சர்தார் வல்லபாய் படேல் சர்வதேச ஜவுளி மற்றும் மேலாண்மை கல்லூரி
सरदार वल्लभभाई पटेल इंटरनेशनल स्कूल ऑफ टेक्सटाइल्स एंड मैनेजमेंट
SARDAR VALLABHBHAI PATEL
International School of Textiles & Management
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B.Sc. – TEXTILES

REGULATIONS, CURRICULUM & SYLLABUS 2025

(Three Years / Four Years)

ABOUT SVPISTM

SVPISTM is a one of its kind institute which is primarily devoted for Textile Management excellence. To cater to the needs of students' community it offers UG and PG programmes in Textiles and Management. With more than 15 years of heritage, SVPISTM has carved a niche in the field of Textile and Management education. Our methodology for producing industry ready candidates and entrepreneurs is based on experiential learning through practical workshops, real-time projects, working alongside with industry professionals as mentors.

This Institute is an autonomous entity governed by the Ministry of Textiles, Government of India. All the academic progammes are offered in collaboration with the Central University of Tamil Nadu (CUTN). The core culture and philosophy of SVPISTM is to keep students at the forefront of modern textile and management practices through innovative pedagogy blending theoretical knowledge with practical application to succeed in the global business world.

In the rapidly changing economic and business landscape, need for managers with the global perspective and personal competencies to drive diverse teams has become even more important for organizations. We continually strive on best approach to empower the students to harness their potential strengths and to emerge as positive, well-informed, ethical and confident individuals.

Right from inception we have been training executives, preparing the participants for a world in constant evolution, a world that needs leaders capable of utilizing innovation to turn challenges into opportunities. At SVPISTM, innovation is the way of life.

VISION AND MISSION OF THE INSTITUTE

Vision

To emerge as an internationally renowned center of excellence in textile education, creating a strong cadre of professionals who will become inspiring performers and decision makers, capable of attaining high standards and competitive edge to bring the Indian textile industry to the forefront

Mission

Our Mission is to impart vibrant, comprehensive and innovative learning to our students enabling them to be managers, entrepreneurs, and leaders with strong cultural values and to provide an ambience to develop their skills to meet the challenges of the global business environment.

I. GOVERNANCE POLICIES

1. STUDENT BEHAVIOUR IN THE CAMPUS

a. Discipline includes the observance of good conduct and orderly behavior by the students of the Institute.

b. The following and such other rules as framed by the Institute from time to time shall be strictly observed by the students of the Institute.
   - ✓ Every student of the Institute shall maintain discipline and consider it his /her duty to behave decently at all places. Men student shall, in particular, show due courtesy and regard to women students.
   - ✓ No student shall visit places or areas declared by the Institute as "Out of Bounds" for the students.
   - ✓ Every student shall always carry on his / her personal Identity Card issued by the Institute.
   - ✓ Every student, who has been issued the Identity Card, shall have to produce or surrender the Identity Card, as and when required by the Institute Staff, Teaching and Library Staff and the Officials of the Institute.
   - ✓ Any Student found guilty of impersonation or of giving a false name shall be liable to meet disciplinary action.
   - ✓ The loss of the Identity Card, whenever it occurs, shall immediately be reported in writing to the class advisor.
   - ✓ If a student is found to be continuously absent from classes without information for a period of 15 days in one or more classes, his / her name shall be struck off the rolls. He/she may, however, be readmitted within the next fortnight on payment of the prescribed readmission fee etc. He / She will not be readmitted beyond the prescribed period.

c. Breach of discipline, interlaid, shall include:
   - ✓ Irregularity in attendance, persistent idleness or negligence or indifference towards the work assigned.
   - ✓ Causing disturbance to a Class or the Office or the Library, the auditorium and the play Ground etc.
   - ✓ Disobeying the instructions of teachers or the authorities;
   - ✓ Misconduct or misbehavior of any nature at the Examination Centre.
   - ✓ Misconduct or misbehavior of any nature towards a teacher or any employee of the Institute or any visitor to the Institute.
   - ✓ Causing damage, spoiling or disfiguring to the property/equipment of the Institute;
   - ✓ Inciting others to do any of the aforesaid acts;
   - ✓ Giving publicity to misleading accounts or rumor amongst the students;
   - ✓ Mischief, misbehavior and/or nuisance committed by the residents of the hostels;
   - ✓ Visiting places or areas declared by the Institute r as out of bounds for the students.
   - ✓ Not carrying the identity cards issued by the Institute;
   - ✓ Refusing to produce or surrender the Identity Card as and when required by

Teaching and other Staff of the Institute;

- ✓ Any act of ragging.
- ✓ Any other conduct anywhere which is considered to be unbecoming of a student.
- ✓ Possession and/or use of any prohibited items and substances like tobacco, alcohol, narcotics, etc., is banned inside the campus premises

d. Students found guilty of breach of discipline shall be liable to such punishment, as prescribed below:

- ✓ Fine
- ✓ Campus Ban
- ✓ Expulsion
- ✓ Rustication

e. No such punishment shall be imposed on an erring student unless he is given a fair chance to defend himself. This shall not preclude the Director from suspending an erring student during the pendency of disciplinary proceedings against him relating to discipline & disciplinary action in relation to the student shall vest in the Director. However the Director may delegate all or any of his / her powers as he deems proper to the program coordinator or to the disciplinary authority as the case may be any functionary of the Institute.

f. The said Committee, shall, make such Rules as it deems fit for the performance of its functions and these Rules and any other orders under them shall be binding on all the students of the Institute.

g. The decision of the Discipline Committee shall be final and binding. However, in exceptional circumstances the Discipline Committee is empowered to review its decisions.

2. DRESS CODE

Male students shall wear formal dress of pants and tucked-in shirts with shoes. The female students shall wear Salwar Kameez or any modest and professional attire. All students are expected to come in formal dress on important occasions. On any occasion students will not be allowed to attend the classes in T-shirts.

a. Formal Dress Code Policy – Wednesdays

To maintain a professional and disciplined learning environment, all students are required to adhere to a formal dress code every Wednesday. This initiative reinforces the importance of decorum, uniformity, and readiness for professional settings.

b. **Dress Code Guidelines for Wednesdays**:

Boys: Formal shirt (tucked in), formal trousers, belt, and shoes. Clean shave or well-groomed beard is expected.

Girls: Formal salwar kameez, or any modest and professional attire appropriate to the academic environment

3. LIBRARY

The library is stacked with latest books and reference materials. The library has been provided with the ERP Software having a multi-functional facility. The library holds over 8,000 volumes of books and rich collection of journals. In addition the library possesses audio- visual and multimedia documents. Apart from this, it also provides online sources and reprographic facilities. The library subscribes to online data bases to enhance the knowledge base of students. The time, rules and regulations of library are given below.

a.Library Timings

- ✓ Monday to Friday – 10.00 am to 5.30 pm
- ✓ Saturday (Excluding second & last Saturday of month) – 10.00 am to 4.30 pm

b. Rules and Regulations

- ✓ Students should register their entry and exit to access the Library.
- ✓ Books, bags, and other belongings are not allowed inside the Library.
- ✓ Students are allowed to take maximum of three books for a period of fourteen days. They may be allowed for further renewal if there is no demand for that particular book. If the books are not returned within the due date, Rupee one will be charged per day per book till the return of the books.
- ✓ Reservation facility is available on issued books.
- ✓ Books will be issued upto 5.30 pm on all the working days except Saturdays.
- ✓ ID card should be produced at the time of issuing books.
- ✓ Issue of books through the ID card of other students is strictly prohibited.
- ✓ Loss of book is to be replaced by the same copy or by double the cost of the book.
- ✓ Silence to be maintained inside the library. Group activity to be avoided inside library.
- ✓ Stealing, damaging the property of the library, misbehaviour with any-one in the library will be considered an act of indiscipline and misconduct. The student involved may be denied library membership and reported for further action on account of their misconduct.
- ✓ Any book issued must be shown for verification to the person on duty at the library gate.
- ✓ Marking, defacing or damaging any library property is a gross misconduct.

c.Lending Rules

- ✓ Reference book, journals or magazines, summer training reports or dissertation reports (including back issues) will not be issued to students. They are to be used only in the Library.
- ✓ The Librarian reserves the right to recall any book issued to the borrower even prior to the due date of return, if necessary.
- ✓ Maximum of three books will be issued to the students for the period of fourteen days.
- ✓ Maximum of five books will be issued to the faculty members for the period of sixty days.

- ✓ If a student fails to return the book on due date or fails to get it re-issued on the due date, a fine of Rupee One per day per book will be charged for each book after the due date.

4. COMPUTER LAB

The institute campus is equipped with networked computers and other IT equipment. Internet browsing with broadband facility is available other than class hours during college working time. Facilities like printing & scanning are also extended to students.

a. IT Guidelines

i. The Institute and its IT resources

The Institute makes Information Technology services available to the students in varied forms:

- ✓ The Institute network comprises of secured network with the latest Hardware, Firewall & Antivirus software.
- ✓ The Institute network comprises DNS Server, ERP Server, and Online e-Learning software with the latest Processor with desktop computers setup.
- ✓ The Institute has centralized computing facility. Audio visual equipment is available in the classroom and in the seminar hall.
- ✓ Access to High-speed internet is available in all the computers except the computers in the class rooms. In addition to this National Knowledge Network Connectivity from BSNL is also available for students.
- ✓ Reprographic facility is made available inside the campus for the students as well as for the faculty members.
- ✓ Scanning facility is available in the Computer Laboratory, Library, Controller's office (Multi-function Device) and Academic section.
    - ✓ The computers assigned to the group / department may be utilized effectively by the group on time-share basis.
    - ✓ The Faculty, Staff and students are provided with individual user-IDs in the Institution domain server through which they can interact among themselves. Moreover, we have separate individual email-IDs to our faculty and staff for official purpose through the web mail.
    - ✓ The group or individual or department are being assigned with the computers or workstations, which means that the individual / department are responsible for the machine's safety. However the IT department may provide suggestions to keep it safe and in working condition.
    - ✓ In case of any requirement, the group / department should provide information about the usage of the computing equipment.
    - ✓ The Institute owns Software licenses for various System Software as well as Application software.
    - ✓ The Secured Wi-Fi Connectivity is available in the campus as well as in the hostels.

ii. DOs and DON'Ts for using the resources

- ✓ Students must wear a valid ID card before entering the Computer Lab

- ✓ While entering the computer laboratory, students must make an entry in the register book kept in the computer laboratory and also at the time of exit from the lab. Students are expected to maintain perfect silence and good discipline.
- ✓ Students are not allowed to bring in bags, pouches, food and beverages inside the Lab
- ✓ Mobile phone should be in switched off mode.
- ✓ Before leaving lab, students must shutdown the system, keep the place clean and rearrange the chairs in appropriate place.
- ✓ During the class hours students are not allowed to use the computer lab. If necessary, they can get permission from the concerned class faculty, Program coordinator and Lab in charge. They should submit the lab access form to the lab in charge, unless they will not be allowed to enter into the lab.
- ✓ You can back up your data regularly in the additional drives available in the local machine itself.
- ✓ Use of any media (CD / DVD / Pen Drive) or transfer of files from digital camera or any storage media to the network storage is subject to permission from the network administrator. Usage of pen drive is allowed only after scanning for virus.
- ✓ No user is allowed to login a computer as administrator. He / She is only an ordinary user with assigned individual / group user – id.
- ✓ Inform and seek permission from the IT department (recommended procedure) while transferring / shifting devices (such as desktop computers, laptops) from one place to other inside the campus for any task.
- ✓ In case of any requirement in taking laptops / projectors or any devices outside the campus, acquire a gate pass from the administrative office.
- ✓ Do not try getting data of others from the computer or the network.
- ✓ Taking a photograph using any media in the laboratory is prohibited.
- ✓ Do not login with the login-id of others or do not lend your login id and password to others. Any data loss thereby may not be retrieved.
- ✓ The students have to send a request to the library for any hard copy print by listing the file, location and page numbers of the content for print and collect only during the break hours. Users have to enter in the log book and collect the print out. This procedure applies to copying / writing data in CDs also.
- ✓ Students can use their personal computers in the campus. But they are not permitted to connect to the LAN. Use of software without license in the laptop and accessing the internet through institute network is strictly prohibited. Software piracy will not be entertained.
- ✓ Students are advised to maintain cleanliness inside the laboratory. Use of mobile phones, hearing songs and eatables are not allowed inside the laboratory (to be strictly followed by all the students in the computer laboratory, failing which the services will be denied.)

iii. Storage, e-mail / Chat: Privacy, Responsibilities and Rules

- ✓ IT department has provided every user with a storage space in the network. As network share is available to students of that course, it is a common information

sharing only and not to store individual / group's personalized data or irrelevant data like movies, songs etc.

- ✓ SVPISTM procedures allow IT system administrators to view and monitor any files, including e-mail messages, in the course of diagnosing or resolving system related problems and maintaining information integrity. System administrators, as part of the job, will treat any such information on the systems as confidential. However, if the administrator comes across information that indicates illegal activity / content stored in the storage area, the content will be deleted without any notice and the user's work area will be barred.
- ✓ SVPISTM's IT policy prohibits certain other kinds of usages. For example, using computers and the network used by individuals for commercial and individual purposes. Such cases if found will be brought to the attention of higher officials.
- ✓ Use of Messenger / Chat is prohibited inside the campus.
- ✓ Gaming is strictly prohibited. The web sites providing online gaming are not advised to be browsed. Any such activity if reported may block even the related beneficiary sites causing inconvenience to all other users in addition to denial of resources.

iv. Web Site Contents

- ✓ Individual users who are browsing will assume full responsibility for the content in Web pages, and they must abide by all applicable rules and policies of SVPISTM.
- ✓ Information about the institute is available in the institute's official website viz. www.SVPITM.ac.in and www.SVPISTM.ac.in
- ✓ Any information to be uploaded in the website may be provided to the IT department with the approval from the Director's office.

b. Abuse and Action for Abuse of Computing Privileges

i. ABUSE

- Unauthorized use or misuse of IT department property or records includes
  - ➢ Electronic data mishandling.
  - ➢ Willfully or negligently damaging or defacing records in common share or storage areas of individual courses.
  - ➢ Theft or unauthorized removal of records, property or other person's property.
  - ➢ Use of unrecognized / unauthorized storage media.
  - ➢ Any other abuse as found / amended from time to time.
- Unfortunately computer abuse, malicious behaviour and unauthorized account access do happen. If they are found, it should be reported immediately.

ii. ACTION

- Denial of service of SVPISTM's computing and communications resources for violation of policy are set by the various disciplinary entities, then communicated to and carried out by IT. In instances of immediate threat to the computing and communication systems, IT takes direct and immediate action to safeguard the resources it is charged to protect.

- When IT department is notified that a user appears to be abusing computing resources, all of his or her computing privileges may be suspended immediately when such an action is warranted to protect the computing resources and to assure reliable service to the rest of the community.

5. HOSTEL REGULATIONS

a. Behaviour and Discipline

- ✓ A hostel campus should be a place where students can have the best possible conditions for studying and adequate rest. As such due consideration must be accorded to other residents. Noise level must be kept low to allow others the opportunity to study or sleep in comfort. Television, Radio etc. provided in the common room must be switched off after 10:00 pm. These rules are intended to ensure a conducive environment for all residents.
- ✓ Residents shall not create or permit their guests or visitors to create any disturbance or other nuisance in the hostel that will interfere with the well-being of others.
- ✓ Possession and/or use of any prohibited items and substances like tobacco, alcohol, narcotics, etc., is banned inside the campus premises.
- ✓ Smoking, chewing and spitting of pan in the hostel premises is strictly prohibited.
- ✓ Ragging in any form is prohibited. Punishments for ragging ranges from expulsion from hostel, debarring from exams to cancellation of admission. Ragging shall be treated as a serious offence and shall be dealt with as per the UGC Regulations.
- ✓ Social gathering in the hostel complex are not permitted without the prior and written consent of the warden.
- ✓ Hostel residents are not allowed to entertain unauthorized person(s). Anyone found in violation to this will be fined and penalized according to Institute rule.
- ✓ Resident students found in act of violence or misconduct outside the hostel premises is not the liability of the Warden or Institute administration. In such cases the resident student is responsible for himself/herself.

b. Upkeep of the Hostel

- ✓ Residents are responsible for keeping the hostel premises clean. Residents are advised to keep their room, the mess hall, common room, visitor's room, stair case and toilets and bathrooms clean at all time.
- ✓ All water taps, fans and electrical appliances must be turned / switched off when not in use.
- ✓ Noise level must be kept low to allow others the opportunity to study or sleep in comfort. Television, provided in the common room must be switched off or volume toned down after 10:00 pm. These rules are intended to ensure a conducive environment for all residents.
- ✓ The use of electrical appliances such as immersion heaters, electric stove/heater are forbidden in any of the room allotted for residence. Cooking, making tea etc is strictly prohibited in the room.
- ✓ Students shall conduct a room check to verify the inventory provided and endorse on the Check In/Check out Form. Any missing or damaged items must be reported to the

hostel authority immediately. Otherwise, it will be assumed that all furnishings and fittings are in good order. The student will be responsible for any loss or damage thereafter.

- ✓ Resident(s) should not move any hostel property (table, chair, fan, cupboard, etc.) from one room to another. Any damage to hostel property must be reported immediately to the hostel authority/warden. Resident(s) will be charged for any damages except damages caused by normal wear and tear or faulty products/repairs.
- ✓ Residents will be personally responsible for the safety of their belongings. Residents are advised to keep their personal belongings and any other valuable items locked in their personal locker even when they are out for a short period. Any loss or theft of item(s) should be immediately reported to the hostel authority.
- ✓ Pasting of posters, writings, slogans and any kind of defacing the hostel in any form is not allowed.
- ✓ Electrician, contractors or any other service person may enter rooms as and when necessary in the course of their duty under the directive and permission from the warden only.
- ✓ The Hostel authority reserves the right to enter and inspect a hostel in the interests of health, safety and proper conduct of the students.
- ✓ Entry may also be made without prior notice, during normal hours, for the purpose of conducting non-emergency inspections. For repairs and maintenance purposes of showing the premises, students will be notified in advance by the hostel authority.

c. Entry and Timings

- ✓ It is required that residents of the hostel produce their Institute Identity card at the entrance of the hostel whenever he/she enters the hostel premises.
- ✓ Entry into the hostel is allowed till 7.00pm. Any late entries/night exits should be informed to the Warden in advance and permission to be obtained.
- ✓ Resident who wish to stay out of hostel should duly inform the authority about the same.
- ✓ If any student is absent/does not return to the hostel after 24 hours without any information of his/her whereabouts, roommate(s) or fellow residents should inform the hostel authority immediately.

d. Visitors and Guests

- ✓ All visitors to the hostel including the parents/guardian will have to make necessary entries in the visitor's book available at the hostel entrance.
- ✓ Visitors are restricted to the visitors lobby only.
- ✓ No visitors will be allowed inside the hostel premises after 7.00 pm.
- ✓ The visit of male guest(s) into female residence and vice versa is prohibited.

e. Allotment & Vacating of Hostel Accommodation

A limited hostel accommodation is available. It will be allotted on the basis of **"First come First Serve"** on full payment of one semester mess bill and hostel fees.

The criteria for allotment of hostel accommodation by the Institute are as under:

i. **First Priority:** Students admitted to a full-time Programme of study and are from outside the state of Tamil Nadu.

ii. **Second Priority:** Students admitted to a full-time Programme of study and are

from outside the Coimbatore district.

iii. **Third Priority**: Students from within the district of Coimbatore but living outside the Town agglomeration of Coimbatore.

iv. **Fourth Priority**: All others.

- ✓ Accommodation in the hostel is allowed initially for the current semester and is subsequently renewed subject to the continuing registration and fulfillment of academic requirements by the resident from time to time. All residents should subject themselves to the proof of registration and payment of all hostel dues of the previous semester to be eligible to continue as resident of the hostel.
- ✓ The Director may allot accommodation to students, in exceptional situations, on case to case basis.
- ✓ The maximum duration of stay in the hostel is the normal prescribed period of the programmes of studies. Once the resident completed his/her Programme of studies, he/she is no longer a resident and is required to vacate the hostel.
- ✓ Terminal student must surrender his/her rooms to the concerned warden latest by last day in the case of even semester and last day in the case of odd semester.
- ✓ Resident who discontinues his/her studies from the Institute in the middle of a semester should clear all his/her mess dues and submit an application for vacating the hostel to the Senior Warden. Resident must hand over to the caretaker the complete charge of his /her room with all furniture and fixtures in tact at the time of vacating the room.

f. Constitution of the Hostel Committee:

The Hostel Committee shall have the following members:

- ✓ Warden who shall be ex-officio convener
- ✓ A senior member nominated by the Warden in consultation with the Director
- ✓ Two members of institute

g. Roles and Responsibilities of the Hostel Committee:

In principle, the Hostel Committee shall discuss and make recommendations regarding:

- ✓ Allotment
- ✓ Discipline of resident students
- ✓ Maintenance and development of the Hostel
- ✓ Matters related to Mess
- ✓ Any other matter pertaining to the Hostel

Hostel facility is available only for girl students.

6. ATTENDANCE, DISCIPLINARY & GRIEVANCE COMMITTEE

h. This committee is constituted for the smooth functioning of the various activities of the Institute and it consists of the following members :

Head of the Department / Academic I/c.	- Chairman of the Committee
Controller of Examinations	- Convenor
Class Advisors	- Members

i. The Committee will deliberate the following matters.
    i. The matters relating to condonation and attendance shortages of students.
    ii. All grievances and disciplinary problems of the students relating to malpractices in test, semester examinations, etc.

j. The meeting of the committee will be convened by the Controller of Examination. The Committee will send periodical report and the recommendations to the Director for consideration / ratification / approval.

7. MENTORSHIP

To help the students in planning their courses of study and for getting general inputs regarding either the academic programme or any other activity, counselling every student will be assigned to a faculty member who will be the mentor. Student would be allotted for each faculty mentors by the Head – Textiles / Management.

8. MALPRACTICE IN EXAMINATIONS

a. If a student is found copying in a test conducted for Continuous internal assessment, he / she will be given zero marks for that test and severely warned.

- ✓ If a student is found copying in the end semester examination he/she will be debarred from writing that particular paper in that semester. Based on the nature of malpractice, he/she may be debarred for two more attempts of writing that paper/all papers. The disciplinary committee will make recommendations for necessary disciplinary action.
- ✓ During the examinations the candidates shall be under the disciplinary control of the Chief Superintendent of the centre who shall issue the necessary instructions. If a candidate disobeys instructions or misbehaves with any member of the supervisory staff or with any of the invigilators at the Centre, he/she may be expelled from the examination hall for that session.
- ✓ The invigilator shall immediately report the facts of such a case with full details of evidence to the Controller of Examinations who will refer the matter to the Discipline Committee. The Committee will make recommendations for disciplinary action.

b. Every day, before the examination begins, the invigilators shall call upon all the candidates to search their personal things, tables, desks, etc., and ask them to hand over all papers, books, notes or other reference material which they are not allowed to have in their possession or accessible to them in the examination hall. When a late-comer is admitted this warning shall be repeated to him at the time of entrance to the examination hall. They are also to ensure that each candidate has his/her identification card and hall ticket with him/her.

c. Use of Unfair means:

A candidate shall not use unfair means in connection with the examination. The following shall be deemed to be unfair means:

- ✓ Found in possession of incriminating material related/unrelated to the subject of the examination concerned.
- ✓ Found copying either from the possessed material or from a neighbor or from any devices.
- ✓ Inter-changing of answer scripts.

- ✓ Change of seat for copying.
- ✓ Trying to help other candidates.
- ✓ Found consulting neighbor.
- ✓ Exchange of answer sheets or relevant materials.
- ✓ Writing register number of some other candidate in the main answer paper.
- ✓ Insertion of pre-written answer sheets (Main sheets or Additional Sheets).
- ✓ Threatening the invigilator or insubordinate behavior as reported by the Chief Superintendent and/or Hall Superintendent.
- ✓ Consulting the invigilator for answering the questions in the examination.
- ✓ Cases of impersonation.
- ✓ Mass copying.

Note:

- ✓ The Director may declare any other act of omission or commission to be unfair means in respect of any or all the examination.
- ✓ Where the invigilator in charge is satisfied that one third (1/3) or more students were involved in using unfair-means or copying in a particular Examination Hall, it shall be deemed to be a case of mass copying.

d.

