



சர்தார் வல்லபாய் பட்டேல் சர்வதேச ஜவுளி மற்றும் மேலாண்மை கல்லூரி
सरदार वल्लभभाई पटेल इंटरनेशनल स्कूल ऑफ टेक्स्टाइल्स एंड मैनेजमेंट
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**B.Sc. – TEXTILE AND APPAREL DESIGN / Hons. / Hons. With Research
REGULATIONS, CURRICULUM & SYLLABUS 2026
(Four Years)**

INDEX

Sl.No	Particulars	Pg.No.
1.	About SVPISTM	1
2.	Vision and Mission	2
3.	I. Governance Policies 1. Students Behaviour in the Campus	3
4.	2. Dress Code a. Formal dress code policy – Wednesdays b. Dress code Guidelines for Wednesdays	4
5.	3. Library a. Library timings b. Rules and regulations c. Lending rules	5
6.	4. Computer Lab a. I.T. Guidelines i. The institute and its IT resources ii. Dos and don'ts for using the resources iii. Storage, email/ chat: Privacy, responsibilities and rules iv. Website contents b. Abuse and Action for Abuse of Computing Privileges i. Abuse ii. Action	6
7.	5. Hostel Regulations a. Behaviour and discipline b. Upkeep of the hostel c. Entry and timings d. Visitors and guests e. Allotment and vacating of hostel accommodation f. Constitution of the hostel committee g. Rules and responsibilities of the hostel committee	9
8.	6. Attendance, Disciplinary & Grievance Committee	12
9.	7. Mentorship	12
10.	8. Malpractice in Examinations	13
11.	9. Institute Industry Interaction	14
12.	10. Placement Assistance Cell a. Rules and Regulation of Placement cell	15
13.	11. Class Committee	16
14.	12. Temporary Break of Study from the Programme	16
15.	13. Performance Analysis Committee	16
16.	14. Results Declaration Committee	17

17.	II. Regulations	
	1. Qualification For Admission	18
18.	2. Duration of the Programme	18
19.	3. Structure of the Programme	19
20.	4. Types of Courses	20
21.	5. Assessment of Theory Courses	23
22.	6. Assessment of Practical Courses	24
23.	7. Evaluation of Internship, Project Work and Dissertation a. Internship b. Project work c. Mini Project d. Dissertation	25
24.	8. Eligibility Criteria for Appearing in Examinations and Attendance Requirement	27
26.	9. End Semester Examination	28
26.	10. Movement to Higher Semester	29
27.	11. Performance Evaluation System	30
28.	12. Grade Sheet	31
29.	13. Eligibility To Award of Degree	31
30.	14. Consolidated Statement of Grades	31
31.	15. Revaluation of Answer Scripts	32
32.	16. Supplementary Examinations	32
33.	17. Withdrawal From Examination	32
34.	III. Curriculum and Syllabus	33
	1. Mission Objectives (MOs)	33
35.	2. Programme Educational Objectives (PEOs)	33
36.	3. Programme Outcomes (POs)	33
37.	4. Mapping of MOs and PEOs	34
38.	5. Mapping of PEOs and POs	34
39.	6. Graduate Attributes	34
40.	7. Subject Curriculum	36
41.	8. List of Electives	40
42.	9. List of Value-Added Courses	41
43.	10. Credit Framework	42
43.	11. Syllabus	43

ABOUT SVPISTM

SVPISTM is a one of its kind institutes 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 programmes 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 visitor's 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:
 - First Priority:** Students admitted to a full-time Programme of study and are from outside the state of Tamil Nadu.
 - Second Priority:** Students admitted to a full-time Programme of study and are from outside the Coimbatore district.
 - Third Priority:** Students from within the district of Coimbatore but living outside the Town agglomeration of Coimbatore.
 - 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

h. Hostel facility is available only for girl students.

