clash between the workers? How such a situation could be managed?
28. What will be the problems faced by the management of an Industry when a worker dies because of the failure of a mechanical device due to poor maintenance? How to manage such a situation ?
29. What precautionary measures have to be taken to avoid accidents to labourers in the Industry in a workshop / during handling of dangerous Chemicals / during construction of buildings / during the building maintenance works.
30. Explain the necessity of medical care facilities in an Industry / Project site.
31. Explain the necessity of proper training to the employees of Industries dealing with hazardous products, to act during disasters.

32. What type of disaster is expected in coal mines, cotton mills, Oil refineries, ship yards and gas plants?
33. What is meant by Emergency Plan Rehearsal? What are the advantages of such Rehearsals?
34. What action you will take when your employees could not reach the factory site because of continuous strike by Public Transport workers?
35. What immediate actions you will initiate when the quarters of your factory workers are suddenly flooded due to the breach in a nearly lake / dam, during heavy rain?
36. What steps you will take to avoid a break down when the workers union of your Industry have given a strike notice?
37. List out few possible crisis in an organization caused by its workers? What could be the part of the middle level officials in managing such crisis?
38. What types of warning systems are available to alert the people in the case of predicted disasters, such as floods, cyclone etc.
39. Explain the necessity of Team work in the crisis management in an Industry / Local body.
40. What factors are to be considered while fixing compensation to the workers in the case of severe accidents causing disability / death to them?
41. Explain the legal / financial problems the management has to face if safely measures taken by them are found to be in adequate.
42. Describe the importance of insurance to men and machinery of an Industry dealing with dangerous jobs.
43. What precautions have to be taken while storing explosives in a match/ fire crackers factory?
44. What are the arrangements required for emergency rescue works in the case of Atomic Power Plants?
45. Why residential quarters are not constructed nearer to Atomic Power Plants?

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