- ✓ The Hall Superintendent of the examination centre shall report to the Controller of Examinations, without delay and on the day of the occurrence if possible, each case where use of unfair means in the examination is suspected or discovered with full details of the evidence in support thereof and the statement of the candidate concerned, if any, on the forms supplied by the Controller of Examinations for the purpose.
- ✓ A candidate shall not be forced to give a statement by the invigilator. The act of his/her having refused to make a statement shall be recorded by the invigilator and shall be attested by two other members of the supervisory staff on duty at the time of occurrence of the incident.
- ✓ A candidate detected or suspected of using unfair means in the examination may be permitted to answer the question paper, but on separate answer-book. The answer-book in which the use of unfair means is suspected shall be seized by the invigilator, who shall send both the answer-books to the Controller of Examinations with his report. This will not affect the concerned candidate appearing in the rest of the examinations.
- ✓ All cases of use of unfair means shall be reported immediately to the Controller of Examinations by the examiner, paper-setter, evaluator, moderator, tabulator or the person connected with the semester examination as the case may be, with all relevant material.

9. INSTITUTE – INDUSTRY INTERACTION

SVPISTM provides practical industrial training. The students are taken to leading textile manufacturing units, textile research institutions, management institutes and export houses enabling them to get acquainted with the real time processes and the latest developments in the industry. Executives from Industry will deliver lectures and share their experiences on

a regular basis with the students.

10. PLACEMENT ASSISTANCE CELL

A separate placement assistance cell is in place which is in constant touch with the leading textile manufacturing units, export units, overseas buying houses etc., and arrange campus recruitment. The placement cell at SVPISTM consists of a faculty coordinator and student coordinators from the programmes B.Sc, BBA and MBA. The placement cell will facilitate in creating opportunities and directions for the registered students towards placements.

a. Rules and Regulations of Placement Cell

1. All the final year students are required to read the placement rules and regulations, interested students should sign the registration form within two weeks from the commencement of classes for final year.
2. All the students are expected to know about various activities which would be planned from time to time depending on need from the student coordinators
3. Each student has to be a part of their respective mail groups through which they will be informed all details of the placement program.
4. The students will be duly informed through the student's coordinators and notice board about the companies interested in placing students and it is the responsibility of the students to get appraised of the happening of the placement cell.
5. Companies deemed to be fit for conducting campus interview in our institute will make their pre-placement presentation. Any clarification regarding the company may be done before the interview itself.
6. Students should make the decision of attending the interview based on the pre-placement presentations. Also they should come in full formal dress code to attend the same.
7. Till the official information about the selection of the candidates is received from the company, students are allowed to participate in other companies to a maximum of three chances.
8. Once the placement cell receives the official information about the selection, the selected student will not be allowed to attend any other company interview. This is to ensure the policy of "one man – one job" to all the students. However after all students are placed such students will be given option for their future appearance.
9. Following are considered as campus placement.
    a. Student getting placement through campus placement interview coordinated by placement cell.
    b. Student getting placed on the basis of their on-going final project in the respective company.
    c. Any other assistance from the institute.
10. Registration of the student in placement cell is considered to be cancelled due to following reasons.
    a. Student not interested and not involved in the placement activities.
    b. Student who is continuously absent / not attending interviews.
    c. Student who is found by any means that they got the job personally and intentionally

trying for better prospects through the institute.

d. Any misconduct or indiscipline by students inside the campus.

11. The above mentioned rules are subject to change and it is within the discretion of the placement cell.
12. By registering with the placement cell does not mean it is a guarantee for job.

11. CLASS COMMITTEE

e. Each programme will have a Class Committee comprising the following members.
   i. Chairman: Head – Management / Textiles
   ii. All the faculty members handling courses for that class as members.
   iii. Two students' representatives with a minimum of 75% attendance during the semester shall be nominated by the class as members.
f. The functions of the Class Committee will be as follows :
g. The Class Committee shall meet post all CIA written tests.
h. The first meeting will be held within two weeks from the date of commencement of classes for the semester.
i. The class committee shall meaningfully interact and express opinions and suggestions to improve the effectiveness of teaching – learning process and analyse the performance of the students in the class test.
j. The Class Committee Minutes and the action taken report will be submitted to the Director.

12. TEMPORARY BREAK OF STUDY FROM THE PROGRAMME

A student may be permitted by the Director to withdraw from the programme for a maximum duration of one year, for reasons of medical grounds, physical fitness or other valid reasons subject to the recommendations of the class advisor in consent with the Head – Textiles / Management. In such cases, the student will have to fulfil all conditions to redo the programme.

13. PERFORMANCE ANALYSIS COMMITTEE

The Performance Analysis Committee will consist of Director as Chairman, Controller of Examinations as convenor and the members will be Head – Textiles / Management, all members of faculty and the class advisors. The meeting of the Performance Analysis Committee is to be held within four weeks from the last day of the semester examinations to analyse the performance of the students in all subjects of study (continuous and end semester).

14. RESULTS DECLARATION COMMIITEE

Results Declaration Committee will have Director as Chairman, Head – Textiles / Management and Controller of Examinations as members. After analysing the performance of the students in each course the committee is empowered to declare the results. If necessary, moderation of results will be done by this Committee. The findings and decisions of the performance analysis and results declaration committee is to be passed on to the Controller of Examinations immediately.

II. REGULATIONS

Definitions and Nomenclature

- Institute – Sardar Vallabhbhai Patel International School of Textiles and Management, Coimbatore.
- University / Collaborating University – Central University of Tamil Nadu, Thiruvarur.
- Programme – Bachelor of Science in Textiles
- Course - Every paper / subject of study offered under the programme.
- Curriculum - The various components / courses / labs in each programme that provides appropriate outcomes (knowledge, skills and attitude/behavior) towards the completion and objectives of the programme is called curriculum.
- Credits - Course work is measured in units called credit hours or credits.
- The number of lecture hours allocated for a course per week is the number of credits for that course. In case of practical and labs two hours will account for one credit.

1. QUALIFICATION FOR ADMISSION

a. Students for admission to the B.Sc. Programme will be required to fulfil the minimum qualification as specified in the following table.

S.No.	Programme	Minimum Qualification
1.	B.Sc. – Textiles	A Pass in Plus two examination or equivalent of any recognized board in India with science stream/vocational stream with textile subjects, having 50% of marks for General and 45% marks for OBC (NCL)/SC/ST/PWD

b. The Institute will prescribe from time to time other eligibility conditions for admission regarding the marks required to be secured by the student in the qualifying examination, minimum admissible percentage marks therein, permitted number of attempts for obtaining the qualifying examination, passing requirements in the respective entrance tests conducted by this institute for admissions, Common University Entrance Test (CUET) scores or other competitive entrance tests, physical fitness requirements, sponsorship etc.

c. The detailed information about the eligibility & entrance tests can be had from the websites: www.svpistm.ac.in,www.cutn.ac.in & www.cucetexam.in

2. DURATION OF THE PROGRAMME

a. The duration of the programmes are as follows:

Programme	Duration	
B.Sc.Textiles	6 Semesters	3 Years
B.Sc. Textiles Hons. (Full-time)	8 Semesters	4 Years
B.Sc. Textiles Hons. with Research (Full-time)	8 Semesters	4 Years

The programme is designed with reference to the New Education Policy of Governement of India.

b. 3-year UG Degree:
   Students who wish to undergo a 3-year UG programme will be awarded UG Degree in the major discipline after successful completion of three years.
c. 4-year UG Degree (Honours):
   A four-year UG Honours degree in the major discipline will be awarded to those who complete a four-year degree programme.
d. 4-year UG Degree (Honours with Research):
   Students who secure 75% marks and above in the first six semesters and wish to undertake research at the undergraduate level can choose a research stream in the fourth year. They should do a research dissertation under the guidance of a faculty member of the College. The dissertation will be in the major discipline and will be awarded a UG Degree (Honours with Research).
e. Exit options
   i. 6 semesters/3years – towards award of B.Sc Textiles
   ii.8 semesters/4 years-towards award of B.Sc Textiles (Hons. / Hons. with Research)
f. The duration of each semester will normally be 90 working days. The normal working days of 90 in each semester is exempted for semester VI/ VIII in which the students would spend time in industry/field for their project work.
g. A Student who is unable to complete the programme within the prescribed duration (6 semesters) may be allowed further to a maximum of 2 academic years after the completion of programme duration to complete the programme after which the marks obtained through Continual Internal Assessment (CIA) will be void.

3. STRUCTURE OF THE PROGRAMME

a. Student has an option of exiting after successful completion of three years with B.Sc(Textiles) or opt for a four year programme with B.Sc Textiles (Hons / Hons. with Research).
b. This program comprises 50 courses including 21 Major core courses, 4 Multidisciplinary courses ,10 Minor Stream,3 Ability Enhancement course, 5 Value added course, 4 Skill Enhancement course, 2 internships and 1 project work. The program consist of 145 credit up to 6^{th} semester.
c. Additionally the programme consists of 58 courses including 25 Major core courses, 4 Multidisciplinary courses ,14 Minor Stream,3 Ability Enhancement course, 5 Value added course, 4 Skill Enhancement course, 2 internships ,1 project work & 1 dissertation. The programme of 177 credits upto 8^{th} semester.
d. The student can choose the elective courses from the list specified for concerned semester. Elective courses can be chosen by the student groups who would specialize in that elective unanimously. If the students opting for an elective are not in a positio n to have a consensus in selection of elective courses, rank order preference method would be adopted for finalizing the courses under electives.
e. For the project work at sixth semester / eighth semester, student will be permitted by the Programme Co-ordinator to work on an independent project under the supervision

of a faculty member from the Institute (Internal Guide) and if required, be under a corporate guide assigned by the organization (External Guide).

f. The duration of the project will be three days per week during the sixth semester / eighth semester. At the end of the semester the student has to submit the project report.

g. The first 6 semesters are designed to incorporate core competencies in the stream Textiles and can have an exit option after completion of 6 semesters, which will qualify for the award of degree of B.Sc Textiles, subjected to fulfilling the minimum credit requirement for award of the degree. On completion of 8 semesters / 4 years, the student would be awarded B.Sc Textiles (Hons. / Hons. With Research).

h. The Student has to inform the HoD at the start of the third year, if willing to proceed with the fourth year.

4. TYPES OF COURSES

a. **Major Core Courses:** Major discipline is the discipline or subject of main focus and the degree will be awarded in that discipline. For students enrolled in Department of Textiles, courses related to Textile studies are marked as 'Major core Course'. All Major Core Courses will be for 4 credits.

b. **Minor Stream Courses:** These courses help a student to gain a broader understanding beyond the major discipline.The student can choose the elective courses from the list specified for concerned semester. Elective courses can be chosen by the student groups who would specialize in that elective unanimously. If the students opting for an elective are not in a position to have a consensus in selection of elective courses, rank order preference method would be adopted for finalizing the courses under electives.

c. **Other courses :**

a) **Skill enhancing Laboratories courses***:* All UG students are required to undergo skill enhancing practical courses to develop their skillset through hands on practical laboratory classes.

b) **Multidisciplinary Courses*:*** All UG students are required to undergo 3 introductory-level courses relating to any of the broad disciplines relating to Natural and Physical Sciences / Mathematics, Statistics. These courses are intended to broaden the intellectual experience and form part of liberal arts and science education.

c) **Ability Enhancement Courses (Language)**: Students are required to achieve competency in a Modern Indian Language (MIL) and in the English language with special emphasis on language and communication skills.

d) **Value-Added Courses:**

i. As an initiative towards developing students as industry ready professionals and competent entrepreneurs, value added courses are introduced in final semester.

ii. The courses are prescribed during the sixth semester based on the inputs from the students, industry experts, and feedback from the employers, industry readiness requirements, contemporary practices and trending topics at the time when the course is to be offered.

iii. The courses will be delivered by industry experts / external agencies / practitioners

/ academic experts in the respective discipline in which the course is designed. They bring the knowhow contemporary industry practices to the college doorstep.

iv. Multiple value added courses would be designed based on the said parameters and would be presented to the students for their choice of selecting two courses. A particular course would be delivered only if 40% of the batch strength opts for that course.

v. Students shall choose minimum of two courses or more based on their interests and account the credit points.

vi. These value added courses are voluntary basis and credits obtained will be added to the course credit as mentioned under 3b/ 3c.

vii. These credits cannot be compensated to the course credit that is mentioned under 3b/ 3c.

e) **Self-interest courses**

i. Our predominant focus today is to curate the wealth of information that is freely available on the web into high quality learning-outcome to one's interest, learning style and pace of learning.

ii. Self-learning courses based on the students' unique interests through open source learning is introduced among the students to make them gain a competitive advantage in the market.

iii. This flexible learning provides the students a broad spectrum of study.

iv. Each student can undergo one open source course through MOOC, SWAYAM, NPTEL etc., in sixth semester based on their interest which is related to the programme of study.

v. These courses shall account to one credit on successful completion of the course as prescribed by the organizer. The credits such obtained will be added to the course credit as mentioned under 3b/ 3c.

vi. These credits cannot be compensated to the course credit that is mentioned under 3b/ 3c.

d. **Internship:**

With the consultation of a faculty guide and the coordinator, every student shall undertake suitable internships. Each internship shall be for a minimum of Four weeks at an industry during the summer vacation. Report of the Summer Internship is to be submitted by the students within 15 days from the commencement of the third and fifth Semester respectively as per the format and guidelines specified by the coordinator for report preparation. The first internship should preferably be undertaken in the Textile industry to help students understand the fundamental concepts such as fiber types, yarn manufacturing, fabric production, dyeing, printing, and finishing processes. The second internship should preferably be in the apparel/technical textiles to help students understand the importance and application of in real-world scenarios.

e. **Project :**

Every student shall undertake a project work in the sixth semester in consultation with the faculty guide and the project coordinator. The project work shall be carried out in institution / industry / research organization. This project is to be carried out for duration of 12 weeks.

f. Mini Project:

Students pursuing B,Sc Textiles (Hons.) shall undertake a Mini Project during the eighth semester under the guidance of an allotted faculty member. The project work shall be carried out in institution / industry / research organization. This mini project is to be carried out for duration of 8 weeks.

g. Dissertation:

Students choosing a 4-Year Bachelor's degree (Hons. with Research) are required to take up Dissertation under the guidance of a faculty member. The students are expected to complete the Dissertation in the eighth semester. The research outcomes of their project work may be published in peer-reviewed journals or may be presented in conferences /seminars **.**

ASSESSMENT	MARKS
Continuous Internal Assessment	40
End Semester Examinations	60

Continuous Internal Assessment - Allotted marks are 40 for each theory course and the marks are inclusive of a written test and an assignment. The assignment can be in the form of article, seminar, presentation and etc. The choice of assignment is left with the faculty concerned.

- Two written exams (Continuous Internal Assessment Test I & II) with 90 minutes duration for 50 marks may be conducted and this will be converted to 20 marks for each course/subject.
- Students may be asked to submit at least two assignments in each course during each semester.
- Student should also present papers and participate in seminars conducted for each subject.
- Students may be asked pursue on and submit appropriate documents to one or more of the assessment methods.
- The presentations by students would be assessed based on RUBRICS.
    - CRITERIONS:
        - Contributions
        - Attitude
        - Preparedness & Focus
        - Quality of Work
        - Timely completion

POINTS	AWARD OF MARKS
≥ 90	10 Marks
≥ 80 but < 90	8 Marks
≥ 60 but < 80	6 Marks
≥ 40 but < 60	4Marks
= 40	2 Marks

- Controller of Examinations will issue the schedule and conduct the written test. Award of internal marks by assessment through various methods specified is the responsibility of the faculty handling the particular course.
- The internal marks obtained by the students will be duly informed before the semester

examinations.

The marks may be allocated as follows:

Written tests (Each test carries 10 marks)	20 Marks
Assignments / Seminars / Case studies / Article review / Paper presentation / Publications / Field study / Concept viva / Test based on MCQs / Quizzes etc.	10 Marks
Students' Presentation/mini project/any activity as decided by the respective subject faculty	10 Marks
Total	**40 Marks**

Question Paper Pattern (CIA)

Total Marks: 50 Duration: 90 Minutes

PART A Answer Any Five (5x3=15 Marks)

1.
2.
- …..
7.

(Remember & Understand)

PART B Answer Any Two (2x10=20 Marks)

8.
9.
10.

(Apply, Analyze & Evaluate)

PART C Compulsory Question (Case study) (1x15=15Marks)

11.

(Evaluate & Create)

5. ASSESSMENT OF PRACTICAL COURSES

1. List of exercise for the subjects that contain practical shall be designed by the faculty member who handles the subject for the semester and executed under his/her supervision. Record shall be maintained by the individual student for the exercises carried out.
2. Maximum Marks for practical is 100 which consist of :

Continuous Internal Assessment (Internal Marks)	**End Semester** (External Marks)
60	40

3. End semester exam for practical subjects which has credit, shall be conducted by the internal faculty member in the presence of an External Examiner. The Question paper shall be set by Internal Examiner in consultation with External Examiners and exercises are conducted for the duration designed by them. The assessment is carried out subsequently along with a viva-voce and the results for the same are forwarded to COE.
4. Criteria for evaluation of experiment may be framed by the course faculty based on the laboratory course.

6. EVALUATION OF INTERNSHIP, PROJECT WORK AND DISSERTATION:

a. INTERNSHIP

i. For evaluation of internship, the student will make a presentation of the report on a

date to be announced by the Controller of Examinations. The Presentation and Viva-voce will be evaluated by a team consisting of the faculty guide, the Internal Examiner and another faculty member nominated as the External Examiner.

ii. During the internship period students will make presentation once in a week to the concerned faculty guide, and the final presentation-cum-viva voce examination marks shall be allotted as follows :

Type of assessment	**Continuous Internal Assessment (Internal)**	**End Semester**
Weekly Review (3)	**45**	**-**
Observation	**15**	**-**
Report	**-**	**30**
Presentation & viva voce	**-**	**10**
Total (100)	**60**	**40**

The internship report of the students shall be evaluated for a maximum of 100 marks of which 60 marks would be allotted for internal assessment and 40 marks would be allotted for external examination. A minimum of 20 marks should be obtained in external examination and in total 50 marks (Internal + External) should be obtained to pass.

b. **PROJECT WORK:**

i. During the project period students will make presentations to the faculty guide / faculty co-ordinator. The final presentation-cum-viva voce examination marks shall be allotted as follows:

Type of assessment	**Continuous Internal Assessment (Internal)**	**End Semester**
Project Reviews (3)	**60**	**-**
Report	**-**	**80**
Presentation & viva voce	**20**	**40**
Total (200)	**80**	**120**

The project work of the students shall be evaluated for a maximum of 200 marks of which 80 marks would be allotted for internal assessment and 120 marks would be allotted for external examination. A minimum of 60 marks should be obtained in external examination and in total 100 marks (Internal + External) should be obtained to get pass.

ii. For evaluation of the project, the student will make a presentation of the Project work on a date to be announced by the Controller of Examinations. The Presentation and Viva-voce will be evaluated by a team consisting of an Internal Examiner and an External Examiner assigned by the Controller of Examination.

c. **MINI PROJECT**

During the miniproject period students will make presentation once in a week to the concerned faculty guide, and the final presentation-cum-viva voce examination marks shall be allotted as follows :

Type of assessment	**Continuous Internal Assessment (Internal)**	**End Semester**
Weekly Review (3)	**45**	**-**
Observation	**15**	**-**
Report	**-**	**30**
Presentation & viva voce	**-**	**10**
Total (100)	**60**	**40**

The mini project report of the students shall be evaluated for a maximum of 100 marks of which 60 marks would be allotted for internal assessment & 40marks would be allotted for external examination. A minimum of 20 marks should be obtained in external examination and in total 50marks (Internal + External) should be obtained to pass.

d. **DISSERTATION:**

i. The dissertation for B.Sc Textiles (4^{th} year) is to be undertaken during semester VIII. It involves problem identification, literature survey, feasibility study, requirements gathering, work plan ,detailed design, implementation, testing, optimization, documentation, demonstration etc.

ii. During the dissertation students will make presentations to the faculty guide / faculty co-ordinator. The final presentation-cum-viva voce examination marks shall be allotted as follows:

Type of assessment	**Continuous Internal Assessment (Internal)**	**End Semester**
Project Reviews (3)	**60**	**-**
Report	**-**	**80**
Presentation & viva voce	**20**	**40**
Total (200)	**80**	**120**

iii. The dissertation work of the students shall be evaluated for a maximum of 200 marks of which 80 marks would be allotted for internal assessment and 120 marks would be allotted for external examination. A minimum of 60 marks should be obtained in external examination and in total 100 marks (Internal + External) should be obtained to get pass.

iv. For evaluation of the dissertation, the student will make a presentation of the dissertation work on a date to be announced by the Controller of Examinations. The Presentation and Viva-voce will be evaluated by a team consisting of an Internal Examiner and an External Examiner assigned by the Controller of Examination.

8. ELIGIBILITY CRITERIA FOR APPEARING IN EXAMINATIONS AND ATTENDANCE REQUIREMENT

a. Students fulfilling the following criteria will be allowed to appear in the examinations:
   i. Paid all the fees and dues to the Institute
   ii. He/She has minimum prescribed attendance in a semester in all courses.

b. The minimum required attendance is 75% of the hours conducted for the roll out of each individual course (inclusive of lecture hours, tutorial hours and practical lab hours) and other prescribed learning activities in each course.

c. The institute may for valid and convincing reasons condone the shortage in attendance not exceeding to 5%, provided that Head - Management makes a recommendation to this effect after consulting the Director of the institute. The institute will condone this 5% shortage in minimum requirement of attendance only on payment of condonation fee of Rupees 500 by the students.

d. The students deputed by the Institute to take part in the extra and co-curricular events shall be given a concession of up to 5% attendance, if necessary, in addition to the relaxations in the attendance requirement as provided above. Such concession would be available for the days of actual participation in the event, including journey time with the prior approval of the Director of the Institute. Such concession of up to 5 % in addition to the relaxation of attendance specified in "item c" may also be permitted for valid medical and physical illness.

e. The above said relaxations stated in item d will be considered for students whose academic progress and conduct is observed satisfactory.

f. The students who could not manage 75% attendance for two consecutive semesters have to repeat the semesters in the subsequent academic year. In such cases, the student will have to fulfil all the conditions to redo the programme.

9. END SEMESTER EXAMINATIONS

a. End semester examinations will be scheduled by the COE / Director for all Practical and Theory courses. The filled in Application forms with the payment of Examination fee for the students is Rs. 300/- per course (including Practical) to be submitted to the COE section within the stipulated time. The question paper will be set by an external examiner.

b. The End Semester Examination will be conducted for 100 Marks with a duration of 3 hours. A student should secure a minimum of 50 marks in the examination to get a pass in each course. Marks obtained by the students in the examination will be converted to 60%.

c. A minimum of 50% (End Semester and Continuous Assessment) in each course is required for obtaining a pass and the grades.

Question Paper Pattern (ESE)

Total Marks: 100 **Duration: 180 Minutes**

PART A Answer all questions **(10x3= 30 Marks)**

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

(Remember & Understand)

PART B Answer all questions **(5x10=50 Marks)**

11. A or
    B
12. A or
    B
13. A or
    B
14. A or
    B
15. A or
    B

(Apply, Analyze & Evaluate)

PART C Compulsory question **(1x20=20 Marks)**

16.

(Evaluate & Create)

10. **MOVEMENT TO HIGHER SEMESTER**

a. Every student should register for the next semester along with the statement of results of the previous semester, proof of payment of tuition fees and mess fees (if applicable).

b. The following students would not be allowed to proceed to the next semester and would have to complete the semester which they had not completed only at the next available opportunity.

i. Students who had failed to gain the minimum attendance in one or more courses conducted in the preceding semester

ii. Students who had not completed the academic requirements for the course(s) in the preceding semester

iii. Students who had been barred from taking the continuous internal assessment and or end semester examination for a course(s) other than valid reasons or medical grounds as approved by Director of the institute

iv. Students who have got pending payments due to the institute

v. Students who are barred in the preceding semester on grounds and practices of indiscipline

c. A student who is permitted to discontinue may re-join the programme at the appropriate semester only along with the students enrolled at the time of regular commencement of that semester as per the academic schedule of the institute.

d. A student who discontinues and re-joins shall be governed by the rules, regulations, courses of study and syllabus followed, at the time of his / her re-joining the programme.

e. Any student appearing for supplementary examinations in any subject, two years after the first registration for that subject, will be governed by the regulations and syllabus followed at the time when the supplementary examination is taken.

11. **PERFORMANCE EVALUATION SYSTEM**

a. **Assessment of a subject** will be done on mark basis. The Performance Analysis Committee shall meet within three weeks after the completion of all examinations to analyse the performance of students in all assessments (continuous and end semester) for each course.

b. **The letter grades and the corresponding grade points** are as follows: Grading system for the programme is as follow:

Marks Range	**Corresponding Grade**	**Grade Point**
Below 50	**RA (Re- Appearance)**	**N.A**
50 and above but below 60	B (Above Average)	6
60 and above but below 70	B+ (Good)	7
70 and above but below 80	A (Very Good)	8
80 and above but below 90	A+ (Excellent)	9
90 and above 100	O (Outstanding)	10

c. Classification

A student in order to be eligible for the award of the Degree must obtain a minimum of "B" grade in each course. The results of successful candidates will be classified as indicated below on the basis of the Cumulative Grade Point Average (CGPA):

S. No.	**Range of CGPA**	**Classification (provided the student pass all courses in the first attempt)**
1	CGPA of 8.0 and above and up to 10.0	First Class with Distinction
2	CGPA of 6.5and above and up to 7.9	First Class
3	CGPA of 5.5and above and up to 6.4	Second Class

12. **GRADE SHEET**

a. After the results are declared, Grade Sheets will be issued to each student which will contain the list of subjects for that semester and the grades obtained by the student.

b. Grade Point Average (GPA) for each semester will be calculated only for those students who have passed all the subjects of that semester. Similarly, Cumulative Grade Point Average (CGPA) up to any semester will be calculated only for those students who have passed all the subjects up to that semester. GPA is calculated as follows:

$$GPA = \frac{\Sigma(C_i * GP_i)}{\Sigma (C_i)}$$

Where C_i - is the credit assigned to the course

GP_i - is the grade point obtained by the student

c. On successful completion of the programme, the CGPA is calculated as follows :

$$CGPA = \frac{\Sigma (C_i * GP_i)}{N}$$

Where Ci - is the credit assigned to the course

GPi - is the grade point obtained by the student

N - is the total number of credits for the entire programme

13. ELIGIBILITY TO AWARD B.Sc. Textiles / B.Sc Textiles (Hons. / Hons. With Research)

A student shall be eligible for the award of B.Sc, Textiles / B.Sc Textiles (Hons. / Hons. With Research)if the student has,

a. Undergone the prescribed programme of study and has passed in all the courses specified for the programme including the value added courses and self-interest courses.

b. No dues to the Institute, Library, Hostel etc.,

c. No disciplinary action pending against him / her.

14. CONSOLIDATED STATEMENT OF GRADES

a. At the end of the programme, all successful students will be furnished with a consolidated statement of grades which will contain the following particulars :

i. Grades in the courses of the semesters

ii. CGPA

iii. Classification (First class with Distinction / First class / Second class.

b. A student who has completed the minimum period and has undergone all the courses specified in a programme may be given a course completion certificate.

c. At the end of the programme all successful students can apply for the provisional certificate on payment of prescribed fees of Rs.500/- through proper application to the CoE.

15. **REVALUATION OF ANSWER SCRIPTS**

Within one week from the announcement of examination result, a student may ask for photocopies of his / her semester / supplementary examination answer paper in any subject on payment of Rs. 400/- per course through proper application to the Controller of Examinations. Subsequently, within a week's time he / she can opt for revaluation if he / she so desires, on payment of Rs. 500/- per course through proper application to the Controller of Examinations.

16. **SUPPLEMENTARY EXAMINATIONS**

Supplementary examination for failed students will be scheduled along with the semester examinations. Students registering for supplementary examinations at the end of any semester should register for the courses he / she intends to appear by submitting application in the prescribed form with the prescribed fee of Rs.300/- per subject for B.Sc Programme to the Controller of Examinations. The candidates can appear for the supplementary examinations for the maximum period of 2 years from their period of study.

17. **WITHDRAWAL FROM EXAMINATION**

A student may for valid reasons and on the recommendation of the Programme Co-ordinator, be granted permission to withdraw from appearing for the entire Semester Examination as one unit. Withdrawal application shall be valid, only if it is made 10 days before the commencement of the semester examination pertaining to the semester. Such withdrawal shall be permitted only once during the entire programme and shall not be construed as an appearance for the eligibility of a student for the award of classification specified. If a student falls sick in the middle of the Semester Examinations, he / she can withdraw from one or more courses.

BACHELOR OF SCIENCE –TEXTILES

III. CURRICULUM & SYLLABUS

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1. MISSION OBJECTIVES (MOs):

MO1	Have attitude and knowledge for the successful professional and technical career
MO2	Have strong foundation in basic sciences, management, mathematics and computational platforms
MO3	Have knowledge on the theory and practices in the field of apparel manufacturing technology and allied areas
MO4	Engross in life-long learning to keep themselves abreast of new developments, and practice and inspire high ethical values and technical standards

2. PROGRAM EDUCATIONAL OBJECTIVE (PEO)

On successful completion of the program, the student will be able to:

PEO1	Identify, formulate, review literature and critically analyze the technological problems in the textile and fashion industry to reach substantiated conclusion
PEO2	Apply knowledge of mathematics, sciences, textile and fashion technology to get solution for the technological problems in apparel industry
PEO3	Design and develop the solutions to the technological and managerial problems in textile and fashion industry with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
PEO4	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions to the technological problems in textile and fashion industry
PEO5	Create, select, and apply appropriate techniques, resources, and modern technology and IT tools for managing apparel manufacturing companies with an understanding of the limitations

3. Program Outcomes (PO)

On the successful completion of the program, the student will be able to:

PO1	Apply reasoning gained through the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the profession

PO2	Understand the impact of the developed solutions in societal and environmental contexts, and demonstrate the knowledge for sustainable development
PO3	Understand ethical and professional responsibilities
PO4	Function effectively as an individual, and as a member or leader in diverse teams in the profession
PO5	Communicate effectively on complex technical activities with the technical community and with society at large. Able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

4. Mapping of MOs and PEOs

S- Strong, M - Medium

	PEO1	PEO2	PEO3	PEO4	PEO5
MO1	S	S	S	S	S
MO2	S	M	S	S	S
MO3	S	S	S	S	M
MO4	S	S	S	S	S

5. Mapping of PEOs and POs

S- Strong, M - Medium

	PO1	PO2	PO3	PO4	PO5
PEO1	S	S	S	S	S
PEO2	S	S	S	S	S
PEO3	S	S	S	S	S
PEO4	S	S	S	S	S
PEO5	S	S	S	S	S

6. GRADUATE ATTRIBUTES OF B.SC. TEXTILES PROGRAMME

1. **Technical skills:** Understanding textiles, garment construction, and relevant technologies.
2. **Creative skills:** Ability to design, illustrate, and innovate.
3. **Critical thinking:** Problem-solving and trend analysis.
4. **Communication skills:** Effective presentation and collaboration.
5. **Business knowledge:** Understanding the fashion industry and entrepreneurship.
6. **Ethical awareness:** Commitment to sustainability and ethical practices.
7. **Adaptability:** Lifelong learning and ability to adjust to industry changes.

List of abbreviations

- L – Lecture Hours / Contact Sessions
- T – Tutorial Hours
- P – Practical Hours
- C-Credit
- CT – Course Type
- AM – Assessment Methodology
- CIA – Continuous Internal Assessment
- ESE – End Semester Examination
- MC – Major (Core)
- MS – Minor Stream
- MD – Multi Disciplinary
- SEC – Skill Enhancement Course
- AEC – Ability Enhancement Course
- VC – Value Added Courses
- I – Internship
- PW – Project Work

7. SUBJECT CURRICULAM

SEMESTER I								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ESE**
25BSUG11T/ 25BSUG11H	Tamil - I / Hindi - I	3	0	0	3	AEC	40	60
25BSUG12	Communicative English	3	0	0	3	AEC	40	60
25BSTX11	Applied Physics and Chemistry	3	1	0	4	MD	40	60
25BSTX12	Concepts of Fashion and Design	4	0	0	4	MC	40	60
25BSTX13	Fibre and Yarn Science	4	0	0	4	MC	40	60
25BSTX14L	Fashion Designing Laboratory	0	0	4	2	MC	60	40
25BSTX15L	Applied Physics and Chemistry Laboratory	0	0	4	2	MD	60	40
25BSTX16L	Fibre and Yarn Science Laboratory	0	0	4	2	MC	60	40
	Total	**19**	**0**	**12**	**24**			

SEMESTER II								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ESE**
25BSUG21T /25BSUG21H	Tamil - II / Hindi – II	3	0	0	3	AEC	40	60
25BSUG22	Technical English	3	0	0	3	AEC	40	60
25BTXG21	Statistics	4	0	0	4	MD	40	60
25BSTX22	Fabric Manufacturing	4	0	0	4	MC	40	60
25BSTX23	Apparel Manufacturing - I	4	0	0	4	MC	40	60
25BSTX24	Fashion & Human Behavior	3	0	0	3	MS	40	60
25BSTX25	Environmental Science	2	0	2	2	VAC	40	60
25BSTX26L	Fashion Illustration Laboratory	0	0	4	2	MC	60	40
25BSTX27L	Fabric manufacturing laboratory	0	0	4	2	MC	60	40
25BSTX28	Yoga for Human Excellence#	0	0	2	1	AEC	100	-
		23	**0**	**12**	**28**			

SEMESTER III								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ESE**
25BSTX31	Fabric Structure and Analysis	4	0	0	4	MC	40	60
25BSTX32	Apparel Manufacturing - II	4	0	0	4	MC	40	60
25BSTX33	Mathematical Data Analysis	2	0	2	3	AEC	40	60
25BSTX34	Elective – I	3	0	0	3	SEC	40	60
25BSTX35	Pattern making Laboratory - I	0	0	4	2	MC	60	40
25BSTX36L	Surface Embellishment Laboratory	0	0	4	2	MC	60	40
25BSTX37L	Garment Construction Laboratory - I	0	0	4	2	MC	60	40
25BSTX38L	Fabric Structure and Analysis Laboratory	0	0	4	2	MC	60	40
25BSUG39I	Internship – I	0	0	0	3	SI	60	40
	Total	**13**	**0**	**18**	**25**			

SEMESTER IV								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ESE**
25BSTX41	Textile and Apparel Chemical Processing	4	0	0	4	MC	40	60
25BSTX42	Applications of ERP and MIS in Apparel Industry	3	0	0	3	MS	40	60
25BSTX43	Industrial Engineering in Apparel Industry	4	0	0	4	MC	40	60
25BSTX44	Fashion trend and forecasting	3	0	0	3	MS	40	60
25BSTX45	Elective – II	3	0	0	3	SEC	40	60
25BSTX46L	Pattern making Laboratory II	0	0	4	2	MC	60	40
25BSTX47L	Garment Construction Laboratory II	0	0	4	2	MC	60	40
25BSTX48L	Textile and Apparel Chemical Processing Laboratory	0	0	4	2	MS	60	40
	Total	**17**	**0**	**12**	**23**			

SEMESTER V								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ESE**
25BSTX51	Apparel Marketing and Merchandising	4	0	0	4	MC	40	60
25BSTX52	Sustainable design and fashion	3	0	0	3	MS	40	60
25BSTX53	Textile and Apparel Quality Evaluation	3	0	0	3	MS	40	60
25BSTX54	Elective – III	3	0	0	3	SEC	40	60
25BSTX55	Elective – IV	3	0	0	3	SEC	40	60
25BSTX56L	Textile and Apparel Quality Evaluation Laboratory	0	0	4	2	MS	60	40
25BSTX57L	Computer Aided Garment Design Laboratory	0	0	4	2	MC	60	40
25BSTX58L	Fashion Portfolio Laboratory	0	0	4	2	MC	60	40
25BSUG59I	Internship – II	0	0	0	3	SI	60	40
	Total	**16**	**0**	**12**	**25**			

SEMESTER VI								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ES E**
25BSTX61	Apparel Costing and Export Documentation	3	0	0	3	MS	40	60
25BSTX62	Entrepreneurship Development in the fashion industry	3	0	0	3	MS	40	60
25BSUG63	Value Added Course - I #	1	0	0	1	VAC	100	-
25BSUG64	Value Added Course - II #	1	0	0	1	VAC	100	-
25BSUG65S	Self Interest Course #	0	0	0	1	VAC	100	-
25BSUG66P	Project Work	0	0	24	12	P	80	120
	Total	**8**	**0**	**24**	**21**			
Total Credits		**21**						
Total Cumulative credits excluding value added and		**137**						

self-interest courses	
Total Cumulative credits including value added and self-interest courses	**145**

SEMESTER VII								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ESE**
25BSTX71	Research Methodology	4	0	0	4	MC	40	60
25BSTX72	Industrial Management	3	0	0	3	MS	40	60
25BSTX73	New Product Development & Assessment	3	0	0	3	MC	40	60
25BSTX74	Characteristics of Technical Fibres	4	0	0	4	MC	40	60
25BSTX75	Textile Fibre reinforced Composites	3	0	0	3	MC	40	60
25BSTX76	Protective Textiles	3	0	0	3	MS	40	60
Total		**23**	**0**	**0**	**20**			
SEMESTER VIII (for students pursuing B.Sc (Hons.)								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ESE**
25BSTX81	Total Quality Management for Textile & Apparel Industry	3	0	0	3	MS	40	60
25BSTX82	High performance fibers	3	0	0	3	MS	40	60
25BSTX83	Creativity and innovation lab	0	0	4	2	MC	40	60
25BSUG84M	Mini Project	0	0	8	4	MC	80	120
Total		**0**	**0**	**12**	**12**			
SEMESTER VIII (for students pursuing B.Sc (Hons. With Research)								
COURSE CODE	**COURSE NAME**	**L**	**T**	**P**	**C**	**CT**	**AM**	
							CIA	**ESE**
25BSUG81D	Dissertation	0	0	24	**12**	MC	80	120
Total		**0**	**0**	**12**	**12**			
Total Cumulative credits including value added and self-interest courses		**178**						

- Those students opting for B.Sc (Hons. With Research) can pursue full time project with 12 credits

8. LIST OF ELECTIVES

Elective –Textiles

COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
25BSTX34A	Home Textiles	3	0	0	3	MS	40	60
25BSTX45A	Technical Textiles	3	0	0	3	MS	40	60
25BSTX54A	Apparel Production Planning and Process Control	3	0	0	3	MS	40	60
25BSTX55A	Quality Assurance in Textile and fashion	3	0	0	3	MS	40	60

Elective – Fashion

COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
25BSTX34B	Fashion Apparel Size and Fit Analysis	3	0	0	3	MS	40	60
25BSTX45B	Fashion Photography	3	0	0	3	MS	40	60
25BSTX54B	Fabric choice and fitness for purpose	3	0	0	3	MS	40	60
25BSTX55B	Fashion Forecasting and Brand Management	3	0	0	3	MS	40	60

List of Value Added Courses:

- Fashion Accessories
- Product Design and Development
- Visual Merchandising
- Intellectual Property Rights
- Digital Marketing
- Event Management
- Low Cost Automation
- Internet of things (IoT)

The courses may be offered as per the requirement of the industry and choice of the students. The list may be updated as per the recent trends.

Credit framework

S.No.	Course particulars	Semester vice credit split									Total Credits
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**8***	
1	Major core	12	12	16	12	8		14	6		60/80
2	Minor stream		3		8	8	6	6	6		25/37
3	Multi Disciplinary	6	4								10
4	Ability Enhancement course	6	6	3							15
5	Skill Enhancement course			3	3	6					12
6	Value Added Course		3				3				6
7	Internship			3		3					6
8	Project work						12			12*	12/24
	Total	24	28	25	23	25	21	20	12		**178**

*- for B.Sc(Hons. With research)

SEMESTER – I

25BSUG11T – TAMIL - I

COURSE OUTCOMES (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Appreciate the pride of the Indian nation through various revered poets	Understand
CO 2	Understand the duties of an individual	Understand
CO 3	Discuss the importance of freedom	Understand
CO 4	Identify the virtues of the Tamil language	Understand
CO 5	Improve listening comprehension and oral communication skills	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		M			
2					S
3			M		
4				M	
5	M				

a. Syllabus

***அலகு* - 1 (*செய்யுள்*)**

1.*பாரதியார் – பாரத நாடு*

2.*பாரதிதாசன் - உலகம் உன்னுடையது*

3.*நாமக்கல் கவிஞர் இராமலிங்கம் பிள்ளை- சூரியன் வருவது யாராலே*

4.*அழ.வள்ளியப்பா - ஒரு வரம் கண்ணாடி*

5.*கண்ணதாசன் – யாத்திரை*

***அலகு* - 2** (*செய்யுள்*)

1. *மு. மேத்தா - மரங்கள்*

2. *வைரமுத்து - சுதந்திரம்*

3. *ஈரோடு தமிழன்பன்- அகல் விளக்காக இரு*

4. அப்துல் ரகுமான்- கண்ணீரின் ரகசியம்....
5. மாலதி மைத்ரி- குருவி
6. வத்ஸலா - நான் ஆலமரம்

அலகு - 3 (இலக்கணம்)
1.வல்லெழுத்து மிகும் இடங்கள்
2.வல்லெழுத்து மிகா இடங்கள்

அலகு-4 (இலக்கிய வரலாறு)
1.மரபுக்கவிதையின் சிறப்பு இயல்புகள்
2.புதுக்கவிதையின் சிறப்பு இயல்புகள்
3.சிறுகதையின் தோற்றமும் வளர்ச்சியும்
4.உரைநடையின் தோற்றமும் வளர்ச்சியும்

அலகு-5
1. அறம் எனப்படுவது - முனைவர். அமுதன்
2. அழகோ அழகு - வெ. இறையன்பு

பாட புத்தகம்:
1. அறம் எனப்படுவது (முனைவர். அமுதன்) – நியூ செஞ்சுரி புக் ஹவுஸ் பி லிட், 41பி, சிட்கோ இண்டஸ்டிரியல் எஸ்டேட், அம்பத்தூர், சென்னை-600098
2. அழகோ அழகு - வெ. இறையன்பு - நியூ செஞ்சுரி புக் ஹவுஸ் பி லிட், 41பி, சிட்கோ இண்டஸ்டிரியல் எஸ்டேட், அம்பத்தூர், சென்னை-600098

குறிப்பு புத்தகம்:
1. தீந்தமிழ் இலக்கணம் (க. வெள்ளிமலை எம்.ஏ.) – ஐவரி அச்சகம், சென்னை – 600005
2. இலக்கணம் இலக்கிய வரலாறு மொழித்திறன் பேராசிரியர்.முனைவர். பாக்யமேரி) – பூவேந்தன் பதிப்பகம், மயிலாப்பூர், சென்னை

25BSUG11H - HINDI – I

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Identify the importance a prose	Understand
CO 2	Know about Hindi writers and get moral values from different stories.	Understand
CO 3	Translate Hindi to English	Apply
CO 4	Comprehension will help the students for competitive exams.	Skill
CO 5	Improve listening comprehension and oral communication skills	Skill

a. **Mapping of Program Outcomes with Course Outcomes**

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		M			
2					S
3			S		
4				S	
5	M				

UNIT I

Prose: 1. Meri vasiyath, 2. Kadhamba ke phool, 3. bathcheeth mem shistachar

UNIT II

Non-Detailed: 1. Pareeksha, 2. Takur ka kuwa, 3. Trishanku bechara

UNIT III

Bahuyuktha hindi padnam

UNIT IV

Translation: Hindi to English only (1 – 10 Lessons only).

UNIT V
Comprehension: 15 - 30 Lessons only.

TEXT BOOKS:

1. Gadhya Manjusha-editor, Govind. M. A., Amar Prakashan, Mathura, (U.P).
2. Hindi Gadhya Prabhakar, **Editor:** Dr. Hiranmaya, Publisher: Siksha Bharathy, Kashmiri Gate, New Delhi – 110006.
3. Madhyamic Gadhya sankalan – Editor: Shrimathi Kamala Shankar, Publisher: Lokbharathi Prakashan, 15-A, Mahathma Gandhi Marg, Allahabad – 1.
4. Kahani Kunj, **Editor:** Dr. V. P. Amithab, Publisher: Govind Prakashan, Sadar Bazaar, Mathura, U. P. – 281 001.
5. Premchand ki shreshtha Kahaniyan by Kumar Krishnan, Publisher: Vani Prakashan, 21-A, Dariya ganj, New Delhi – 110002.
6. Gadhya Prasang by Dr. Sathya Prakash, Publisher: Sumithra Prakashan, 16/4, Hastings Road, Allahabad - 1
7. Vyavaharic Hindi by Sayed Rahamadulla (Page: 90-91).
8. Anuvad Abhyas – Part III by D.B.H.P. Sabha, Chennai - 17

25BSUG12 - COMMUNICATIVE ENGLISH

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Expand the learner's use of maximum functions of English	Understand
CO 2	Acquire effective communications both oral and written	Understand
CO 3	Apply language functions in real situations.	Apply
CO 4	Enhance students" communicative competence and performance	Skill
CO 5	Analyze literary texts and identifying key themes, styles, and cultural contexts.	Analyse

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2					S
3			S		
4				M	
5	M				

UNIT I: Functions of English

Use of English in media, business and technology – Social functions: Conversational English Greeting, introducing, requesting, inviting, congratulating, thanking, apologizing, advice, suggestions, opinions, permission, sympathy, asking to repeat, complaining, understanding and being understood, agreement, preference, asking for information, changing the topic.

UNIT II: Oral Communication

Face to face communication – Telephonic conversation: Skills and etiquette – Interview skills –

Instruction – Dictation.

UNIT III: Remedial Grammar
Subject verb agreement – Tenses – Transformation of sentence – Auxiliary verbs – Linkers.

UNIT IV: Listening and Reading
Academic listening; Listening to talks and descriptions; Listening to Announcements; Listening to Media news; Listening to casual conversations – Intensive reading, extensive reading, skimming, scanning, literary reading, non-literary reading

UNIT V: Written Communication
Email – letter writing - report writing – note taking – sentence construction (patterns)

TEXT BOOKS:
1. Syamala V. Effective English Communication for you, Emerald Publishers, Chennai, 2005. ISBN: 81-7966-002-8.
2. Mr. Mohan, Mr. Krishna and Ms. Meera Banerji, Developing Communication Skills, Macmillan, New Delhi, 2007. ISBN: 978-0333-92919-3.
3. Mr. Dutt, Mr. P. Kiranmai, Ms. Geetha Rajeevan and Mr. C.L.N. Prakash, A Course in Communication Skills, Cambridge University Press, New Delhi, 2007. ISBN: 978-81-7596-5362

25BSUG11 – APPLIED PHYSICS AND CHEMISTRY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the application of physics and chemistry in Textiles	Understand
CO 2	Relate various important terminologies and laws with textile application	Understand
CO 3	Discuss various terminologies related to elasticity, viscosity	Apply
CO 4	Identify the origin of dyes	Apply
CO 5	Explain the polymerization process	Skill

a. **Mapping of Program Outcomes with Course Outcomes**

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	M				
2		S			
3					S
4				M	
5			S		

UNIT I

Colour and Chemical Constitution: Colour and constitution - theory of colors. Classification of dyes based on structure, according to application and mode of dyeing. Chemistry of azo dyes, selective examples and its usage in clothing textile.

UNIT II

Chemical analysis of oils and fats: Acid value, saponification and iodine values, viscosity, viscosity index, flash and fire points. Surfactants: Classification and chemistry of surfactants- application of surfactants in textiles.

UNIT III

Polymers: Introduction – Classification – Types and mechanism of polymerization – Degree of Polymerization. Synthesis of some selective polymers: Polyethylene (LDPE & HDPE), Polyacrylonitrile, Polyesters (PET), Polyamides – Nylon 6 and Nylon 6, 6.

UNIT IV

Elasticity: Modulus of elasticity – Poisson‟s ratio – Relation between elastic constants and Poisson‟s ratio –Torsional pendulum (with and without weights) – Bending of beams – Bending moment – Cantilever loading – Transverse vibrations of cantilever – Non uniform and uniform bending of a beam.

UNIT V

Surface Tension and Viscosity: Molecular interpretation – Surface energy – Molecular force – Shape of liquid meniscus in capillary tube – Angle of contact – Capillary rise and energy consideration. Newton‟s law – Poiseuilles flow – Stoke‟s fall – Rotation viscometer – Ostwald viscometer. Effect of temperature and pressure on viscosity.

Tasks and Assignments:

Test 1; Test 2, Seminar & Assignment.

TEXT BOOKS:

1. Mathur D S, “Elements of Properties of matter”, S Chand Limited, 2008.
2. Brijlal & Subhramanyam N, “Properties of matter”, S Chand & Co., New Delhi, 2003.
3. Soni P L & Chawla H M, “Text book of Organic Chemistry”, S Chand & Co., New Delhi, 2012.
4. B.K.Sharma, “Industrial chemistry”, Krishna Prakashan Media (P) Ltd, Meerut, 2011.

REFERENCES:

1. Gulati H R, “Fundamental of General properties of matter”, R Chand & Co., 1982.
2. White F. M, “Fluid Mechanics”, Tata McGraw-Hill, 5th edition, New Delhi, 2017.
3. K.S. Tiwari, N.K. Vishnoi, S.N. Mehrotra, “A Text Book of Organic Chemistry”, Vikas Publishing House, 4th Ed., New Delhi, 2017.
4. Shore J.“Colourants and Auxiliaries: Volume II Auxiliaries”, Wood head Publishing Ltd.,2002.

25BSTX12 – CONCEPT OF FASHION AND DESIGN

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the fundamental design, fashion terminologies, elements and principle of design	Understand
CO 2	Define the elements of fashion and design	Define
CO 3	Understand the significance and impact of colour on fashion products.	Understand
CO 4	Identify colours based on colour theory	Apply
CO 5	Apply the concept of fashion trend and forecasting	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	M				
2		S			
3					S
4				M	
5			S		

UNIT I

Introduction to fashion: Definition – origin and history of Indian fashion – principles of fashion. Terms related to the fashion: style, fad, classic, collection, chic, costume made, mannequin, fashion-show, trend, forecasting, high fashion, fashion cycle, haute couture, couture, couturier, fashion direction, fashion editor, line, knock-off, avant- grade, bridge, buying house, apparel, pret–a–porter and sample.

UNIT II

Types of design: Definition – structural, decorative and ornamental design. Requirements of a good structural and decorative design. Elements of design: Definition – types- Dot, Line, form, shape, texture and colour.

UNIT III

Principles of Design: Definition- Harmony: line, shape, colour, texture and idea – Balance: Symmetrical, Asymmetrical and radial – Rhythm: Repetition, progression, transition, radiation and continuous line movement – Emphasis – Proportion or scale.

UNIT IV

Colour – Definition, elements of colour, hue, value and intensity, classification of colour: primary, secondary and tertiary. Colour theory: Prang and Munsell colour chart – colour schemes, important colour qualities, selection of colour for various occasion and seasons.

UNIT V

Fashion trends: Fashion evolution – fashion cycles – trend analysis – techniques.
Fashion forecasting: Types – factors influencing fashion changes. Role of fashion designers. Top 10 Indian and International designers (self-study).

TEXT BOOKS:

1. Sumathi, G. J. (2007). Elements of Fashion and Apparel Design. Reprint. New Delhi: New Age International Publisher Limited.
2. McKelvey, Kathryn and Munslow, Janine. (2011). Fashion Design: Process, Innovation and Practice. 2nd Edition. John Wiley and Sons.
3. Frings, Gini Stephan. (2007). Fashion from concept to consumer. 9th Edition. Pearson Education.

REFERENCES:

1. Davis, Jenny. (2006). A Complete Guide to Fashion Designing. 1st Edition. Chandigarh: Abhishek Publications.
2. Mahadevan, M. G. (2008). Textile colouring. 1st Edition. Chandigargh: Abhishek Publication.
3. Steele, Valerie. (2005). Encyclopedia of Clothing and Fashion. Charles Scibner‟s and Sons.
4. Hopkins, John. (2012). Fashion Design: The Complete Guide. Vol 36. A and C Black Publishers.
5. Mullick, Premlata. (2006). Textbook of Textile Designing. 1st Edition. Ludhiana: Kalyani Publishers.
6. Parachure, J. W. (2009). Fundamentals of Designing for Textiles and Other End Use. New Delhi, India: Woodhead Publishing.
7. Riegelman, Nancy. (2006). Colour for Modern Fashion: Drawing Fashion with Colored Markers. 1st Edition. Nine Heads Media Publication.

25BSTX13 – FIBRE AND YARN SCIENCE

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the various yarn manufacturing processes	Understand
CO 2	Gain thorough knowledge on various fibre manufacturing processes.	Define
CO 3	Understand the properties of various textile fibres and their impact on processes.	Understand
CO 4	Ability to understand the process sequences of various yarn manufacturing techniques.	Apply
CO 5	Explore the advancements in yarn manufacturing technology	Explore

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1			M		
2		M			
3				S	
4	S				
5					S

UNIT I

Fibre: Introduction - essential fibre properties - classification of fibres. Fibre identification. Applications of textiles fibres.

Natural fibre: Introduction - source, morphological structure, properties and end uses of cotton, silk and wool.

UNIT II

Regenerated fibre: Introduction - manufacturing sequence and properties of viscose rayon. Synthetic fibre: Introduction to polymer – types of polymer and polymerization. Manufacturing process and properties - polyester, nylon and acrylic fibres. Methods of filament spinning – dry, wet and melt spinning

UNIT III

Yarn: Introduction - staple spinning system – cotton yarn production sequence (blowroom to ring spinning). Study of yarn twist and its importance. Direct and indirect yarn numbering systems, conversion factors.

Blended yarn: Types of blending – benefits of blending

UNIT IV

Double yarn: Properties – uses. Classification of sewing threads – essential properties - production process of spun polyester sewing thread.

Winding: Introduction – types (cone and cheese) – yarn and package defects.

UNIT V

Fancy yarns: Introduction - texturized yarn, core spun, cover spun. - chenille, slub, nep, snarl, spiral, loop, marl, gimp and chainette.

Modern spinning systems: Principles and yarn properties- open end, air-jet, friction.

TEXT BOOKS:

1. Mishra, S. P. (2000). A Text Book of Fibre Science and Technology. New Delhi: New Age International Pvt. Ltd.

2. Corbman, Bernard. P,(2000). Textiles: Fibre to Fabric, 6th edition. Singapore: International students Edition McGraw Hill Book.

REFERENCES:

1. Wynne, A. (1997). The Motivate Series – Textiles. London: Macmillan Education Ltd.

2. Chellamani, K. P. Yarns and Technical Textiles. Coimbatore: Kalai Kathir Achagam.

3. Pal Sing, K. V. (2004). Introduction to Textiles. New Delhi: Kalyani publishers.

4. Sekhri, Seema. (2011). Textbook of Fabric Science. New Delhi: PHI Learning PrivateLimited.

25BSTX14L – FASHION DESIGNING LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the basic concepts of fashion art and learning the aspects of fashion rendering.	Understand
CO 2	Improve their skills in creating new designs in dresses.	Apply
CO 3	Develop their skills in fashion arts and creating innovative sketches	Understand
CO 4	Inculcate excellent illustration skill.	Apply
CO 5	Diagnose the colour combination for various rendering.	Explore

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			S		
3		S			
4				M	
5					S

LIST OF EXPERIMENTS:

1. Understand the Basic design
2. Understand the following Colour wheels:
    a. Prang colour chart
    b. Munsell
    c. Physicsts
    d. Chemists
3. Prepare the following Charts
    a. Value Chart
    b. Intensity Chart
4. Illustrate garment designs for the Elements of Design

a. Line
b. Colour
c. Texture
d. Shape or form
e. Size

5. Illustrate garment designs for the Principles of Design
    a. Balance in dress
    b. Harmony in dress
    c. Emphasis in dress
    d. Proportion in dress
    e. Rhythm in dress

6. Illustrate the Colour Harmony in Dress Design
    a. Monochromatic colour harmony
    b. Analogous colour harmony
    c. Complimentary colour harmony
    d. Double Complimentary colour harmony
    e. Split Complimentary colour harmony
    f. Triad colour harmony
7. Application of colour and principles of design in dress
    a. Harmony through colour
    b. Emphasis through colour
    c. Proportion through colour
    d. Rhythm through colour
    e. Balance through colour
8. Illustration of Basic silhouettes
9. Designing dresses for figure irregularities – becoming and unbecoming Stout figure, Thin figure, Slender figure
10. Illustration of various types of shoulders – narrow, broad and round shoulders
11. Illustration of various types of faces – round face, large face, small face.

REFERENCES:

1. Abling, Bina. (2012). Fashion Sketchbook. 6th Edition. New York: Fairchild Book Publications.
2. Davis, Marian. L. (1996). Visual Design in Dress. 3rd Edition. New Jersey: Prentice Hall Inc.
3. Morris, Bethan. (2006). Fashion Illustrator, New Delhi: Laurence King Publishing.
4. Ireland, Patrick John. (1996). Fashion Design Illustration: Men. UK: Pavilion Books.
5. Ireland, Patrick John. (2003). Fashion Design Drawing and Presentation. Batsford Publishers.
6. Wayne, Childy. (2009). Essential Fashion Illustration: Men. Beverly, Massachusetts: Rockport Publishers

25BSUG15L – APPLIED PHYSICS AND CHEMISTRY LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Apply and recognize the important laws of physics and chemistry	Understand
CO 2	Analyse the various laws and principles in physics and chemistry	Apply
CO 3	Identify the functional groups	Identify
CO 4	Experiment and define the various laws in physics and chemistry	Apply
CO 5	Demonstrate various experiments to prove the laws like Young's modulus, Searle's viscometer and newton‟s rings	Explore

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			S		
3		S			
4				M	
5					S

LIST OF EXPERIMENTS:

Physics:

1. Young‟s Modulus – Non-uniform bending – Pin and microscope
2. Surface tension – Capillary rise method
3. Surface tension and interfacial surface tension – Drop weight method
4. Newton‟s rings – Radius of curvature of the given lens

Chemistry:

1. Qualitative analysis of organic compounds: (Any 3 substances)

Determination of aromatic / aliphatic, saturated / unsaturated, presence of special elements (Nitrogen, Sulphur, Halogens), presence of functional groups of the following compounds:

a. Carbohydrates
b. Phenol
c. Aniline
d. Aldehydes
e. Carboxylic acids

2. Quantitative analysis:
a. Estimation of Sodium hydroxide,
b. Estimation of Oxalic acid
c. Estimation of Hardness.

REFERENCES:

1. Thomas, A. O. (2009). Practical Chemistry. Kannur: Scientific Book Centre.
2. Venkateswaran, V., Veeraswamy, R. & Kulandaivelu, A. R. (2015). Basic Principles of Practical Chemistry. New Delhi: S Chand & Sons.

25BSTX16L – FIBRE AND YARN SCIENCE LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Identify the various textile fiber	Understand
CO 2	Understand the essential yarn properties	Understand
CO 3	Identify the structure of the yarn and fiber	Identify
CO 4	Assess the yarn quality parameters	Apply
CO 5	Determine the moisture present in fibers	Identify

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			S		
3				S	
4					M
5		M			

LIST OF EXPERIMENTS

1. Identification of fibers – microscopic view
2. Identification of fibers based on feel, solubility and burning test
3. Determination of fibre fineness
4. Determination of fiber length
5. Determination of moisture regain of fibres
6. Determination of linear density – sliver, roving and yarn
7. Determination of yarn twist (S / Z)
8. Determination of strength (Lea)
9. Determination of yarn appearance

REFERENCES:

1. Mishra, S. P. (2000). A Text Book of Fibre Science and Technology. New Delhi: New Age International Pvt. Ltd.

2. Corbman, B. P. (2000). Textiles: Fibre to Fabric. Singapore: International students Edition McGraw Hill Book Company.

SEMESTER I
25BSUG21T TAMIL – II

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Provide literary training to aid students' mental well-being and future life.	Understand
CO 2	Explain ethical life values.	Understand
CO 3	Understand about religions.	Identify
CO 4	Analyse life's disciplines through literature.	Apply
CO 5	Understand Tamil martial sports through short stories.	Identify

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			M		
3				S	
4					M
5		S			

அலகு - 1

திருக்குறள் - 1. ஊக்கமுடைமை 2.செய்நன்றியறிதல்

நாலடியார் - 1. பொறையுடைமை (5 பாடல்கள்) 2. பெரியாரைப்பிழையாமை (5 பாடல்கள்)

அலகு - 2

திருஞானசம்பந்தர் தேவாரம் – கோளறுதிருப்பதிகம் (10 பாடல்கள்) பெருமாள் திருமொழி - 11 பாடல்கள் . இயேசுகாவியம் – பாரச்சிலுவை (8 பாடல்கள்) சீறாப்புராணம் - கடவுள் வாழ்த்து (5 பாடல்கள்)

அலகு – 3 - இலக்கணம்

பவணந்தி முனிவர் - நன்னூல் - எழுத்து - மாணாக்கனது வரலாறு பாடங் கேட்டலின் வரலாறு

அலகு – 4 – உரைநடைப் பகுதி

1. நல்லதை நோக்கி நடப்போம் - சுகி சிவம்
2. கல்வியும் கடவுட் தன்மையும் - வெ. இறையன்பு
3. அக்னிச் சிறகுகள் (அத்தியாயம் 1) முனைவர். எ பி ஜே அப்துல் கலாம்
4. அன்பிற் சிறந்த தவமில்லை - தமிழருவி மணியன்
5. சாதனை படைக்கும் சிந்தனைகள் - உயர்வளிக்கும் எண்ணங்கள் – டாக்டர். சிவசூரியன்

அலகு – 5

வாடி வாசல் (நாவல்) – சி.சு.செல்லப்பா – காலச்சுவடு பதிப்பகம்

குறிப்பு புத்தகம்:

1. நல்லதை நோக்கி நடப்போம் - சுகி சிவம்
2. கல்வியும் கடவுட் தன்மையும் - வெ. இறையன்பு
3. அக்னிச் சிறகுகள் (அத்தியாயம் 1) முனைவர். எ பி ஜே அப்துல் கலாம்
4. தமிழருவி மணியன் - அன்பிற் சிறந்த தவமில்லை
5. டாக்டர். சிவசூரியன் - சாதனை படைக்கும் சிந்தனைகள் - உயர்வளிக்கும் எண்ணங்கள்
6. பவணந்தி முனிவர் – நன்னூல்
7. சி.சு.செல்லப்பா – காலச்சுவடு பதிப்பகம்

25BSUG21H HINDI II

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the importance of letter writing, dialogue writing and applied grammar in Hindi literature.	Understand
CO 2	Illustrate the Modern Trends in Literature	Understand
CO 3	Identify errors in writing and reading of hindi	Identify
CO 4	Appreciate the hindi literature	Apply
CO 5	Frame sentences and write formal communication letters	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			M		
3				S	
4					M
5		S			

UNIT I

1. Sawal, 2. Jeevan ki theen pradhan bathem, 3. Do Chere.

UNIT II

Lagu Kathayem: 1. Fees, 2. Risthe, 3. Kelne ke din, 4. Kamra

UNIT III

Applied Grammar: 1. Line Badaliye, 2. Vachan Badaliye, 3. Vachya Badaliye, 4. Ulte arthavale shabda likiye, 5. Karak cinhom se bariye, 6. Vakyom mem prayog kijiye, 7. Kaal Badaliye, 8.Shuddakijiye.

UNIT IV

Vakya ke liye ek Shabda (one word for one sentence).

UNIT V

Letter Writing: 1. Leave letter, 2. About a tour from the college, 3. About a function celebrated in thecollege, 4. Applying for the job, 5. Ordering for the books.

TEXT BOOKS:

1. Hindi Gadhya Prabakar, Editor: Dr. Hiranmay, Publisher: Shiksha Bharathy, Kashmiri Gate, NewDelhi - 6
2. Bharathi Gadhya Sangrah by Vani Prakashan, New Delhi.
3. From Laghu Katha.com.
4. Sugam Hindi Vyakaran, Siksha Bharathi Madarsa Road, Kashmiri Gate, New Delhi.
5. Abhinav Pathra Lekhan by D.B.H. Prachar Sabha, Chennai – 17.

25BSUG22 – TECHNICAL ENGLISH

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Enhance ability and skills of the students to comprehend technical texts	Understand
CO 2	Develop their speaking skills in paper presentation, discussions etc.	Understand
CO 3	Acquire proper writing skill for reports, and official communications	Understand
CO 4	Speak in formal and informal situation	Apply
CO 5	Acquire phonetic skills	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				S	
2			S		
3	S				
4					S
5		S			

UNIT I: Applied Phonetics

The phonological system in English – speech sounds – stress, rhythm – strong and weak forms – pitch and intonation

UNIT II: Technical Proposals

Definition and key factors – types – contents – format - evaluation

UNIT III: Formal reports

Definition – preparatory steps – types – structure – textile vocabulary

UNIT IV: English for specific purpose

Business communication – competitive examinations (TOEFL etc.) – paper presentations – description and demonstration, advertisement – notices, agenda and minutes

UNIT V: Career skills

Curriculum vitae and cover letters – soft skills – mock interviews – group discussion – personality traits

TEXT BOOKS:

1. Raman, Meenakshi and Sharma, Sangeetha – Technical Communication Principles and Practice, Oxford Univeristy Press: New Delhi, 2014

2. Means, L Thomas and Elaine Langlois, English & Communication for Colleges, Cengage Learning, USA: 2007

25BSTX21 – STATISTICS

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Acquire knowledge in the area of statistics and their applications in business decision making.	Understand
CO 2	Familiarize with functions of several variables..	Understand
CO 3	Acquire proper writing skill for preparation of reports,	Apply
CO 4	Diagrammatically represent the data	Apply
CO 5	Applicate the various statistical tools for explanation	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				S	
2			S		
3	S				
4					S
5		S			

UNIT I

Presentation of data by diagrammatic and graphical method - Formation of frequency distribution. Probability – Concept, Bayes‟ theorem. Probability distributions - Binomial, Poisson and normal

UNIT II

Measures of central tendency - Arithmetic mean, median, mode, geometric and harmonic mean, measures of variation and standard mean and quartile deviations - Skewness and Kurtoses

UNIT III

Simple correlation - Scatter diagram - Karl Pearson‟s Co-efficient of correlation – Rank correlation – Regression – Simple and multiple regression analysis - Regression lines

UNIT IV

Sample design – Sampling theory and test of significance – Quality tools – DOE, ANOVA and Chi square test

UNIT V

Analysis of Time Series: Methods of measuring - Trend and seasonal variations – Index number – Unweighted indices - Consumers price and cost of living indices.

Note: Theory and problem shall be distributed at 20% and 80% respectively.

TEXT BOOKS:

1. Das N G, "Statistical Methods", McGraw Hill Education, 1st Edition, 2008.
2. Goon A M, Gupta M K & Das Gupta B, "Fundamentals of Statistics" Vol I & II, The World Press P Ltd., 1968.
3. Miller & Freuntz, "Probability & Statistics for Engineers", Prentice Hall of India, 8th Edition, 2010.

REFERENCES:

1. Gupta S P, "Statistical Methods" S Chand & Sons, New Delhi, 44th Edition, 2014
2. Pillai R S N & Mrs. Bagavathi, "Statistics – Theory & Practice", S Chand Publishing,7th Edition, 1984
3. Leaf G A V, "Practical Statistics for the Textile Industry" Part I and II, Cornell University, 2009.

25BSTX22 – FABRIC MANUFACTURING

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Explain the woven preparatory and production techniques.	Understand
CO 2	Understand the knitted and nonwoven fabric preparatory and production techniques	Understand
CO 3	Understand the preparatory process for woven, knitted and nonwoven fabric production	Apply
CO 4	Explain the conventional and modern weaving and knitting systems	Apply
CO 5	Understand the various nonwoven and braiding techniques	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	M				
2			M		
3		S			
4					S
5				S	

UNIT I

Weaving preparatory process:– High speed winding machine - Pirn winding. Warping - warping machine – sectional warping machine. Sizing - ingredients – sizing machine. Drawing in – denting. **Conventional Weaving:** Introduction – primary, secondary and auxiliary motions - passage of yarn – handloom - power loom. Selvedges – types.

UNIT II

Patterning mechanisms: Lifting mechanism principles – tappet, dobby (climax, staubli) and jacquard. Drop box.

Shuttleless Loom: Introduction - weft inserting cycle - projectile, rapier, air jet, water jet - Multiphase weaving - Fabric defects, causes and remedies.

UNIT III

Weft knitting: Comparison of weaving and knitting, weft and warp knitting – weft knitting classification - circular, flat, V-bed. Elements of weft knitting - needles, and their types, sinkers, jacks, cams, cylinder, feeder and take-up, their function and operation. Knitting terminologies - open loop, closed loop, course, wale, stitch density and loop length. knitting cycle and yarn path of single and double jersey

UNIT IV

Warp Knitting: Detailed classification - tricot, raschel, simplex and 2 needles bar raschel machines, Mechanical elements of warp knitting. Needle bar, sinker bar, guide bar, warp beams, pattern wheel, chain links, knitting cycle for spring bearded and latch needles, yarn path in tricot and raschel machines, lapping diagrams and notations.

UNIT V

Nonwoven: Introduction – classification. Web formation – dry (parallel, cross, random), wet and polymer laid. Web bonding – mechanical, chemical and thermal. Properties and applications. Braiding - flat and circular braiding machines – properties and applications.

TEXT BOOKS:

1. Talukdar, M. K. (1982). An Introduction to Winding and Warping. Mumbai: Textile Trade Press.

2. Anbumani N, "Knitting-Fundamentals, Machines, Structures and Developments", New Age International (P) Ltd., New Delhi, 2007.

REFERENCES:

1. Horrocks, A. R. & Anand, S. C. (2000). Handbook of Technical Textiles. Cambridge: Woodhead Publishing.

2. Vincent, J. J. (1980). Shuttleless Looms. Manchester: The Textile Institute.

3. Talavasek, O. & Svaty, V. (1981). Shuttleless Weaving Machines. Oxford: Elsevier Scientific Publishing Company.

4. Ormerod, A. (1983). Modern Preparation and Weaving Machinery. London: Butterworth‟s & Co.

5. Karthik, T., Prabha Karan, C., & Rathinamoorthy, R. (2016). Nonwovens: Process, Structure, Properties & Applications. 1st Edition. Woodhead Publishing India.

6. Spencer D J, "Knitting Technology", Textile Institute Publication, Manchester, UK, 3rd Edition, 2001

25BSTX23 – APPAREL MANUFACTURING - I

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the types of seams and stitches, sewing threads & their quality	Understand
CO 2	Get to know the use of accessories for garments	Understand
CO 3	Understand the various problems & remedies during garment manufacturing	Apply
CO 4	Understand the fundamental aspects of production of garment and various processes involved	Understand
CO 5	Explain the types of seams and stitches, sewing threads & their quality	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	M				
2			M		
3		S			
4					S
5				S	

UNIT I

Introduction to Indian apparel industry; Anthropometry- definition and tools, Specification sheet, technical pack; Structure of an apparel industry-work flow, Pre production planning; types of samples and sample approval;

UNIT II

Basics of fabric spreading, modes of spreading, different fabric packages, spreading tension, uniformity and alignment, woven fabric lay, knitted fabric lay, types of fabric lay, Lay planning principles. Marker making, principles of marker making, types of markers, marker planning and marker efficiency, and fabric design parameters on markers, matching and grain line. Fabric cutting methods, latest fabric cutting equipments, and record keeping in cutting room,

advancements in cutting room technology

UNIT III

Seams: Definition, Types of seams, seam quality, seam performance, factors to be considered in the selection of seam, seam finishes, seam defects. Stitches: Definition, stitch classes, stitch parameters, factors to be considered in the selection of stitches. Stitching defects. Sewing Thread: Types, construction, sewing thread quality, selection of sewing thread.

UNIT IV

Single needle lock stitch machine – over lock – flat lock machine - mechanism and accessories; needle – functions, special needles, needle size, numbering, needlepoint.

UNIT V

Garment accessories, trims and components; fusing requirements and process; Objectives of pressing and packing- Suitable solutions for Sustainable Apparel production.

TEXT BOOKS:

1. Carr H., and Latham B., "The Technology of Clothing Manufacture", Blackwell Science Ltd., Oxford, 1994.
2. Gerry Cooklin, "Introduction to Clothing Manufacture" Blackwell Science Ltd., 1995.
3. Harrison.P.W Garment Dyeing, The Textile Institute Publication, Textile Progress, Vol .19 No.2,1988.

REFERENCES:

1. Winifred Aldrich., "Metric Pattern Cutting", Blackwell Science Ltd., Oxford, 1994
2. Peggal H., "The Complete Dress Maker", Marshall Caverdish, London, 1985
3. Jai Prakash and Gaur R.K., "Sewing Thread", NITRA, 1994
4. Ruth Glock, Grace I. Kunz, "Apparel Manufacturing", Dorling Kindersley Publishing Inc., New Jersey, 1995.
5. Pradip V.Mehta, "An Introduction to Quality Control for the Apparel Industry", J.S.N. Internationals, 1992.

25BSTX24 FASHION & HUMAN BEHAVIOUR

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Explain the key psychological principles that influence human behavior and decision-making, such as perception, attention, memory, motivation, and emotion.	Explain
CO 2	Apply psychological principles to the design of products, services, and experiences, taking into account the needs, wants, and biases of users.	Apply
CO 3	Conduct user research to understand the needs, wants, and motivations of users.	Understand
CO 4	Use design thinking principles to develop and iterate on product and service designs.	Apply
CO 5	Use persuasion principles to create designs that are persuasive and engaging.	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2		S			
3				M	
4			S		
5					S

UNIT I

Introduction to Design Quality Assurance in Fabric and Apparel Production : The role of psychology in design; Historical context and key figures in design psychology. Perception and Visual Design: Principles of visual perception, how humans interpret and respond to visual stimuli; Color Psychology: The psychological impact of color, Cultural and emotional associations with colors, Applying color psychology in design.

UNIT II

Cognitive Psychology and Design: The role of cognitive psychology in design, Cognitive processes: perception, attention, memory, and problem-solving, creating memorable and learnable designs; Ethical responsibilities in design informed by cognitive psychology, social and environmental impact of design.

UNIT III

Emotional Design: The role of emotions in design, creating emotionally engaging designs; Graphic Design and Visual Communication: Effective visual communication and messaging, Influence of design on user behavior and choices; Ethical Considerations in Design Psychology: Social and environmental impact of design.

UNIT IV

Illusion: The role of illusions in art and design, Historical context and famous illusion artists; The Psychology of Perception: Understanding how the brain processes visual information, How we perceive depth, motion, and dimension

UNIT V

Color Illusions (eg.Afterimage illusions, Simultaneous contrast illusions, Color constancy illusions), Geometric Illusions (eg. Müller-Lyer illusion, Ponzo illusion, Ames room illusion), size illusion, line illusion (eg. Ebbinghaus illusion, Delboeuf illusion, Vertical-horizontal illusion).

TEXT BOOKS:

1. "The Experience Economy: Work Is Theater & Every Business a Stage" by B. Joseph Pine II and James H. Gilmore.
2. "Universal Principles of Design" by William Lidwell, Kritina Holden, and Jill Butler.
3. Don Norman, A. (2002). The design of everyday things. Basic Books.
4. Eysenbach, M. C. (2016). The science behind everyday things: How everyday physical objects and products influence our cognition and behavior. Springer.
5. Gaver, W. W., Takayama, Y., & Inomata, T. (2017). Design thinking for social innovation: Jacksons in action. MIT Press.
6. Norman, D. A. (2013). Emotional design: Why we love or hate everyday things. Basic Books.
7. Preece, J., Rogers, Y., & Sharp, H. (2015). Interaction design: Beyond the interface. John Wiley & Sons.

25BSTX25 - ENVIRONMENTAL SCIENCE

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the different types of pollution and its impact on environment	Understand
CO 2	Create awareness about eco-systems, social issues and environmental pollution control legislations	Understand
CO 3	Elaborate on the various natural resources	Understand
CO 4	Identify the various forms of pollution	Understand
CO 5	Know various social issues related to environment	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1					S
2				M	
3		S			
4	S				
5			S		

UNIT I

Natural Resources: Renewable and non-renewable resources - natural resources and associated problems - forest resources - water resources - mineral resources - food resources - energy resources - land resources - role of an individual in conservation of natural resources - equitable use of resources for sustainable lifestyles.

UNIT II

Ecosystems: Concept of ecosystem - structure and function of an ecosystem – producers, consumers and decomposers - energy flow in the ecosystem - ecological succession - food chains, food webs and ecological pyramids.

UNIT III

Environmental Pollution: Meaning and factors, types of environment pollution: air pollution, water pollution, noise pollution, industrial pollution - soil pollution - marine pollution - thermal pollution - nuclear hazards - role of an individual in prevention of pollution.

UNIT IV

Social issues: from unsustainable to sustainable development - urban problems related to energy - water conservation, rain water harvesting, watershed management - resettlement and rehabilitation of people; its problems and concerns - environmental ethics : issues and possible solutions - climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.

UNIT V

Environment Protection act: Environment protection act - air (prevention and control of pollution) act - water (prevention and control of pollution) act - wildlife protection act - forest conservation act - issues involved in enforcement of environmental legislation - public awareness.

TEXTBOOKS:

1. Benny Joseph, „Environmental Science and Engineering", Tata McGraw-Hill, New Delhi, 2006.

2. Gilbert M.Masters, „Introduction to Environmental Engineering and Science", 2nd edition, Pearson Education, 2004.

REFERENCES:

1. Dharmendra S. Sengar, „Environmental law", Prentice hall of India Pvt Ltd, New Delhi, 2007.

2. Erach Bharucha, "Textbook of Environmental Studies", Universities Press(I) Pvt, Ltd, Hydrabad, 2015.

3. G. Tyler Miller and Scott E. Spoolman, "Environmental Science", Cengage Learning India PVT, LTD, Delhi, 2014.

4. Rajagopalan, R, „Environmental Studies-From Crisis to Cure", Oxford University Press, 2005.

25BSTX26L – FASHION ILLUSTRATION LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the basic concepts of human anatomy.	Understand
CO 2	Develop skills in fashion arts and create innovative designs.	Apply
CO 3	Inculcate excellent illustration skill.	Apply
CO 4	Visually interpret other people's ideas.	Understand
CO 5	The capability to be flexible and adapt to change when requested.	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1					S
2			S		
3				S	
4	M				
5		M			

LIST OF EXPERIMENTS:

1. Illustration of human anatomy
2. Illustrate different growth stages of male and female
3. Illustrate fashion Croquis – male and female
4. Illustrate Facial features – Eyes, Nose, Lips & Ears
5. Illustrate different men's and women's face shapes
6. Illustrate front and side face with features for men and women
7. Development of flesh figure from stick figure
8. Illustrate different hand and leg poses
9. Illustration of different styles of skirts, pants, waist band and pocket
10. Illustration of different hair styles
11. Illustration of different styles of sleeves, cuff, neckline, yoke, collars
12. Illustration of different kinds of accessories and designs

13. Illustrating of trimmings and decorations
14. Illustrating face make up with reference to prevailing fashion

REFERENCES:

1. Abling, Bina. (2012). Fashion Sketchbook. 6th Edition. New York: Fairchild Book Publications.
2. Davis, Marian. L. (1996). Visual Design in Dress. 3rd Edition. New Jersey: Prentice Hall Inc.
3. Gillow, John. & Barnard, Nicholas. (2008). Indian Textiles. Reprint edition. Thames & Hudson Ltd.
4. Bhargav, Ritu. (2005). Fashion Illustration and Rendering. 1st Edition. New Delhi: B Jain Publication Pvt. Ltd.
5. Morris, Bethan. (2006). Fashion Illustrator, New Delhi: Laurence King Publishing.
6. Ireland, Patrick John. (1996). Fashion Design Illustration: Men. UK: Pavilion Books.
7. Ireland, Patrick John. (2003). Fashion Design Drawing and Presentation. Batsford Publishers.
8. Wayne, Childy. (2009). Essential Fashion Illustration: Men. Beverly, Massachusetts: Rockport Publishers.

25BSTX27L – FABRIC MANUFACTURING LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Illustrate the operating mechanism of the weaving machine	Understand
CO 2	Explain the operating mechanism of the knitting and braiding machine	Understand
CO 3	Understand the yarn passage in weaving machine	Apply
CO 4	Understand the yarn passage in knitting machine	Understand
CO 5	Understand the yarn passage in braiding machine	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	M				
3			M		
4				S	
5					S

LIST OF EXPERIMENTS

1. Study of material passage in loom
2. Study of negative shedding mechanism in loom: Tappet/Climax
3. Study of picking and beat up mechanism in power loom
4. Study of let-off and take up mechanism in loom
5. Study of single cylinder single lift jacquard mechanism in loom
6. Study of Single jersey knitting machine.
7. Study of Interlock knitting machine
8. Study of Rib knitting machine
9. Study the passage of material in braiding machine

REFERENCES:

1. Grosicki, Z. J. (2004). Watson‟s Textile Design and Colour-elementary Weaves and Figured Fabrics. 7th Edition. England: Woodhead Publishing Ltd.

2. Talukdar, M. K. (1982). An Introduction to Winding and Warping. Mumbai: Textile Trade

Press.
3. Anbumani N, “Knitting-Fundamentals, Machines, Structures and Developments”, New Age International (P) Ltd., New Delhi, 2007.
4. Spencer D J, “Knitting Technology”, Textile Institute Publication, Manchester, UK, 3rd Edition, 2001

25BSTX28 – YOGA FOR HUMAN EXCELLENCE

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Know the importance of Physical Exercises, yoga Sana and meditation	Understand
CO 2	Develop good physical and mental strength	Understand
CO 3	Live a stress free and balanced lifestyle	Apply
CO 4	Practice the art of yoga	Apply
CO 5	Acquire knowledge about the mind and its functions	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	M				
3			M		
4				S	
5					S

UNIT I: Yoga Types

Types of yoga – karma yoga – bhakthi yoga – raja yoga – gnana yoga – hata yoga. agna- santhi – clearence – thuriya – thuriyatheetham.

UNIT II: Yogasana, Varma Art and Naturopathy

Padmasana, halasana, vajrasana, sukasana, chakrasana (side posture), viruchasana, bhujangasana, yoga mudra, ustrasana, maha mudra, vakkarasana. art of varma – philosophy of varma – practices – benefits – methods of naturopathy.

UNIT III: Simplified Physical Exercises

Physical exercises – hand exercises – leg exercises – breathing exercises – eye exercises – kapalabathi – makarasana – body massage – acupressure – relaxation science and total consciousness – integrated approach.

UNIT IV: Personality Development

Introspection – analysis of thoughts – moralization of desire – neutralization of anger – eradication of worries – benefits of blessing.

UNIT V: Life lessons

Divine thoughts of Bharathiar – Concepts of Ramalinga Vallalar Vethathirian principles – Practical solutions of Vethathirian philosophy.

TEXT BOOK:

1. "Simplified Physical Exercises", by Vedhathiri Maharishi Pathipagam, 180, Gadhiji Road, Erode – 638001.

REFERENCES:

1. "Yoga its Basis and Applications" – H.R Nagendra, S-VYASSA publications.
2. "New perspective in stress Management (SMET)", S-VYASSA publications.
3. "My Life History", Thathuvagnani Vethathiri Maharishi, 180, Gadhiji Road, Erode
4. "Patanjali"s Yoga Sutras", S-VYASSA publications.
5. "Yoga – Breathing Practices", S-VYASSA publications.

SEMESTER III
25BSTX31 – FABRIC STRUCTURE AND ANALYSIS

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand different structures of woven and knitted fabric	Understand
CO 2	Understand the structure of fabric and design the structure for different applications.	Understand
CO 3	Construct the draft and peg-plan which are required to convert the design into fabric	Apply
CO 4	Design the structure for different end uses	Apply
CO 5	Acquire knowledge about design manipulation	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			M		
3		M			
4					S
5				S	

UNIT I

Elementary weaves – plain and its derivatives, twill and its derivatives, satin, sateen and their derivatives – loom requirements

UNIT II

Ordinary and Brighten Honey Comb; Huck-a-Back and its modifications; Mock Leno; crepe weaves; colour and weave effects – loom requirements

UNIT III

Bedford cords - plain and twill faced, wadded; welts and piques, wadded piques; backed fabrics - warp and weft, reversible and non-reversible fabrics; extra warp and extra weft figuring – single and double colour – loom requirements

UNIT IV

Pile fabrics; warp pile - wire pile, terry pile, loose backed; weft pile – plain back and twill back velveteen, lashed pile, corduroy, weft plush – loom requirements. Double cloth, types of stitches; Damasks; Gauze and Leno principles – loom requirements, 3D
woven structures.

UNIT V

Weft Knit Structures: Needle loop, sinker loop, technical face, technical back, open loop, closed loop, knit stitch, tuck stitch, purl stitch, miss stitch - single jersey, rib, purl and interlock, their structures and fabric characteristics. Flat knitting Basic structures- Cardigan, Racked Rib and Cable stitch. Warp knitted fabric Standard Structures.

TEXT BOOKS

1. Grosicki, Z. J. (2004). Watson‟s Textile Design and Colour-elementary Weaves and Figured Fabrics. 7th Edition. England: Woodhead Publishing Ltd.

2. Anbumani N, "Knitting-Fundamentals, Machines, Structures and Developments", New Age International (P) Ltd., New Delhi, 2007.

REFERENCES:

1. Talukdar, M. K. (1982). An Introduction to Winding and Warping. Mumbai: Textile Trade Press.

2. Spencer D J, "Knitting Technology", Textile Institute Publication, Manchester, UK, 3rd Edition, 2001

25BSTX32 – APPAREL MANUFACTURING (Pattern Engineering) – II

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the various garment design details	Understand
CO 2	Explain the knowledge in the field of basic garment designing	Understand
CO 3	Practice grading and pattern engineering	Apply
CO 4	Differentiate the various parts of a garment	Apply
CO 5	Create varieties of garment designs and styles.	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1			M		
2		S			
3	S				
4				S	
5					S

Unit -I

Measurements and Workroom Practices

Flow chart of garment manufacturing Pattern: Definition, Importance, Types: basic pattern, working pattern and production pattern; Pattern making: Definition, Techniques: drafting and draping; Pattern making tools and workroom terms and definitions. Industrial and bespoke patterns. Figure analysis: Head theory: Seven and Half and Eight. Measuring techniques: Introduction; Standard Measurement charts for male, female and kids, Body measurements: circumference measurement, Vertical measurements and horizontal measurements and measuring the form.

Unit -II

Block preparation and Dart manipulation

Drafting of basic bodice, Skirt blocks and sleeve Dart manipulation: Pivotal method, Slash and spread method, Designing with darts, Tucks, Pleats, Flares, Gathers and Style lines, ease allowances, influence of allowances on garment fit.

Unit -III

Sleeves and Collars

Sleeves: Set–in–sleeves: Plain, Puff, Bell, Bishop, Circular and Leg-o-mutton; Sleeves combinedwith bodice: Kimono, Dolman and Raglan. Collars: Convertible, Shirt, Mandarin, Peter pan, Cape, Square, Scalloped, Sailor, Puritan, Shawl, and Notch collar. Cuff: Shirt cuff, French cuff and Contoured cuff. Yokes: Preparing patterns for yokes: Partial, Yoke without fullness, Yoke with fullness and Yoke supporting or releasing fullness.

Unit -IV

Drafting for Garments

Drafting: Basic principles and methodologies used to draft block patterns for the following garments: Shirt, Trouser, Skirt, Blouse and Nightwear. Pattern alterations: Importance, Principlesand pattern alterations for blouse and trouser. Computer applications in pattern making: Fundamentals of pattern making, grading and marker planning using CAD.

Unit -V

Grading and Draping

Grading: Principles of pattern grading, Types: Draft grading: Two dimensional and Three dimensional grading, Track grading; Grading of basic back, Basic front, Basic sleeve and Basic collar. Draping: Introduction, Importance, Preparation of dress forms, Preparation of muslin for draping; Draping for bodice, sleeve and skirt, Advantages and disadvantages.

TEXT BOOKS

1. Halen Josep Armstrong “Pattern Making for Fashion Design” 5 th Edition, Pretence Hall, NewJercey , 2014.

2. Claire Schaeffer, “The Complete Book of Sewing Shortcuts”, Sterling Publishing(NY), 2009.

REFERENCE BOOKS

1. Winifred Aldrich, “Pattern Cutting for Menswear”, 4th edition, Blackwell Science Publisher,USA, 2006.

2. Winifred Aldrich, “Metric Pattern Cutting”, Om Book Service, 1997.

3. Gerry Cooklin, “Master Patterns and Grading for Women’s Outsize”, Blackwell ScientificPublications,1995.

25BSTX33 – MATHEMATICAL DATA ANALYSIS

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Acquire the practical knowledge of analysis of data through EXCEL and SPSS.	Understand
CO 2	Know the practical issues arising in sampling studies.	Understand
CO 3	Appropriately interpret results of analysis of variance tests	Interpret
CO 4	Design experiments, carry them out, and analyze the data they yield.	Apply
CO 5	Preparation of project report	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				S	
2			S		
3					S
4		M			
5	S				

UNIT – I

Concept of time series – Source of time series data – Component of time series – Additive and Multiplicative models – Resolving the components of time series –Trend – Methods of measuring trend

UNIT – II

Sampling design – Census and sample survey – Implication of sample design – Sampling procedure – Characteristic – Types – Measurement and Scaling techniques - Measurement of scales – Scaling – Scale classification bases - Scale construction techniques – Methods of data collection – Primary and secondary data - Observation, interview, survey- data classification and tabulation-Case study method

UNIT – III

Data Analysis: Hypothesis testing-Introduction, procedure, one tail, two tail tests-Tests involving population mean-Errors in hypothesis testing- Chi square test- One way ANOVA – Non parametric

tests- multiple correlation and regression.

UNIT – IV

Through EXCEL:

1. Mathematical functions (SUM ( ), MAX ( ), MIN ( ), COUNT ( ), AVERAGE ( ) combining basic function(MAX,MIN)
2. Illustrate year-wise performance of sales, purchase, profit of company by using chart wizard.
3. Aggregation Functions (SUM IF, COUNT IF)
4. Regression Analysis (FORECAST and TREND)
5. Mini Project – Apply necessary Excel tools to analyse textile database

Through SPSS:

1. Functions of Statistics (Classification, Diagrams and Graphical representation of Data)
2. Descriptive Statistics
3. Calculation of Probabilities under various distributions
4. Correlation & Regression – Partial and Multiple Correlations, Multiple Regression
5. Confidence Intervals for mean, variance, proportions
6. Inferential Statistics for Single through multiple samples. (Chi – Square, t, f and z test)
7. Non – Parametric tests.
8. Experimental Design: One way ANOVA, Two way ANOVA – Factorial designs – Multiple comparison tests
11. Mini Project – Apply necessary tools to analyze textile database

UNIT – V

Project report preparation and interpretation- steps in writing report-types of report

NOTE: Class: 50% theory and 50% practical

REFERENCES:

1. A.M.Goon M.K.Gupta and B.Das Gupta (1994), Fundamentals of Statistics V-II, The world press Ltd., Culcutta.
2. Croxton : Applied General Statistics.
3. S.C.Gupta, V.K.Kapoor, (2007):Fundamentals of Applied Statistics, Sultan Chand & Sons, New Delhi
4. VK Kapoor and SC Gupta, (1986): Fundamentals of Mathematical Statistics, Sultan Chand and sons, New Delhi
5. Hoel P.G. (1957): Introduction to Statistics, Asia Publishing Housing Pvt Ltd, New Delhi
6. Using Excel for Business Analysis - Danielle Stein Fairhurst, WILY.
7. C. P. Kothari, " research Methodology" New age International-2013

25BSTX35L – PATTERN MAKING LABORATORY – I

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the procedure for obtaining measurements and measurement chart preparation	Understand
CO 2	Draft the basic bodice for various garments	Apply
CO 3	Obtain various body measurements	Interpret
CO 4	Prepare measurement chart.	Apply
CO 5	Draft the basic pattern from the obtained measurements	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				S	
2			S		
3					S
4		M			
5	S				

LIST OF EXPERIMENTS:

1. Measuring the form – Male, female and child.
2. Drafting the basic pattern set of bodice and sleeve using the standard measurements.
3. Drafting the basic pattern of skirt and trouser using the standard measurements.
4. Drafting the patterns for the following components:
    a) Sleeve
        i. Plain
        ii. Puff sleeve
        iii. Bell sleeve
        iv. Raglon
    b) Collar
        i. Peter pan
        ii. Stand
        iii. Shirt

c) Yoke

i. Partial yoke

ii. Yoke with fullness

5. Designing, drafting and grading for children‟s wear

i. Baby frock

ii. Rompers

iii. Round neck T-Shirt

REFERENCES:

1. Armstrong, Helen. J. (2011). Patternmaking for Fashion Design. 5th Edition. Pearson Education Pvt. Ltd.

2. Aldrich, Winifred. (2012). Metric pattern cutting for children‟s wear and baby wear. 4th Edition. John Wiley and Sons.

3. Cooklin, Gerry. (1995). Master patterns & grading for women‟s outsize. 1st Edition. Wiley - Blackwell Publications.

4. Bray, Natalie. (2003). More dress pattern designing. 4th Edition. Wiley - Blackwell Publication.

25BSTX36L SURFACE EMBELLISHMENT LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Identify and select the appropriate surface embellishment techniques for different types of fabrics and garments.	Apply
CO 2	Apply a variety of surface embellishment techniques, such as beading, embroidery, and appliqué, to create unique and visually appealing designs	Apply
CO 3	Evaluate the quality of surface embellishment work.	Interpret
CO 4	Troubleshoot problems with surface embellishment techniques.	Apply
CO 5	Develop new and innovative surface embellishment techniques.	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			S		
3		S			
4				S	
5					S

LIST OF EXPERIMENTS:

Experiment 1: Fabric Painting
Experiment 2: Block Printing
Experiment 3: Hand Embroidery
Experiment 3: Machine Embroidery
Experiment 4: Shibori Dyeing
Experiment 5: Appliqué
Experiment 6: Beadwork and Sequin Embellishments
Experiment 7: Geometric Smocking
Experiment 8: Stitch and Shirring Smocking

REFERENCES:

1. Mathews, Mary. Practical clothing construction Part -I Basic Sewing Processes. (No

Year andPublication)
2. Mathews, Mary. Practical clothing construction Part-II Designing, Drafting and Tailoring. (NoYear and Publication)
3. Zarapkar, K. R. (2011). System of Cutting. India: Navneet Publications.
4. Laing, R. M., Webster, J. (1998). Stitches & Seams. India: The Textile Institute.

25BSTX37L – GARMENT CONSTRUCTION LABORATORY – I

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Prepare samples for various types of stitches.	Apply
CO 2	Prepare samples for fullness, plackets, zippers, collars, pockets, sleeves and yokes	Apply
CO 3	Identify and explain the parts and functions of a sewing machine.	Interpret
CO 4	Prepare various samples for stitching.	Apply
CO 5	Categorize various attachments for enhancing the garment value.	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				S	
2			S		
3					S
4		M			
5	S				

1. Study on parts and functions of sewing machine
2. Prepare samples for hand stitches

A) Temporary stitches: even basting, uneven basting, diagonal basting and slip basting.

B) Permanent stitches: running, hemming, run and back stitch, over casting, overhanding and whipping.

3. Prepare samples for seams and seam finishes

A) Seams: plain, single top stitch, double top stitch, welt, lapped, slot, flat fell, french, hemmed flat fell, mantua maker‟s and piped seam.

B) Seam Finishes: pinked, double stitch, edge stitch, herring bone, bound seam edge finish and overcast finish.

4. Preparation of samples for Fullness (darts, tucks, pleats, flares, godets, gathers and shirrs, frills and ruffles).
5. Prepare samples for facings and bindings in necklines- bias, shaped and decorative.

6. Prepare samples of plackets – Continuous bound placket, 2-piece placket, tailor placket, fly opening and zipper
7. Prepare samples of collars – PETER pan collar, shirt collar and stand collar
8. Prepare samples of pockets – Patch, set in seam and set in slot
9. Prepare samples of sleeves – Plain, puff, raglon and kimono
10. Prepare samples of yokes – Partial yoke, yoke with fullness
11. Prepare samples of fasteners – Zipper, hook and eye
12. Prepare samples of trimmings and decorations

REFERENCES:

1. Mathews, Mary. Practical clothing construction Part -I Basic Sewing Processes. (No Year and Publication)
2. Mathews, Mary. Practical clothing construction Part-II Designing, Drafting and Tailoring. (No Year and Publication)
3. Zarapkar, K. R. (2011). System of Cutting. India: Navneet Publications.
4. Laing, R. M., Webster, J. (1998). Stitches & Seams. India: The Textile Institute.
5. Claire, B. Shaeffer. (2012). Sewing for the Apparel Industry. Vol. 978. 2nd Edition. India: Pearson Publishers.
6. Cooklin, Gerry., Hayes, Steven. G., McLoughlin, John., Fairclough, Dorothy. (2012). Cooklin‟s Garment Technology for Fashion Designers. John Wiley & Sons.
7. Knight, Lorna. (2010). 200 Sewing Tips, Techniques and Trade Secrets. Griffin: St. Martin‟s Press.
8. Hosegood, Besty. (2006). The Complete Book of Sewing. London: Dorling Kindersley Ltd.

25BSTX38L – FABRIC STRUCTURE AND ANALYSIS LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Analyze the cloth to identify construction parameters and prepare design, draft and peg plan	Analyze
CO 2	Identify the constructional parameters of fabric	Understand
CO 3	Construct design, draft and peg plan for weaving the fabric	Apply
CO 4	Analyse the blend composition of yarn used in the fabric	Apply
CO 5	Determine the type of finish applied in the fabric	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2				S	
3			S		
4		M			
5					M

LIST OF EXPERIMENTS:

Analysis of construction details of the following fabric structure

1. Woven fabric
    a. Plain
    b. Twill
    c. Satin (Regular and irregular)
    d. Sateen(Regular and irregular)
    e. Honeycomb (ordinary and Brighton)
    f. Huck-a-back
    g. Extra warp and extra weft figuring
    h. Pile fabrics (warp / weft)
    i. Gauze and Leno
    j. Double cloth
    k. Mock-leno
    l. Bedford cord.

2. Knitted fabric
    a. Single jersey
    b. Double jersey structures

REFERENCES:

1. Grosicki, Z. J. (2004). Watson‟s Textile Design and Colour-elementary Weaves and Figured Fabrics. 7th Edition. England: Woodhead Publishing Ltd.

2. Talukdar, M. K. (1982). An Introduction to Winding and Warping. Mumbai: Textile Trade Press.

3. Anbumani N, "Knitting-Fundamentals, Machines, Structures and Developments", New Age International (P) Ltd., New Delhi, 2007.

4. Spencer D J, "Knitting Technology", Textile Institute Publication, Manchester, UK, 3rd Edition, 2001

25BSTX39I – INTERNSHIP – I

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Exposure to industrial practices	Apply
CO 2	Gain knowledge on the process, machinery and technology	Understand
CO 3	Identify the solution for industry related problems	Apply
CO 4	Understand the suitable process, machinery and technology for product manufacturing	Understand
CO 5	Understand the organizational structure	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			S		
3				S	
4					S
5		S			

Pre-requisites:

Students will undergo internship training in an established organization of Textile / Apparel / Retail for a period of 3 weeks.

- At the end of internship training, students will submit a report of training undertaken.
- The student has to present their report to the Panel of members for evaluation.

SEMESTER IV

25BSTX41 – TEXTILE AND APPAREL CHEMICAL PROCESSING

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the need for fabric preparation in wet processing	Understand
CO 2	Understand the classification of dyes and application for textile materials.	Understand
CO 3	Identify the preparatory process suitable for different textile materials	Apply
CO 4	Understand the concepts of coloration of textile materials	Understand
CO 5	Gain knowledge on textile finishing and pollution control	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		M			
2			M		
3	S				
4				S	
5					S

UNIT I

Preparatory Processes: Introduction- water quality requirements – impurities in greige fabric. Objectives and types : shearing / cropping, desizing, singeing, scouring, bleaching and mercerization. Wet processing sequence of cotton, silk, wool, viscose, polyester, nylon and polyester / cotton blends.

UNIT II

Dyeing: Introduction - objectives - basic classification of dyes - selection of dyes - dyeing methods – mechanism - factors influencing the dyeing process. Types of dyeing machine – hank and yarn package, jigger, winch, j-box, jet, soft flow, HTHP, padding mangle and garment dyeing.

UNIT III

Printing: Introduction - difference between dyeing and printing- essential ingredients for printing

paste - methods of printing: stencil - hand block- screen: hand, flat bed, rotary and roller - heat transfer - digital or inkjet. Styles of prints: direct, discharge, resist, pigment, blotch, flock, burn-out and duplex.

UNIT IV

Finishing: Introduction – classification - calendaring, sanforizing (0/0) / anti-shrink finishing, stentering, compacting, flame retardant, soil release, anti-static, enzyme wash, ultra-violet protection, insect resist, water proof, water repellent, bio polishing, stone wash and antimicrobial. Basic techniques and application of Micro-encapsulation, plasma and nanotechnology.

UNIT V

Pollution Control: Introduction - types and causes of pollution – determination of BOD, COD, TDS - waste water treatment methods – primary, secondary and tertiary treatment - zero liquid discharge.

TEXTBOOKS:

1. Shenai, V. A. (1995). Technology of Textile Processing. Vol. III Technology of Bleaching and Mercerising. Mumbai: Sevak Publications.
2. Walters, A., Santillo, D. & Johnston, P. (2005). An Overview of Textiles Processing and Related Environmental Concerns. UK: University of Exeter.
3. Shenai, V. A. (2000). Technology of Dyeing. Mumbai: Sevak Publications.
4. Shenai, V. A. (1999). Technology of Printing. Mumbai: Sevak Publications.
5. Schindler, W. D. & Hauser, P. J. (2004). Chemical Finishing of Textiles. England: Woodhead Publishing Ltd.

REFERENCES:

1. Shore, J. (1998). Blend Dyeing. London: Society of Dyers Colourists.
2. Shenai, V. A. (1995). Introduction to the Chemistry of Dyestuffs. Mumbai: Sevak Publications.
3. Mittal, R. M. & Trivedi, S. S. (1983). Chemical Processing of Polyester / Cellulosic Blends. Ahmedabad Textile Industries Research Association.
4. Shenai, V. A. (2003). Technology of Textile Finishing. Mumbai: Sevak Publications.
5. Parmer, M. S., Satsangi, S. S. & Jai Prakash (1996). Denim – A Fabric for All. Northern India Textile Research Association.
6. Perkins, W. S. (1996). Textile Colouration and Finishing. England: Woodhead Publishing Ltd.
7. Skelley, J. K. (2003). Water Recycling in Textile Wet Processing. England: Woodhead Publishing Ltd.
8. Rao, J. V. (2006). Denim Washing. Ghaziabad: Northern India Textile Research Association.

25BSTX42 – APPLICATIONS OF ERP AND MIS IN APPAREL INDUSTRY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand how business information systems assist textile and apparel organizations	Understand
CO 2	Determine the importance of using MIS for effective management	Understand
CO 3	Apply MIS for effective management	Apply
CO 4	List the various components for MIS	Understand
CO 5	Illustrate the evolution of MIS	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		M			
2			M		
3	S				
4				S	
5					S

UNIT I

Computes and Information processing - classification of computers - main frames - mini computers - workstations - microcomputers - super computers - personal computers - computer - hardware and software - input devices - output devices – primary and secondary storage - magnetic disk storage - magnetic tape storage - optical disk storage - data representation in computers

UNIT II

Definition of management information system - structure of MIS - information system for decision making - data base management system.

UNIT III

System Development Methodologies – SDLC - system analysis - the role of system analyst - system planning and the mutual investigation - information gathering MIS organization - top management

UNIT IV

Management and MIS - strategic information system - MIS as competitive advantage - implications for managers - MIS support for planning, organizing, operating, controlling an knowledge work - specific function - finance - personnel - production - materials - marketing - batch processing Vs. online processing.

UNIT V

Decision support system - definition - examples of DSS - components - building DSS - Group Decision Support System - GDSS tools - Role of GDSS - executive system - benefits - examples.

TEXT BOOKS:

1. Gordan, B. Davis. (1984). Management Information System. 2nd Edition. New York: McGraw Hill Inc.

2. Sadagopan, S. (2005). Management Information System. India: Prentice Hall.

3. Mudrick, G. Robert, Joel E. Ross & James, R. Clagett. (1977). Management Information Systems. 1st Edition. PrenticeHall.

REFERENCES:

1. Rajagopalan,S.P. Management Information System. Chennai: Margham Publications.

2. Gordon Bitter Davis. (1973). Computer Data Processing. 2nd Edition. McGraw-Hill.

3. Kenneth, C. Laudon & Jane, P. Laudon. (2014). Management Information Systems. 12th Edition. Prentice-Hall.

25BSTX43 – INDUSTRIAL ENGINEERING IN APPAREL INDUSTRY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Impart knowledge on work study methods in apparel production.	Understand
CO 2	Utilize the various Industrial Engineering techniques in Garment manufacturing process.	Understand
CO 3	Understand the Material movement in the apparel manufacturing process.	Apply
CO 4	Select appropriate Process route and Technique to minimize the cost of production.	Understand
CO 5	Understand the process flow and their importance in machine planning and time control for every process.	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	S				
3					S
4				M	
5			S		

UNIT I

Industrial Engineering: Concepts, functions and applications - Fundamentals of industrial engineering – operations analysis and design, operations control and management; productivity concept and importance, factors affecting productivity, kinds of productivity measures, Total productivity management.

UNIT II

Organisation and Plant Layout: Concepts, elements, importance, process and characteristics of organisation; organisational theories; organisational structure in the apparel industry; departmentation and delegation of authority in the apparel industry; concepts and factors governing plant location; plant layout – methods, procedure and types with respect to the apparel industry; facility services like air, water, electricity, drainage; Computerised layout planning.

UNIT III

Material Handling: Functions and principles, relationship to plant layout, types of material handling equipments, selection of material handling equipment for the various operations in the apparel industry; storage and warehousing: functions, objectives and principles

UNIT IV

Time and motion study: Definition and concepts, objectives of method study and work measurement for the apparel industry; method study procedure; flow process charts for the various processes in the apparel industry; flow diagram, string diagram, multiple activity chart, SIMO chart; motion economy; time study procedures, standard data required for time study, use of time study in wage incentive and collective bargaining; operator efficiency distributions – SAM. Allowances.

UNIT V

Lean Manufacturing: Introduction, Importance. 7 wastes of lean – Tools of lean – Push, Pull system of production. Introduction to lean concepts - 5S, Kaizen, Kanban, Takt time, Six sigma. Case studies related to lean manufacturing.

TEXT BOOKS:

1. Maurice,Johnson.(1995).“Introduction of Work Study”, Geneva: International Labour Organization.
2. RameshBabu,V.(2012).“Industrial Engineering Application in Apparel Production”. New Delhi: Woodhead Publishing India,
3. Solinger,Jacob.(1998). “Apparel Manufacturing Hand Book”.2nd Edition., Columbia: Bobbin Blenhein Media Corp,

REFERENCES:

1. Juan Carlo, Hiba. (1998). “Improving working conditions and productivity in the garment industry”. Geneva: International Labour Organization.

25BSTX44 FASHION TREND AND FORECASTING

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Define and explain the concept of fashion trend forecasting.	Understand
CO 2	Identify the different types of fashion trends and how they are disseminated.	Apply
CO 3	Analyze the factors that influence fashion trends, such as social, cultural, economic, and technological factors.	Apply
CO 4	Collect and analyze data from a variety of sources to identify emerging trends.	Apply
CO 5	Apply their knowledge of fashion design trend and forecasting to develop and produce new and innovative fashion collections.	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	S				
3					S
4			S		
5				S	

UNIT I

Forecasting Process: Introduction to Fashion, Fashion Trends, Fashion Forecasting, Forecasting in Apparel Planning and Scheduling; Introducing Innovation: Characteristics of an Innovation, the Consumer Adoption Process, Fashions, Fads, and Classics, Consumer Segmentation.

UNIT II

Direction Change: Fashion Movement, Theories of Fashion Change, Directional Theories of Fashion: Change in Tandem, Model of Vertical Flow

UNIT III

Color Forecasting: Dimensions of the Color Story, Color in Marketing, Consumers and the Psychology of Color, the Language of Color, Forecasting with Color Cycles, Color Research-Sources for Color Ideas and Palettes ; Textile Development: Fashion in Fiber and Fabric, Sources

of Innovation in Textile Development, Fabric Fairs and Trade Shows, Fabric Libraries.

UNIT IV

Consumer Research: Fashion Brands, Retail Formats- Emergence of Catalogs, TV Shopping and Online Shopping, Relational Marketing; Demographics: Geo demographics, Demographics and Preferences; Preferences with Ethnicity, Gender and Income; Sale Forecasting ; Real Time Marketing; Sales Forecasting Basics; Sales Forecasting Methods; Sales Forecasting in Context.

UNIT V

Presenting the Forecast: Presentation Design as a Creative Process; Transforming Data into Information and Knowledge; Trend Reporting; Trend Map; Presentation Techniques.

TEXT BOOKS

1. Fashion buying, Helen Goworek, Wiley-Blackwell.
2. Fashion art for the Fashion Industry, Rita Gersten, Fairchild Books
3. Fashion Forecasting: a Mystery or a Method? Rita Perna, Images Publishing Group.
4. The Fashion Design Manual, Pamela Stecker, Macmillan Education.

25BSTX46L – PATTERN MAKING LABORATORY – II

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the procedure for obtaining measurements and measurement chart preparation	Understand
CO 2	Draft the pattern for various adult garments	Apply
CO 3	Obtain various body measurements	Apply
CO 4	Prepare measurement chart	Apply
CO 5	Draft the basic pattern from the obtained measurements	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	S				
3					S
4			S		
5				S	

LIST OF EXPERIMENTS:

OF EXPERIMENTS

1. Designing, drafting and grading for women‟s wear:
   - i. Nighty
   - ii. Salwar and kameez
   - iii. Blouse
   - iv. Skirt and top

2. Developing pattern and grading for Men‟s wear
   - i. Knicker
   - ii. Formal shirt
   - iii. Formal trouser

3. Draping:

i. Basic bodice – Front and Back
ii. Cowl
iii. Yoke
iv. Collar
v. Skirt

REFERENCES:

1. Helen Joseph, Armstrong, "Patternmaking for Fashion Design", Pearson Education Pte. Ltd., 2005.
2. Martin M Shoben, Patrick J Taylor & Nelson Thomas, "Grading for the fashion Industry", LCFS Fashion Media revised edition, 2004.
3. Gerry Cooklin, "Pattern Grading for women‟s clothes", Black well science Ltd., U.K., 1990, 1991 & 1992.

25BSTX47L – GARMENT CONSTRUCTION LABORATORY – II

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the need for fabric preparation and different processes involved in the garment preparation	Understand
CO 2	Elaborate on the procedure for constructing various apparels	Apply
CO 3	Create a foundation for making the textile material suitable for garmenting, designs and increasing the market value	Apply
CO 4	Gain practical skills on determination of the suitability of base materials suitable for value addition.	Apply
CO 5	Construct a garment	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	S				
3					S
4			S		
5				S	

LIST OF EXPERIMENTS:

Designing, Drafting and constructing the following garments with the design features.

1. Children's apparel:
   a. Bib and Jabla
   b. Romper
   c. A- line frock
2. Women's apparel
   a. Skirt and top
   b. Salwar
   c. Kameez
   d. Saree Blouse
3. Men's apparel
   a. Shirt
   b. Trouser
   c. Waist coat

REFERENCES:

1. Zarapkar, K.R., System of Cutting, Navneet Publications, India.
2. Mary Mathews, Practical clothing construction Part-I "Basic Sewing Processes"
3. Mary Mathews, Practical clothing construction Part-II "Designing, Drafting and Tailoring"
4. Winifred Aldrich (2009), "Metric Pattern Cutting for Children"s Wear and Baby Wear", Wiley Blackwell Publications, UK, 4th Edition.
5. Padmavthi B, "Techniques of Drafting & Pattern Making, Garments for Kids & Adolescents", Atlantic Publishers & Distributors P Ltd.
6. Anita Tyagi (2012), Handbook of fashion Technology, Sonali Publications, New Delhi.
7. Nancy J. S. Langdon and Sabine Pollehn (2010), Sewing Clothes Kid;s Love, Creative Publishing International Inc. USA.
8. Peg Couch (2011), Garment Construction: A Complete course on making clothing for fit and Fashion, Fox Chapel Publishing. USA.
9. Samantha Me Nes (2005), Baby Couture, K.P. Books, USA.

25BSTX48L – TEXTILE AND APPAREL CHEMICAL PROCESSING LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the various preparatory and colouration process.	Understand
CO 2	Study the influence of various process parameters on preparatory and colouration process.	Apply
CO 3	Practice assessment methods to evaluate the outcome of preparatory and dyeing process.	Apply
CO 4	Develop basic colouration skills which is essential for fashion designing.	Apply
CO 5	Develop the ability to precisely communicate colour requirements for various rendering	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	S				
3					S
4			S		
5				S	

LIST OF EXPERIMENTS:

1. Desizing and Scouring of cotton fabric and evaluation of its efficiency
2. Bleaching of cotton fabric using universal bleaching agent
3. Dyeing of cotton fabric with direct dyes
4. Dyeing of cotton fabric using Reactive dyes – a) Hot b) Cold.
5. Dyeing of polyester fabric using disperse dyes
6. Dyeing of silk yarn / fabric with acid dyes.
7. Dyeing of acrylic yarn / wool using basic dyes
8. Dyeing of cotton fabric using –Tie & dye techniques.
9. Printing of cotton fabric on direct style.

10. Batik/Block printing on cotton fabric
11. Printing of cotton fabric by stencil technique a) positive b) negative

REFERENCES:

1. Shenai, V. A. (1995). Technology of Textile Processing - Vol. III Technology of Bleaching and Mercerising. Mumbai: Sevak Publications.
2. Shenai, V. A. (2000). Technology of Dyeing. Mumbai: Sevak Publications
3. Arora, A. (2011). Textbook of Dyes. New Delhi: Sonali Publications.
4. Kapoor, Seema. (2012). Dyeing of Textile material. New Delhi: Sonali Publication.

SEMESTER V
25BSTX51 – APPAREL MARKETING AND MERCHANDISING

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the functions of merchandiser on production and retail perspective.	Understand
CO 2	Inculcate the knowledge of apparel product lines, development, pricing and sourcing.	Apply
CO 3	Develop the skill to analyze the functions, characteristics and requirements of a merchandiser.	Apply
CO 4	Diagnose the role of exporters, manufacturer, merchant exporter and job workers.	Apply
CO 5	Identify the suitable SCM procedure.	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1					S
2		S			
3			S		
4				S	
5	S				

UNIT I

Merchandising: Definition – functions - division - role and responsibilities. Types of buyers - communications with the buyers – awareness of current market trends – product development – tech pack analysis - order confirmation process. Export Merchandising. Classification of exporters: Manufacturer, Merchant, Job worker (CM/CMT). Introduction to buying house.

UNIT II

Merchandiser's Role: Proto type to production model – samples, types of samples, sampling procedures, production planning, vendor based rationalization, order placement, in-house and sub-

contractor units. Approval: types of approval, approval procedure, buyer approval and organizational approval. Record maintenance. Vendor evaluation and rating.

UNIT III

Marketing: Fashion consumer typologies, Maslow‟s hierarchy of needs, 4 P‟s, SWOT analysis, marketing research process, importance of marketing. Marketing mix – pricing, product and brand distribution channels. Market size, structure and environment.

UNIT IV

Marketing Research: Definition, role in apparel business, use of research findings for marketing decisions and action plans. Marketing research techniques – translation of businessand marketing problems into research issues and design, survey design, data types and collection methods, sample design and statistical inference. Model building and analysis methods.

UNIT V

Sourcing: Definition, types and methods of sourcing. Sourcing decision in practice – Bought out component.

Supply Chain Management: Introduction and benefits. Push/pull concepts. Supply Chain strategies. Use of barcoding and RFID. **Warehousing:** Introduction, types and importance.

TEXT BOOKS:

1. Merchandising- Theory, Principles and Practice Grace I. Kunz II Edition, Fairchild Publications, Inc. New York. 2005
2. Fashion Marketing by Easey M(Ed), Blackwell Science 1994.
3. Jeremy A Rosenau & David Wilson, “Apparel Merchandising: the Line Starts Here”, Fairchild Books, 3rd Edition, 2014.
4. Ruth E Glock & Grace I Kunz, “Apparel Manufacturing: Sewn Product Analysis”, Pearson / Prentice Hall Inc. 4th Edition, 2005
5. Frances Harder, “Fashion for Profit”, Harder Publication, 10th Edition, 2014.
6. Elaine Stone, Jean A Samples, "Fashion Merchandising", McGraw Hill, 5th Edition. 1990.

REFERENCES:

1. Mike Easey. .March (2009).”Fashion marketing” 3rd Edition, Edited by, ISBN 13:9781405/39533.
2. Tim Jackson and David show (2009) Mastering Fashion marketing

25BSTX52 SUSTAINABLE DESIGN AND FASHION

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the principles and practices of sustainable design.	Understand
CO 2	Apply sustainable design principles to the design of products, services, and experiences	Apply
CO 3	Develop skills in life cycle assessment, environmental impact assessment, and social impact assessment.	Apply
CO 4	Define and explain key concepts in sustainable design, such as life cycle thinking, cradle-to-cradle design, and biomimicry.	Explain
CO 5	Use life cycle assessment, environmental impact assessment, and social impact assessment tools to evaluate the sustainability of design proposals.	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1			M		
2		S			
3	S				
4					S
5				S	

UNIT I

Introduction to Sustainability in Design: Overview of the course and its significance, the impact of design on the environment, Ethical considerations in design; Sustainable Design Principles: The triple bottom line: People, Planet, Profit, Cradle to Cradle design philosophy, Bio mimicry and nature-inspired design.

UNIT II

Sustainable Materials and Resources: Sustainable material selection, Life cycle assessment (LCA) of materials, Sustainable certifications and labels; Energy Efficiency in Design: Energy-

efficient design principles, Passive design strategies, Renewable energy sources in design; Sustainable Product Design: Sustainable product development, Design for disassembly and recyclability.

UNIT III

Sustainable Architecture and Interior Design: Green building practices, Sustainable interior design principles, LEED and other green building certifications.

UNIT IV

Sustainability in Art and Artisanal Crafts: Sustainable art materials and practices, Ethical considerations in art, Sustainable craftsmanship and traditions; Sustainable Design Projects.

UNIT V:

Sustainable Fashion and Textile Design: Eco-friendly textiles and materials, Sustainable fashion design principles, slow fashion and ethical considerations.

References

1. Introduction to Sustainability Paperback – 2016 by Robert Brinkmann (Author) Sustainability in
2. Interior Design Book by Sian Moxon Environmental Studies,
3. M.P. Poonia & S.C. Sharma, Khanna Publishing House
4. O.P. Gupta, Energy Technology, Khanna Publishing House, 2018.

25BSTX56L – TEXTILE AND APPAREL QUALITY EVALUATION LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the working principles of various testing instruments meant for measuring the properties of fibre, yarn, fabrics and garments	Understand
CO 2	Analyze test reports and decide the process parameters	Analyse
CO 3	Understand the working procedures of different testing instruments	Understand
CO 4	Gain knowledge on testing machinery, methods and standards for yarn and fabric.	Understand
CO 5	Develop analytical and interpretation skills.	Apply

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	S				
3					S
4			S		
5				S	

LIST OF EXPERIMENTS:

1. Determination of fabric thickness and GSM.
2. Determination of fabric stiffness and crease recovery.
3. Determination of fabric pilling.
4. Determination of fabric tensile, tearing and bursting strength (any one).
5. Determination of colour fastness of given sample to washing and rubbing.
6. Determination of dimensional stability for the given sample.
7. Determination of drape of the given fabric.

8. Determination of fabric wicking property.

9. Analyze the given fabric sample and grade using 4-point and 10-point systems.

10. Analysis of Garment defects.

REFERENCES:

1. Saville B.P.(1999). “Physical Testing of Textiles”.1st Edition. Woodhead Publishing

2. Grover & Hamby.(1969).“Hand book of Textile Testing and quality Control”, New Delhi, Wiley Eastern.P Ltd.

25BSTX57L – COMPUTER AIDED GARMENT DESIGNING LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Improve soft skills in creating innovative designs.	Understand
CO 2	Design motifs for print design using software	Analyze
CO 3	Develop weave designs for dobby and jacquard using textile CAD software	Apply
CO 4	Draft a pattern and marker plan using garment CAD	Skill
CO 5	Enhance knowledge in motifs development using various designing software.	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				S	
2					S
3	S				
4		S			
5			S		

LIST OF EXPERIMENTS:

1. Designing of Motif.
2. Designing 2D silhouettes for Children‟s, Women‟s and Men‟s wear.
3. Development of motif for screen printing.
4. Patten drafting and grading for Baby frock.
5. Patten drafting, grading and marker plan for T- Shirt.
6. Patten drafting, grading and marker plan for Formal shirt.
7. Patten drafting, grading and marker plan for Trouser.
8. Patten drafting, grading and marker plan for Skirt and Top‟s.
9. Patten drafting, grading and marker plan for Blouse.
10. Patten drafting, grading and marker plan for Women‟s Party wear.

Design Oriented Project.

REFERENCES:

1. Groover, M. P. & Zimmer, E. W. (1998). CAD / CAM Computer Aided Design and Manufacturing. New Delhi: Prentice hall of India.

2. Bezant, C. E. & Horwood, Ellis. (1983). Computer Aided Design and Manufacture. England.

3. Aldrich, Winfred. (1994). CAD in Clothing and Textiles. USA: Blackwell science.

4. Taylor, P. (1990). Computers in Fashion Industry. Heinemann publications.

5. Buchanan & Grady, C. (1995). Automation in the Textile Industry from Fibres to Apparels. UK: The Textile Institute.

6. Donald, D. Voisinet. (1987). Computer Aided Drafting and Design – Concept and Application. McGraw Hill Education

25BSTX58L – FASHION PORTFOLIO LABORATORY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Prepare a portfolio project for standard and specialized fashion apparels	Skill
CO 2	Inculcate creativity and designing capability	Analyze
CO 3	Improve Illustration skill, organization skills & communication skills	Apply
CO 4	Able to formulate and diagnose various colour combinations	Skill
CO 5	Maintain a sketchbook that reflects the creative process	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1			M		
2					S
3	S				
4		S			
5				M	

LIST OF EXPERIMENTS

1. Designer profile
2. Trend Forecasts
3. Theme board
4. Inspiration board
5. Theme Write Up.
6. Creation of Mood board
7. Colour board
8. Customer profile
9. Design development board
10. Flat presentation

11. Fabric board
12. Spec sheet
13. Fabric sourcing
14. Illustration with Back Drops
15. Pattern Making and Garment Construction board
16. Accessory Board
17. Final presentation
18. Designer show/ Garment exhibition (Four garments)

25BSUG59I – INTERNSHIP - II

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Exposure to industrial practices	Apply
CO 2	Gain knowledge on the process, machinery and technology	Understand
CO 3	Identify the solution for industry related problems	Apply
CO 4	Understand the suitable process, machinery and technology for product manufacturing	Understand
CO 5	Understand the organizational structure	Understand

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	S				
2			S		
3				S	
4					S
5		S			

Pre-requisites:

Students will undergo internship training in an established organization of Textile / Apparel Retail for a period of 3 weeks.

- At the end of internship training, students will submit a report of training undertaken.
- The student has to present their report to the Panel of members for evaluation.

SEMESTER VI
25BSTX61 – APPREL COSTING AND EXPORT DOCUMENTATION

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the export documentation procedures	Understan
CO 2	Appreciate the importance of budgeting.	Analyze
CO 3	Understand the elements of cost.	Apply
CO 4	Gain knowledge about pricing methods and policies.	Understan
CO 5	Enhance knowledge on various costing techniques	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				S	
2					S
3	S				
4		S			
5			S		

UNIT I

Budgeting and Principles of costing: Budgeting – aims of Budgeting, types of budget. Costing - aims of costing, Elements of cost – Material cost, Labour cost and overheads, difference between budgeting and costing. Depreciation cost – reasons and methods of calculating depreciation. Pricing policies, Factors influencing pricing. Pricing Methods - Full- cost pricing, Marginal cost pricing.

UNIT II

Costing of garments: Cost determinants - Raw material to finished product - cutting, making and trim cost (CMT) - lot size and design affecting cost. Cost of bought out components - Thread, button, zipper and interlining.

UNIT III

Costing Practices - Costing methods, Cost estimation bulk production. Cost calculation by interpreting Specification sheet Practical cost calculation for Ladies, Men‟s and Children's wear – woven and knitted.

UNIT IV

Selecting export markets: country identification, risk evaluation, pre-shipment export finance – role of commercial banks. Difference between foreign trade and domestic trade-legal requirements for exporting - IE code number definition – registration with sales tax department, central excise department and export promotion councils / commodity boards.

UNIT V

Export Document: Importance, terms of payment: Letter of credit – documentary collection – open account. Terms of shipment – Incoterms - essential elements of an export contract, different types of invoices, bill of lading, packing list, inspection certificates, delivery instructions and delivery orders, drafts of payment, letters of credit, negotiation of documents – action in the event of discrepancies. Online documentation. International trade policy

TEXT BOOKS

1. Charles T. Horngren.(2001).”Introduction to Management Accounting, Prentice Hall. New Delhi,
2. M. I.Mahajan.(2007). “Export Policy, Procedures and Documentation”, , Mumbai:Snow-white Publishers
3. Thomas E. Johnson and Donna L. Bade(2010) Export/Import Procedures and Documentation,

REFERENCES:

1. Levi.(1997)International Finance, Tata McGraw-Hill,.
2. R. Narayanaswamy, Financial Accounting – A Managerial Perspective, Prentice Hall India Pvt. Ltd.,New Delhi,1997.
3. S. K. Bhattacharya & John Dearden, (2000) “Accounting for Management Text and Cases,” Vikas Publishing House, New Delhi, Ministry of Commerce, Govt. of India.

25BSTX62 ENTREPRENEURSHIP DEVELOPMENT IN THE FASHION INDUSTRY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Create awareness and enhance skills in identifying opportunities, develop ideas and start business ventures	Understan
CO 2	Emphasizes on entrepreneurial process.	Understan
CO 3	Gain knowledge on textile entrepreneurship.	Apply
CO 4	Understand the barriers of starting a small business.	Understan
CO 5	Learn the process of managing small and medium business	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				M	
2					S
3	S				
4		M			
5			S		

UNIT I

Entrepreneurship: Internal and external factors, functions of an entrepreneur, entrepreneurial motivation and barriers, classification of entrepreneurship, theory of entrepreneurship, concept of entrepreneurship, development of entrepreneurship; culture, stages in entrepreneurial process.

UNIT II

Business plan development: Creativity and entrepreneurial plan - Idea generation, screening and project identification, creative performance, feasibility analysis: Economic, marketing, financial and technical - Project planning - Evaluation, monitoring and control segmentation - Creative problem solving - Heuristics, brainstorming, value analysis and innovation.

UNIT III

Institutional support for new ventures - Supporting Organizations: Incentives and facilities:

Financial institutions and small-scale industries, Government Policies for SSIs, Angel investors, and private equity. Fashion business models and digital marketing strategies.

UNIT IV

Family and non-family entrepreneur - Role of professionals, professionalism v/s family entrepreneurs, role of woman entrepreneur - Venture capital - Nature and overview, venture capital process, locating venture capitalists.

UNIT V

Role of support institutions and management of small business - Director of industries - DIC, SIDCO, SIDBI, TIIC, MSME small industries, development corporation (SIDC), SISI, NSIC, NISBUED, SFC-Unicorn startups. Case studies pertaining to fashion industry.

TEXT BOOKS:

1. Poornima M Charantimath, "Entrepreneurship Development and Small Business

2. Enterprise", Pearson Education India, Noida, 2011 & 2014

3. Holt, "Entrepreneurship: New Venture Creation", Prentice-Hall Inc., USA, 1998.

REFERENCES:

1. Simon Bridge & Ken O"Neill, "Understanding Enterprise: Entrepreneurship and Small Business", Palgrave Macmillan, London, 4th Edition, 2012.

2. Dollinger M J, "Entrepreneurship", Prentice Hall Inc., USA, 1999.

SEMESTER VII

25BSTX71 **RESEARCH METHODOLOGY**

Course Objectives

- To enable impactful business research that is accepted by National and International Journals.

Course Outcomes

Upon successful completion of this course the student would be able to,

	Course Outcome	**Level**
CO 1	Understand the fundamentals of research, including its scope, significance, types, and ethical considerations.	Understand
CO 2	Determine measurement techniques, scaling, sampling, data collection, and processing of data for business research.	Apply
CO 3	Conduct statistical tests, interpretation of results, report writing, and effective presentation of research findings.	Evaluate

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)									
	PO									
CO	1	2	3	4	5	6	7	8	9	10
1			M							
2							S			
3						M				

UNIT I

Research - Scope and significance - Types of research - Research process - Characteristics of good research – Research design- Ethics in business research*.

UNIT II

Measurement - Errors in measurement* - Tests of sound measurement, techniques of measurement - Scaling Techniques - Types of scales - Scale construction.

UNIT III

Sampling design – Criteria for good sample design* - Types of sample designs - Probability and non-probability samples - Data collection: Types of data - Sources – Tools for data collection - methods of data collection - Constructing questionnaire - Pilot study* - Case study* - Data processing: Coding - Editing and tabulation of data.

UNIT IV

Test of Significance: -Assumptions about parametric and non-parametric tests.
Parametric test – t test, F test and Z test - Non-Parametric Test -U Test, Kruskal Wallis, sign test – non-parametric test – Chi square and ANOVA.

UNIT V

Interpretation - Techniques of interpretation - Report writing: Significance – Report writing: Steps in report writing - Layout of report - Types of reports - Oral presentation - Executive summary - mechanics of writing research report - Precautions for writing report - *Norms for using tables, charts and diagrams – Appendix: Norms for using index and bibliography.

TEXT BOOKS:

1. Zukmund, G. William., Barry Babin., & Jon Carr. (2012). Business Research Methods (9th ed.). Cengage Learning.

2. Cooper,R. Donald., & Pamela, S. Schindler. (2014). Business Research Methods (12th ed.). McGraw Hill Education.

3. 3. Collis Jill., & Hussey. (2013). Business Research: A Practical Guide for Undergraduate and Post Education (4th ed.). Palgrave Macmillan.

25BSTX72 INDUSTRIAL MANAGEMENT

Course Objectives

- To acquaint the students with the basic nature of management, its process, tasks and responsibilities of a manager
- To introduce the basics of managerial functions like human resources, marketing, finance and production

Course Outcomes

Upon successful completion of this course the student would be able to,

	Course Outcome	Level
CO 1	Elaborate on the HRM policies in an organization	Understand
CO 2	Acquaint the students with the basic nature of management, its process, tasks and responsibilities of a manager	Understand
CO 3	Introduce the basics of managerial functions like human resources, marketing, finance and production	Apply
CO 4	Identify examples on marketing using case studies	Skill
CO 5	Point out the functions of HR, Marketing, Finance and Production departments in an organization	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2			S		
3	S				
4				S	
5					S

UNIT I

Management: Science, theory and practice - the evolution of management thoughts – management as art - management as profession - professionalization of management in India - functions of management - levels of management - case analysis.

UNIT II

Human Resource Management: Introduction - HRM policies and roles - The importance of the

human factor - HRM and its interaction with other functional areas - line and staff functions – role of HR manager - case analysis.

UNIT III

Marketing: Concept of marketing and marketing management, marketing as a business process -
marketing environment, marketing mix - relationship of marketing department with production,
finance, purchase and human resource department - demand and market - concepts of consumer
marketing, industrial marketing and services marketing – marketing research, demand and supply
– price determination - case analysis.

UNIT IV

Finance: Introduction: Financial, management and cost accounting - accounting concepts and conventions - concept of finance and functions of financial management; objectives of the firm;
time value of memory and risk - return relationship - case analysis.

UNIT V

Production: Production planning and control: production systems, types of production, re- planning and control functions, relations with other departments, efficiency of production planning and control – scheduling – GANTT charts - case analysis.

TEXT BOOKS:

1. Tripathi,P.C.&Reddy,P.N.(2013),Principles of Management,5th Edition, JBA publishers, New Delhi.
2. Rao,V.S.P.(2000),Human Resource Management : Text&Cases,1stEdition, Excel Books, New Delhi.
3. Pandey I.M.(2010),Financial Management,10thEdition, VikasPublishing House P. Ltd., Noida.

25BSTX73 NEW PRODUCT DEVELOPMENT & ASSESSMENT

Course Objectives

- To comprehend nuances of new product development and factors influencing it.
- To develop alternate products with reduced cost of development

Course Outcomes

Upon successful completion of this course the student would be able to,

	Course Outcome	Level
CO 1	Developing of alternate products with reduced time for development.	Create
CO 2	Comprehend fibre properties and relating with specific product requirements.	Understand
CO 3	Analyze and Develop yarn to meet specific requirement of new product or modify yarn properties to enhance functional performance.	Create

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	S				
3					S

UNIT I

Introduction to new product development - factors to be considered in new product development. Deriving aesthetic and functional requirements of new product from customer needs.

UNIT II

Understanding properties of natural and synthetic fibres, Evaluation of fibre properties and relating product requirements. Application of fibres for various uses and assessment for compliance. Selection and Assessment of fibre properties for specific end use. Development and Documentation of new product from fibres.

UNIT III

Types of yarns - properties - manufacturing method - development of new product or modify existing product to meet current market requirements. Selection and assessment of yarn properties for specific end use. Development and Documentation of new product from fibres.

UNIT IV

Types of fabrics - properties - manufacturing method - knitted and woven fabrics - finishing process for various applications. Selection of appropriate fabric and assessment of fabric properties for specific end use. Development and Documentation of new product from knitted and woven fabrics.

UNIT V

Strategies to develop alternate product or modify existing product to meet customer needs, reduce development cost and time.

TEXT BOOKS:

1. The Technology of Short Staple Spinning by W. Klein
2. Principles of Textile Testing by J. E. Booth, 1961, Heywood Books, London.
3. Knitting Technology : D. Spencer; Published by Pergammon Press.

25BSTX74 - CHARACTERISTICS OF TECHNICAL FIBRES

Course Objectives

To enable the students to understand the

- Structure and morphology of technical fibres
- Physical characteristics of technical fibres

Course Outcomes

Upon completion of this course, the student shall be able to understand the

- Structure and properties of fibres
- Method of investigation of structure of fibres
- Moisture properties of fibres
- Tensile and elongation properties of fibres
- Optical, thermal and frictional characteristics of fibres

CO Number	Course Outcome	Level
CO1	Explain the structure and properties of fibres.	Understand
CO2	Describe the methods of investigating the structure of fibres.	Apply
CO3	Analyze the moisture properties of fibres.	Understand
CO4	Evaluate the tensile and elongation properties of fibres.	Understand
CO5	Examine the optical, thermal, and frictional characteristics of fibres	Analyze

	MAPPING OF COURSE OUTCOMES ANDPROGRAMME OUTCOMES (S – Strong, M-Medium)				
COs / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M			
CO2	M	S			
CO3	S		M		
CO4	M	S	M		
CO5			S	M	S

UNIT I STRUCTURE OF FIBRES

Classification of fibres; study of morphological structures of fibers; physical properties of fibres; order and disorder in fibre structure; molecular conformations – planar zig-zag, helical, lamellar, and sperulite conformations.

UNIT II STRUCTURE INVESTIGATION TECHNIQUES

Transmission and Scanning electron microscopes-principle; construction and working; X-ray diffraction techniques – estimation of crystallinity; Infrared radiation and dichroism techniques; chemical element and group identification by transmittance and optical density methods, molecular
orientation estimation

UNIT III MOISTURE ABSORPTION CHARACTERISTICS

Theories of moisture sorption; moisture absorption behavior of natural and man-made fibres;

influence of fibre structure, humidity and temperature on the moisture absorption; conditioning of fibres –mechanism of conditioning and factors influencing conditioning.moisture diffusion in fibres; heat of sorption – integral and differential, their relation; factors influencing heat of sorption - measurement of heat of sorption

UNIT IV TENSILE AND ELONGATION CHARACTERISTICS OF FIBRES 9

Tensile characteristics –study of strength, elongation, work of rupture, initial modulus, work factor and yield point – determination of yield point. stress-strain relations of natural and manmade fibres - influence of fibre structure, humidity and temperature on tensile characteristics. time effects study of creep phenomena. Elastic recovery and its relation to stress and strain of fibres; mechanical conditioning of fibres and its influence on elastic recovery. load cycling and extension cycling-their effect on elastic recovery. introduction about torsional and flexural rigidity of fibers

UNIT V OPTICAL, FRICTIONAL, AND THERMAL CHARACTERISTICS

Reflexion and lustre-objective and subjective methods of measurement - refractive index and its measurement - birefringence, factors influencing birefringence - absorption and dichroism friction –static, limiting and kinetic friction, its measurement, comparison of fibres, directional friction in wool– friction. thermal transitions of fibres - thermal conductivity, thermal expansion and contraction, Tg, melting; static electricity in textile fibres

TEXTBOOKS

1. Morton W E and Hearle J W S, “Physical Properties of Textile Fibres”, The Textile Institute, Washington D.C., 2008, ISBN978-1-84569-220-95
2. Hearle J.W.S., LomasB., and Cooke W.D.,“Atlas of Fibre Fracture and Damage to Textiles”, The Textile Institute, 2nd Edition, 1998, ISBN:1855733196

REFERENCES

1. Meredith R and Hearle J W S, “Physical Methods of Investigation of Textiles”, Wiley Publication, New York, 1989, ISBN: B00JCV6ZWU ISBN-13:
2. Mukhopadhyay S K, “Advances in Fibre Science”, The Textile Institute,1992, ISBN: 1870812379
3.Meredith R, “Mechanical Properties of Textile Fibres”, North Holland, Amsterdam,1986, ISBN: 1114790699, ISBN-13:9781114790698
4. Raheel M. (ed.)., “Modern Textile Characterization Methods”, Marcel Dekker, 1995, ISBN: 0824794737
5. Mukhopadhyay. S. K., “The Structure and Properties of Typical Melt Spun Fibres”, Textile Progress, Vol. 18, No. 4, Textile Institute, 1989, ISBN:1870812115
6. Hearle J.W.S., “Polymers and Their Properties: Fundamentals of Structures and Mechanics Vol1”, Ellis Horwood, England,1982, ISBN:047027302X| ISBN- 13:9780470273029
7. Greaves. P. H., and Saville B.P., “Microscopy of Textile Fibres”, Bios Scientific, U.K., 1995, ISBN: 1872748244 | ISBN-13:9781872748245
8. Seville. B. P., “Physical Testing of Textiles”, Woodhead Publishing, 1999, ISBN: 1855733676 | ISBN-13:9781855733671
9. Hearle J. W. S., and Peters. R. H., “Fibre structure”, Elsevier Ltd, 1963, ISBN: 1483212211 | ISBN-13:9781483212210

25BSTX75 TEXTILE FIBRE REINFORCED COMPOSITES

OBJECTIVES

To enable the students to learn about

- Reinforcements, matrices used for the composites
- Manufacture and testing of composites and
- Mechanics of failure of composites

OUTCOME

Upon completion of this course, the student shall be able to

- Select different types of textile reinforcements and matrices used for the manufacture of composites and their behaviours
- Evaluate the characteristics of composites

CO No.	Course Outcome	Level
CO1	Identify various types of textile reinforcements and matrices used in composite manufacturing.	Understand
CO2	Describe the role of fibre orientation, volume fraction, and interface in composite performance.	Apply
CO3	Select appropriate textile structures for specific composite applications.	Analyze
CO4	Analyze the mechanical and thermal behavior of textile composites.	Evaluate
CO5	Evaluate the overall characteristics and performance of composite materials.	Understand

	MAPPING OF COURSE OUTCOMES ANDPROGRAMME OUTCOMES (S – Strong, M-Medium)				
COs / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	**S**				**M**
CO2	**S**		**M**		
CO3	**S**	**S**	**S**		
CO4	**M**	**S**	**S**		
CO5	**S**	**S**	**S**		**M**

UNIT I REINFORCEMENTS

Manufacturing, properties and applications of Glass, Quartz, Boron, Silicon carbide, Carbon, HPPE and Aramid fibers.

UNIT II MATRICES

Preparation, Chemistry, Properties and applications of thermoplastic and thermoset resins-

Unsaturated Polyester, Vinyl Ester, Epoxy, Phenolics, polyimides, polyurethanes, polyamides, Polypropylene, PEEK and Polycorbanate

UNIT III COMPOSITE MANUFACTURING

Composites manufacturing for both thermoplastics and thermosets- Hand layup, Filament Winding, Resin transfer moulding, prepregs and autoclave moulding, pultrusion, vaccum impregnation methods, compression moulding; post processing of composites and Composite design requirements

UNIT IV TESTING

Fibre volume and weight fraction, specific gravity of composites, tensile, flexural, impact, compression, interlaminar shear stress and fatigue properties of thermoset and thermoplastic composites

UNIT V MECHANICS

Micro mechanics, macro mechanics of single layer, macro mechanics of laminate, classical lamination theory, failure theories and interlaminar stresses

REFERENCES

1. Schwartz M M, “Composite Materials”, Vol. 1 & 2, Prentice - Hall PTR, New Jersey, 1997.
2. Jang B Z, “Advanced Polymer composites”, ASM International, USA, 1994.
3. Carlsson L A and Pipes R B, “Experimental Characterization of advanced composite Materials”, Second Edition, CRC Press, New Jersey, 1996.
4. Lubin G and Peters S T, “Handbook of Composites”, Springer Publications, 1998.
5. Christensen R, “Mechanics of composite materials”, Dover

25BSTX76 PROTECTIVE TEXTILES

Course Objectives:

The purpose of taking this course is to:

- Study the development and evaluation of ballistic fabrics, including multi-layered structures and enhanced performance.
- Explore conductive textiles and aerosol protection, focusing on conductive fabrics and filtration for chemical agents.
- Explore conductive textiles and aerosol protection, focusing on conductive fabrics and filtration for chemical agents.

Course Outcomes

Upon completion of the syllabus the student will be able to

- Evaluate the components &, their suitability of protective textiles & their applications.
- Enhance the safety of various professional environments.

CO No.	Course Outcome	Level
CO1	Evaluate the components and performance of ballistic fabrics to assess their suitability for protective applications	Understand
CO2	Analyze the properties and uses of conductive textiles and aerosol protection materials to differentiate their protective capabilities.	Apply
CO3	Examine the applications and functionalities of intelligent textiles and surface treatments to recommend appropriate protective uses.	Evaluate
CO4	Analyze the interactions between protection and thermal comfort to prioritize factors influencing the effectiveness of protective textiles.	Analyze
CO5	Create strategies for general protection requirements and applications to enhance the safety of various professional environments.	Understand

	MAPPING OF COURSE OUTCOMES ANDPROGRAMME OUTCOMES (S – Strong, M-Medium)				
COs / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	**S**				**M**
CO2	**S**		**M**		
CO3	**S**	**S**	**S**		
CO4	**M**	**S**	**S**		
CO5	**S**	**S**	**S**		**M**

UNIT 1 BALLISTIC FABRICS

The Concept - The Components - Other Potential Applications – Development of a Computational Fluid Dynamics Model - Metallised Film for Heat Gathering 'Pads' - Geometry of Finned and Spiral Heat Exchangers-Yarn Gripping in Ballistic Fabrics - Multi-layered Fabrics with Inter-layer Connections - Angle- interlock Woven Fabrics - Evaluation of Ballistic Performance of Fabrics with Enhanced Yarn Gripping.

UNIT II CONDUCTIVE TEXTILES AND AEROSOL PROTECTION

Electrically Conductive Textiles for Protection - Fabrics Coated with Inherently Conducting Polymers - Radar Barrier Fence - Piezo-resistive Fabrics for Pressure Sensors and Mapping - Electrostatic Dissipation/Discharge-Aerosol Materials - Aerosol Generation - Particle Measurement - The FIL-Tex Measurement System - The Testing of Chemical and Biological Agents - Filtration Efficiency Measurement.

UNIT III INTELLIGENT TEXTILES AND SURFACE TREATMENTS FOR TEXTILES

Smart textiles, Applications of smart textiles for protective purposes, Sensor function, Data processing, Actuators, Energy, Communication, Thermal protection, Electric actuation, Types of surface treatments, Early treatments for protective textiles, Progression to modern treatments, Choice of treatments in relation to fibre and fabric types, Treatment process fundamentals, Treatment application systems, Brief overview of finishes for protection

UNIT IV INTERACTIONS BETWEEN PROTECTION AND THERMAL COMFORT

Introduction, Definition of comfort, Test methods for heat and moisture transfer, Measurement of thermal comfort with practice-related tests, Interactions between heat and mass transfer, Moisture storage and influences on protection, Thermal manikins, Measuring the insulation of protective clothing systems, Measuring the evaporative resistance of protective clothing systems, Ensemble data, Moving manikins, Manikin tests vs fabric tests, Using manikins under transient conditions

UNIT V GENERAL PROTECTION REQUIREMENTS AND APPLICATIONS

Civilian protection and protection of industrial workers from chemicals, Textiles for UV protection, Textiles for protection against cold, Thermal (heat and fire) protection, Microorganism protection, Textiles for respiratory protection. Electrostatic protection, Ballistic protection, Military protection, Fire fighters protective clothing, Protection against knives and other weapons, Flight suits for military aviators, Protection for workers in the oil and gas industry, Motorcyclists

Textbooks:

1. A.R. Horoocks & D. Price "Fire Retardant Materials" Woodhead Publishing Ltd., Cambridge, 2001

2. Sabit Adanur "Handbook of Industrial Textiles" Wellington Sears, New York ,1995, eBook ISBN9780203733905

References:

1. Brian J McCarthy "Polymeric Protective Technical Textiles", published by A Smithers Group Company, UK, 2013

2. K.R. Spurny in Aerosol Measurement: Principles, Techniques and Applications, 2nd

Edition, Eds., P.A. Baron and K. Willeke, Wiley Inter Science, New York, NY, USA, 2001, p.1.
3. J. Hu in Structure and Mechanics of Woven Fabrics, Woodhead Publishing, Cambridge, UK, 2004.
4. 4.A. Mauritz in Practical Basic Knowledge Regarding Aerosol Technology, PALAS GmbH, Karlsruhe, Germany, 2008.
5. BS ISO 16900-3, Respiratory Protective Devices - Methods of Test and Test Equipment - Part 3: Determination of Particle Filter Penetration, 2013.
6. Mastura Raheel., "Protective Clothing Systems and materials", Marcel Dekker, Inc. NewYork. Basel. HongKong, ISBN: 0-8247-9118-5, 1994.
7. H.R. Mattila "Intelligent Textiles & Clothing "
8. R.A. Scott "Textiles for Protection" Woodhead Publishing Ltd,2005, ISBN: 9781855739215

SEMESTER VIII

25BSTX81 TOTAL QUALITY MANAGEMENT FOR TEXTILE AND APPAREL INDUSTRY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the basic concepts of total quality management and appreciate its importance in today's business environment	Understand
CO 2	Acquire required diagnostic skills and use various quality tools	Understand
CO 3	Apply TQM concepts for improving the quality of products and services	Apply
CO 4	Use tools and techniques of TQM for continuous improvement in quality	Skill
CO 5	Implement Quality Management System	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1			S		
2		M			
3	S				
4				M	
5					M

UNIT 1

Introduction

Introduction and basic concepts, Definition of quality, Dimensions of quality, Evolution of TQM, TQM frame work, Cost of Quality.

UNIT 2

TQM Implementation

Leadership for TQM, Deming's quality principle, TQM implementation, PDSA cycle, Quality Circles, Quality Council, Supplier Partnership.

UNIT 3

Process approach to TQM

Process approach, Juran's Trilogy, Taguchi's loss function, Kaizen, Quality by design, 5S, *5M*.

UNIT 4

Tools and Techniques

7 Old quality control tools,Total productive maintenance, Failure mode and effect Analysis, POKAYOKE, Six Sigma **,**Toyota and Six Sigma.

UNIT 5

Quality Management Systems: Management systems for TQM, ISO 9000 & 14000 Quality management systems, Auditing and certification Process - Quality Awards.

REFERENCES

1. Dale H. Besterfield etal, "Total Quality Management", New Delhi: Pearson Education, 2011.

2. Subburaj Ramasamy, "Total Quality Management", New Delhi: Tata McGraw Hill Publishing Co. Ltd, 2008.

3. J.R. Evans and W.M. Lindsay, "Quality control and Management", New Delhi: Cengage Learning first edition, 2010.

4. Barrie G Date, Ton Van Der Wiet and Jos Van Iwaarden, "Management Quality", New Delhi: Wiley Publications, 2012.

5. Greg Brue, "Six Sigma for Managers", New Delhi: Tata McGraw Hill Publishing Co. Ltd, 2002.

25BSTX82 - HIGH PERFORMANCE FIBRES

Objectives & Outcome:

- To provide the knowledge about modern functional fibre and its commercial application
- To provide the knowledge about the characteristics and production methods of high performance fibers.

CO No.	Course Outcome	Level
CO1	Understand the types and characteristics of modern functional fibres	Understand
CO2	Identify and classify various high-performance fibres used in industry.	Understand
CO3	Explain the commercial applications of functional fibres.	Understand
CO4	Compare different production methods of high-performance fibres.	Analyze
CO5	Evaluate the suitability of functional fibres for specific technical applications.	Evaluate

	MAPPING OF COURSE OUTCOMES ANDPROGRAMME OUTCOMES (S – Strong, M-Medium)				
COs / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	**S**		**M**		
CO2	**S**	**M**	**M**		
CO3	**S**	**S**	**M**		
CO4	**M**	**S**	**S**		
CO5	**M**	**S**	**S**		**M**

UNIT - 1

Introduction to high performance fibre – growth patterns – major attributes- advantages- product development areas; Aramids- fibre formation – structure-properties- performance – applications

UNIT - 2

Carbon fibre – introduction – classification – types- manufacturing process – PAN – rayon – Mesophase Pitch – structure – properties- application – new developments; Glass fibres – introduction – fibre types – compositions- manufacturing process – fibre structure-properties-application an dnew developments

UNIT - 3

Polyethylene fibres – introduction – fibre formation – structure –properties-applications and new developments; Ceramic fibres –classification – fibre formation – composite – structure - properties-applications and new developments

UNIT - 4

Chemically resistant fibres –introduction – chlorinated fibres –PVDC- Flourinated fibres – PTFE –PVF –PVDF – FEP: Thermally resistant fibres –Introduction – thermosets –aromatic polyamides and polyamides – semi-carbon fibres – oxidized acrylics.

UNIT - 5

Other fibres – Introduction- PBZT and PBO – Quartz – Copolymer Polyester Vectra-Vectran – Poly(p-xylene) – miscellaneous.

References:

1. Mukhopadhay S.K, High –Performance fibres, Textile Institute Vol.25,
2. Hearle J.W.S, 'High –Performance fibres', Woodhead publishing, 2001.

25BSTX83 CREATIVITY AND INNOVATION LABORATORY

Course Objectives

- To understand the nuances involved in Creativity & Innovation.
- To get hands on experience in applying creativity in problem solving.

Course Outcomes

CO No.	Course Outcome	Level
CO1	Demonstrate creative thinking strategies to identify and define complex problems.	Understand
CO2	Apply innovation frameworks and design thinking principles in project-based learning.	Understand
CO3	Develop prototypes and models using appropriate tools and materials.	Evaluate
CO4	**Knowledge about radical and disruptive models of innovation**	Analyze
CO5	Evaluate the feasibility, sustainability, and social impact of proposed solutions.	

	MAPPING OF COURSE OUTCOMES ANDPROGRAMME OUTCOMES (S – Strong, M-Medium)				
COs / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	**S**		**M**		
CO2	**S**	**M**	**M**		
CO3	**S**	**S**	**M**		
CO4	**M**	**S**	**S**		
CO5	**M**	**S**	**S**		**M**

UNIT 1

Introduction - Need for Creative and innovative thinking for quality – Essential theory about directed creativity, Components of Creativity, Methodologies and approaches, individual and group creativity, Organizational role in creativity, types of innovation, barriers to innovation, innovation process, establishing criterion for assessment of creativity & innovation.

UNIT 2

Mechanism of Thinking And Visualization - Definitions and theory of mechanisms of mind heuristics and models: attitudes, Approaches and Actions that support creative thinking - Advanced study of visual elements and principles- line, plane, shape, form, pattern, texture gradation, colour symmetry. Spatial relationships and compositions in 2- and 3-dimensional space - procedure for genuine graphical computer animation – Animation aerodynamics – virtual environments in scientific Visualization – Unifying principle of data management for scientific visualization – Visualization benchmarking

UNIT 3

Creativity - Nature of Creativity: Person, Process, Product and Environment, Methods and tools for Directed Creativity – Basic Principles – Tools that prepare the mind for creative thought – stimulation – Development and Actions: - Processes in creativity ICEDIP – Inspiration, Clarification, Distillation, Perspiration, Evaluation and Incubation – Creativity and Motivation The Bridge between man creativity and the rewards of innovativeness – Applying Directed

Creativity

UNIT 4

Creativity In Problem Solving - Generating and acquiring new ideas, product design, service design – case studies and hands-on exercises, stimulation tools and approaches, six thinking hats, lateral thinking – Individual activity, group activity, contextual influences. Assessing Your Personal Creativity and Ability to Innovate, Enhancing Your Creative and Innovative Abilities

UNIT 5

Innovation - radical vs evolutionary, – Introduction to TRIZ methodology of Inventive Problem Solving – the essential factors – Innovator's solution – creating and sustaining successful growth – Disruptive Innovation model – Segmentive Models – New market disruption -— Managing the Strategy Development Process – The Role of Senior Executive in Leading New Growth – Passing the Baton, Entrepreneurial Tools for Creativity and Innovation

Note: Students will undergo the entire programme similar to a Seminar. It is an activity based course. Students will undergo the programme with both theoretical and practical content. Each student will be required to come out with innovative products or services. This will be evaluated by the faculty member(s) handling the course and the consolidated marks can be taken as the final mark. No end semester examination is required for this course

REFERENCES:

1. Rousing. (1999). Creativity: Think New Now Floyd Hurt, ISBN 1560525479, Crisp Publications Inc. 1999

2. Geoffrey Petty. (2012). How to be better at Creativity. The Industrial Society.

3. Clayton, M. Christensen., & Michael, E. Raynor. (2007). The Innovator's Solution. Harvard Business School Press.

4. Semyon, D. Savransky. (2000). Engineering of Creativity – TRIZ (1st ed.). CRC Press New York.

5. Krishnamacharyalu, C.S.G., Lalitha, R. (2013). Innovation management. Himalaya Publishing House.

ELECTIVE COURSES

Elective –Textiles

25BSTX34A HOME TEXTILES

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the application of Home textiles	Understand
CO 2	Emphasizes on Recent developments in furnishing, floor covering and other home textile products	Understand
CO 3	Gain knowledge on different types of home textiles	Apply
CO 4	Understand the production method of different types of home textile products	Understand
CO 5	Determine the performance of home textiles	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				M	
2					S
3	S				
4		M			
5			S		

UNIT I

FURNISHINGS: Developments in Textile Furnishing; Type of Furnishings Materials – Woven and non-woven; Factors affecting selection of Home Furnishings.

UNIT II

FLOOR COVERINGS: Recent Developments in manufacturing of floor coverings -Hard Floor Coverings, Resilient Floor Coverings, Soft Floor Coverings, Rugs, Cushion and Pads; Care of floor coverings.

UNIT III

CURTAINS AND DRAPERIES: Advances in Home decoration - Draperies – Choice of Fabrics, Curtains – Types of Developments in Finishing of Draperies; Developments in tucks and Pleats; uses of Drapery Rods, Hooks, Tape Rings and Pins.

UNIT IV

HOME FURNISHING: Advances in period style in, Different styles, and use of Colours, design & texture in home furnishing. Developments in living room furnishing including upholstery, Wall Hangings, Cushion, Cushion Covers, Bolster and Bolster Cover.

UNIT V

BED LINENS: Advances in the production of - Different Types of Bed Linen, Sheets, Blankets, Blanket Covers, Comforts, Comfort Covers, Bed Spreads, Mattress and Mattress Covers, Pads, Pillows.

TEXT BOOKS:

1. Alexander.N.G., "Designing Interior Environment", Mas Court Brace Covanorich, Newyork, 1972
2. Donserkery.K.G., "Interior Decoration in India", D. B. Taraporeval Sons and Co. Pvt. Ltd., 1973

REFERENCES:

1. Wingate I.B. & Mohler J.F., "Textile Farbics & Their Selection", Prentice Hall Inc., New York, 1984.
2. Irsak.C, " Nonwoven Textiles" Textile Institute", Manchester, 1999
3. Krcma.R., Manual of Non-wovens, Textile Trade Press, Manchester 1993.

25BSTX45A TECHNICAL TEXTILES

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Inculcate the knowledge of textile materials in various technical areas.	Understand
CO 2	Identify the various technical textiles used in the day to day life	Analyze
CO 3	Understand the usage of various fibres for specific application	Apply
CO 4	Gain knowledge about technical textiles, and its applications in different field knowledge.	Understand
CO 5	Apply different fibers for various application	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	M				
2			S		
3		S			
4				S	
5					S

UNIT I

Technical Textiles: Definition – Classification – Market growth and potential - Future of Technical Textiles industry in India. Fibres used - Technical yarns: staple yarns, monofilament, multifilament yarns - Technical fabrics: woven, nonwoven, knitted and braided structures.

UNIT II

Medical Textiles: Non-implantable materials, extra-corporeal devices, implantable materials, healthcare and hygiene products. Fibres used in medical textiles.

Industrial Textile: Fibres used - functions and properties - introduction to coated fabrics - Coating methods: Direct and indirect - Lamination methods: Flame bonding and adhesive lamination - Applications of coating and laminated textiles.

UNIT III

Geo-Textiles: Materials used – properties – testing methods and

application. **Agro Textiles**: Materials used – properties – classification and applications. **Build Textiles**: Materials used – classification - properties and applications.

UNIT IV

Mobile Tech Textiles: Raw material selection – properties – classification and applications. **Protective Textiles:** Materials used – properties - applications: Fire Protective clothing, Heat resistant garments, Water proof materials, Ballistic resistant Vests, Biological and chemical Protective clothing.

UNIT V

Sports Textiles: Raw materials used – classification - properties and applications.

Smart and Intelligent Textiles: Active, passive and very smart textiles - Phase change materials
- shape memory polymers - chromic and conductive Materials - applications in various fields.

TEXT BOOKS:

1. Adanur, Sabit (2017). Wellington Sears Handbook of Industrial Textiles. Rouledge.
2. Horrocks, A. R. & Anand, S. C. (2000). Handbook of Technical Textiles. Cambridge, England: Woodhead Publishing and The Textile Institute.
3. Hearle,J.W.S.(2001),High Performance Fibers,Cambridge,England:WoodHead Publishing limited.

REFERENCES:

1. Kumar,Senthil. R. (2013). Textiles for Industrial Applications. 1st Edition. CRC Press.
2. V.K.Kothari Recent advances in technical textiles-Indian journal of fiber and textile research
3. Johnson, J. S. and Mansdorf, S. Z. (1996). Performance of Protective clothing. 5th Volume. USA: ASTM Publication.

25BSTX54A APPAREL PRODUCTION PLANNING AND PROCESS CONTROL

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the concepts in production planning and control.	Understand
CO 2	Understand the material management and their movement in the production.	Understand
CO 3	Utilize the various tools for enhancing the productivity	Apply
CO 4	Identify various forms for production control	Skill
CO 5	Elaborate on the various production control systems	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2			S		
3	S				
4				S	
5					S

UNIT I

Production Planning: Objectives - production control system: functional areas - elements - types – strategy production - pre-planning - pre-production functions - product acceptance -product development.

UNIT II

Production Systems: Whole garment production system - progressive bundle system – unit production system - multiple flow system - modular system - evaluating production system - principles for choosing a production system.

Flow Process grid and charts: Flow process grid construction - flow process grids for production control - Producing multiple styles.

UNIT III

Production Analysis: Qualitative and quantitative specifications - cut order planning - marker utilization - economic cut quantities.

Plant Loading and Capacity Planning: Determination of machinery requirements for a new factory - calculation of labour requirements - application of line balancing techniques - balance control.

UNIT IV

Production Scheduling: Principles - scheduling charts: GANTT chart and backlog graph - scheduling control techniques - network representations: CPM and PERT.

Machine Loading: Determination of machine allocations for balanced production in existing plant.

UNIT V

Production Control Forms: Form Distribution Chart -Types of Control forms – Materials Management - Manufacturing Resources Planning (MRP) and its types - just in time production system (JIT) - Inventory modeling: Economics order quantity (EOQ) - Optimized production technology (OPT).

TEXTBOOKS:

1. Solinger, Jacob. (2000). Apparel Manufacturing Analysis. Columbia Boblin Media.
2. Bheda, Rajesh. (2002). Managing Productivity of Apparel industry. New Delhi, India: CBI Publishers and Distributors.

REFERENCES:

1. Glock, R. E. and Kunz. G. I. (2005). Apparel Manufacturing: Sewn Product Analysis. 4th Edition. New Jersey, USA: Pearson/ Prentice Hall Publishing Company.
2. Brown, P. K., Brown, P. and Rice, Janett. (2014). Ready To Wear Apparel Analysis. 4th Edition. New Jersey, USA: Pearson/ Prentice Hall Publishing Company.
3. Tyler, D. J. (1991). Materials Management in Clothing Production. New Jersey, USA: Pearson/ Prentice Hall Publishing Company.
4. Karthik, T., Ganesan, P. and Gopalakrishnan, D. (2016). Apparel Manufacturing Technology. India: CRC Press.
5. Colovic, Gordana. (2011). Management of Technology Systems in Garment Industry. India: Woodhead Publishing, CRC Press.
6. Chapman. (2008). Fundamentals of Production Planning and Control. India: Pearson Education India.
7. Nayak, Rajkishore and Padhye, Rajiv. (2015). Garment Manufacturing Technology. Elsevier.

25BSTX55A QUALITY ASSURANCE IN FABRIC AND APPAREL PRODUCTION

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the concepts in Quality assurance in fabric and apparel production.	Understand
CO 2	Understand the Defects and control systems	Understand
CO 3	Utilize the various tools for enhancing the productivity	Apply
CO 4	Identify Process control in garment production process and its properties	Skill
CO 5	Elaborate on the various Controls in knitted and woven fabric	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2			S		
3	S				
4				S	
5					S

UNIT I

Fabric Inspection systems, Fabric defects –major defects and minor defects, Statistical process control, Application of Control systems in fabric manufacturing.

UNIT II

Process control in knitting –quality control of knitted fabrics, loop length control, common faults in knitted fabrics, control measures.

UNIT III

Process control in weaving –fabric quality, on line process control, quality control and monitoring.

UNIT IV

Process control - spreading, pattern making, cutting, process control in sewing, causes of damage to fabric during sewing, control of fusing and pressing operations, storage and packaging.

UNIT V

Sewability of fabrics, strength properties of apparel, dimensional changes in apparel due to laundering, dry-cleaning, steaming and pressing, quality control in printing, embroidery, washing and other accessories.

TEXT BOOKS:

1. Abhijit Majumdar, Apurba Das, R. Alagirusamy and V. K. Kothari, "Process Control in Textile Manufacturing", Woodhead Publishing, 2013.
2. Pradip V.Mehta, P. E. Satish, K. Bhardwaj, "Managing Quality in The Apparel Industry", New Age International Private Limited Publishers, Delhi, 2006.

REFERENCES:

1. P. W. Harrison, "On-line Quality Control in Spinning and Weaving", The Textile Institute, 1988.
2. Pradip V.Mehta, "An Introduction to Quality Control for the Apparel Industry", J.S.N. Internationals, 1992.

Elective – Fashion

25BSTX34B **APPAREL SIZE AND FIT ANALYSIS**

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Provide an overview of sizing system	Understand
CO 2	Understand the complex issue of sizing	Understand
CO 3	Gain knowledge on textile entrepreneurship.	Apply
CO 4	Develop an overall perspective on garment appearance	Skill
CO 5	Perform fit analysis	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2			S		
3	S				
4				S	
5					S

UNIT I

Anthropometry; Study of body measurements – infants, children's, women's and men's. perception of body appearance; figure analysis; body ideals; height and weight distributions; body proportions.

UNIT II

History of sizing system; creating sizing system. Sizing standardization-numbered, lettered sizing- Men's, Women's and Children's. Methods of sizing for mass production of clothing for men, women. Mass customization-sizing technologies and application.

UNIT III

Fit-Elements of fit-Human performance in clothing system-objective and subjective evaluation of fit. Analyzing poor fit – pattern alteration for fit. Virtual garmenting.

UNIT IV

Fabric properties influencing clothing appearance and fit. Fabric drape, seamed fabric drape, dynamic fabric drape. Objective evaluation of overall garment appearance.

TEXT BOOKS:

1. Fan J, Yu W and Hunter L, "Clothing Appearance and Fit", The Textile Institute, Wood head Publishing Limited, England, 2004.

2. Ashdown S P, "Sizing in clothing", The Textile Institute, Woodhead Publishing Limited,= England, 2007.

3. Sandra Betzina ,"Fast Fit-Easy pattern alterations for every figure", The Taunton Press, Inc., Singapore, 2003.

REFERENCES:

1. Patty Brown and Janett Rice, "Ready-To-Wear Apparel Analysis", Prentice Hall, 2001.

2. Editors of Creative publishing," The Perfect Fit- classic guide to alter patterns", Creative publishing international, USA, 2005.

3. Lynn Macintyre and Mary Tilton, "Easy Guide to sewing", Taunton press, USA, 2009.

25BSTX45B
FASHION PHOTOGRAPHY

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Impart knowledge on videography and computer applications in photography.	Understand
CO 2	Appreciate the Different photography techniques and equipments.	Analyze
CO 3	Understand the Different printing techniques.	Apply
CO 4	Gain knowledge about different techniques and lighting methods.	Understand
CO 5	Enhance knowledge on principles of photography	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1				S	
2					S
3	S				
4		S			
5			S		

UNIT I

General principle – Photography - camera, lens. How to use your camera – Needs and methods lighting techniques for indoor / outdoor photography – methods and equipment's – advantage and
disadvantages.

UNIT II

Image capture – parts of camera- classification and types of camera – Applications Disadvantages. Light – Natural, artificial, flash and strobe.

UNIT III

Photography techniques and equipment for different fields. Basic, studio, location portraiture, Photojournalism, Fashion Photography, Fashion shows.

UNIT IV

Exposure and processing of colour and black and white films. Different techniques in developing. Printing –definitions –Methods of printing for black & white color.

UNIT V

Photography using digital cameras –Video photography –image mixing –advertising and still life - application of computers in photography.

TEXT BOOK:

1. W.R. Miller, "Basic Industrial Arts, Plastics, Graphics Arts, Power Mechanics, Photography
", McKnight Publishing Company, Illionois, 1978.
2. Nirmal Pasricha, "A Professional's Basic Photography", Black Rose Publications, Delhi, 2002.
3. Daniel Lezano, "The Photography Bible", A David and Charles Book., United Kingdom, 2004.

REFERENCES:

1. John Hedge, "Photography Course", John Hedge Co, 1992
2. Simon Joinson, "Get the most from your Digital Camera", A David and Charles Book., United Kingdom, 2004.
3. Steve Bavister, "35 mm Photography -The Complete Guide", A David and Charles Book., United Kingdom, 2004.
4. Peter Cattrell, "Photography", Octopus Publishing Group Ltd, London 2005.
5. Sue Hillyard, "The Photography Handbook - A Step by Step Guide", New Holland Publishers, London, 2003

25BSTX54B FABRIC CHOICE AND FITNESS FOR PURPOSE

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Select the appropriate fabric for specific applications, considering factors such as performance requirements, aesthetics, and cost.	Apply
CO 2	Identify the key performance requirements for different types of garments and home furnishings.	Analyze
CO 3	Understand the usage of various fibres for specific application	Apply
CO 4	Select the appropriate fabric for specific applications, taking into account the key performance requirements, aesthetics, and cost.	Understand
CO 5	Evaluate the quality of fabrics using a variety of methods, such as visual inspection, hand testing, and laboratory testing.	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1		S			
2	S				
3					S
4			S		
5				S	

UNIT 1

Introduction to fabric choice and fitness for purpose: This would cover the basics of fabric choice, including the different types of fibers, their properties, and their applications. It would also cover the concept of fabric fitness for purpose and how to consider factors such as performance requirements, aesthetics, and cost when choosing a fabric.

UNIT 2

Fiber properties: This topic would cover the physical and mechanical properties of different types of fibers, such as strength, elasticity, absorbency, and flammability. It would also cover how these properties affect fabric performance.

UNIT 3

Fabric properties: This topic would cover the physical and mechanical properties of fabrics, such as strength, drape, wrinkle resistance, and abrasion resistance. It would also

cover how these properties are affected by fiber choice and other factors, such as fabric construction and finishing.

UNIT 4

Fabric performance: This topic would cover the different performance characteristics of fabrics, such as moisture management, breathability, and thermal insulation. It would also cover how to choose fabrics with the right performance characteristics for specific applications.

UNIT 5

Fabric selection for specific applications: This topic would cover how to choose the right fabric for specific applications, such as apparel, home furnishings, and industrial textiles. It would consider factors such as fabric properties, performance requirements, aesthetics, and cost. Introduction to Seamless garments.

References:

1. "Textiles: Basics" by Sara J. Kadolph and Anna L. Langford

2. "Textile Science" by Phyllis G. Tortora and Ingrid Johnson

3. "Textiles for Residential and Commercial Interiors" by Amy Wilbanks and Nancy Oxford

4. "Performance of Protective Clothing: Issues and Priorities for the 21st Century" by D.J. Lantagne, R.E. Gorman, and J.L. Dill

6. "Metric Pattern Cutting for Women Wear" by Winifred Aldrich.

25BSTX55B FASHION FORECASTING AND BRAND MANAGEMENT

Course Outcomes (CO)

On the successful completion of the program, the student will be able to:

	Course Outcome	Level
CO 1	Understand the importance of Brand Management in today's scenario	Understand
CO 2	Understand the concept of brand and its value	Understand
CO 3	Create strategies for marketing a product at various stages of product life cycle	Understand
CO 4	Take effective decisions on issues pertaining to branding.	Skill
CO 5	Understand the forecasting procedure.	Skill

Mapping of Program Outcomes with Course Outcomes

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1					M
2			M		
3				S	
4	M				
5		S			

UNIT I

Fashion forecasting - Market research - Evaluating the collection - Fashion services and resources

- Portfolio development: Theme board, mood board, colour board, fabric board, customer profile and final design board.

UNIT II

Fashion show - Definition, planning, budgeting, location, timings, selection of models, collection, set design, music, preparing the commentary, rehearsal. Domestic fashion market - Market centre

- Mart - Market week - Trade shows.

UNIT III

Brand- Definition, brand building process – Types of branding – Role of brand –Brand development – Brand loyalty – Brand equity.

UNIT IV

Brand names and its basic applications - Brand leverage and brand performance - Market segmentation – Brand positioning-Pricing strategies –Market skimming – Penetration pricing, brand franchising and licensing.

UNIT V

Designing and sustaining brand strategies, steps in branding, brand equity – Establishing brand values, integrated marketing communication to build brand -Managing brand over time* – repositioning brands*

REFERENCES

1. Mathur U C, "Brand Management Text &Cases", Macmillan Publishers India ltd., Noida, 2006.
2. Kevin Lane Keller, "Best practice cases in Branding", Pearson Education, New Jersey, 3rd Edition, 2008.
3. Chunawalla SA, "Product management", Himalaya publishing house P Ltd., Mumbai, 2nd Edition, 2010
4. Kotler Philip, "Marketing Management", Pearson Education Inc. USA, 13th Edition, 2009.
5. Mary Frances Drake, Janice Harrison Spoone & Herbert Greenwald "Retail Fashion promotion and Advertising", Prentice Hall Inc, 1991.
6. Mike Easey, "Fashion Marketing", Blackwell Publishing, 3rd Edition, 2008.
7. Elaine Stone, Jean A Samples, "Fashion Merchandising ", McGraw Hill Education, 5th Edition, 1990.
8. Maurice J Johnson & Evelyne C Moore, "Apparel Product Development", Prentice Hall Inc, 2001.