6. ATTENDANCE, DISCIPLINARY & GRIEVANCE COMMITTEE

- a. 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
 - Controller of Examinations - Convenor
 - Class Advisors - Members
- b. The Committee will deliberate the following matters.
 - ✓ The matters relating to condonation and attendance shortages of students.
 - ✓ All grievances and disciplinary problems of the students relating to malpractices in test, semester examinations, etc
- c. 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.
- b. 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.
- c. 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.
- d. 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.
- e. Everyday, 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.
- f. **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.
- ✓ 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

- ✓ 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.
- ✓ 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
- ✓ Each student has to be a part of their respective mail groups through which they will be informed all details of the placement program.
- ✓ 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 apprised of the happening of the placement cell.
- ✓ 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.
- ✓ 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.
- ✓ 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.
- ✓ 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.
- ✓ Following is considered as campus placement.
 - Student getting placement through campus placement interview coordinated by placement cell.
 - Student getting placed on the basis of their on-going final project in the respective company.
 - Any other assistance from the institute.
- ✓ Registration of the student in placement cell is considered to be cancelled due to following reasons.
 - Student not interested and not involved in the placement activities.

- Student who is continuously absent / not attending interviews.
- Student who is found by any means that they got the job personally and intentionally trying for better prospects through the institute.
- Any misconduct or indiscipline by students inside the campus.
- ✓ The above-mentioned rules are subject to change and it is within the discretion of the placement cell.
- ✓ By registering with the placement cell does not mean it is a guarantee for job.

11. CLASS COMMITTEE

- a. Each programme will have a Class Committee comprising the following members.
 - ✓ Chairman: Head – Management / Textiles
 - ✓ All the faculty members handling courses for that class as members.
 - ✓ Two students' representatives with a minimum of 75% attendance during the semester shall be nominated by the class as members.
- b. The functions of the Class Committee will be as follows :
- c. The Class Committee shall meet post all CIA written tests.
- d. The first meeting will be held within two weeks from the date of commencement of classes for the semester.
- e. 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.
- f. 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 COMMITTEE

Results Declaration Committee will have Director as Chairman, Head – Textiles / Management and Controller of Examinations as members. After analyzing 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, Thiruvavur.
- 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. – Textile and Apparel Design	A pass in plus two examination or equivalent of any recognized board in India(any stream) having 50% of marks for General category, 45% marks for OBC(NCL)/ SC/ST/PWD candidates

- 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 and entrance test can be had from the websites: www.svpistm.ac.in, www.cutn.ac.in and www.cucetexam.in

2. DURATION OF THE PROGRAMME

- a. The duration of the programmes are as follows:

Programme	Duration	
B.Sc. Textile and Apparel Design (Full-time)	6 Semesters	3 Years
B.Sc. Textile and Apparel Design Hons. (Full-time)	8 Semesters	4 Years
B.Sc. Textile and Apparel Design Hons. with Research (Full-time)	8 Semesters	4 Years

The programme is designed with reference to the New Education Policy of Government 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
 - ✓ 6 semesters/3years – towards award of B.Sc. – Textile and Apparel Design
 - ✓ 8 semesters/4 years – towards award of B.Sc. – Textile and Apparel Design (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. Textile and Apparel Design or opt for a four-year programme with B.Sc. Textile and Apparel Design (Hons. /Hons. with Research).

- b. The programme (B.Sc. Textile and Apparel Design) comprises of 51 courses including 23 Major Core courses, 4 Multidisciplinary Courses, 7 Minor Stream courses, 4 Ability Enhancement Courses, 6 Value Added Courses, 4 Skill Enhancement Courses, 2 Internship and 1 Project work. The programme consists of total 139 credits up to 6th semester.
- c. The programme(B.Sc(Hons.)) consists 61 courses including 29 Major Core courses, 4 Multidisciplinary Courses, 11 Minor Stream courses, 4 Ability Enhancement Courses, 6 Value Added Courses, 4 Skill Enhancement Courses, 2 Internship and 1 Project work. The programme consists of total 171 credits up to 8th semester.
- d. The programme (B.Sc(Hons. With Research)) consists 58 courses including 28 Major Core courses, 4 Multidisciplinary courses, 9 Minor Stream courses, 4 Ability Enhancement Courses, 6 Value Added Courses, 4 Skill Enhancement Courses, 2 Internship, 1 Project work and 1 Dissertation. The programme consists of total 171 credits up to 8th semester.
- e. 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.
- f. 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).
- g. 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.
- h. The first 6 semesters are designed to incorporate core competencies in the stream Textile and Apparel Design and can have an exit option after completion of 6 semesters, which will qualify for the award of degree of B.Sc Textile and Apparel Design, 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 Textile and Apparel Design (Hons. /Hons. with Research).
- i. 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'.

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:**

i. **Skill Enhancing Laboratory Courses:**

All UG students are required to undergo skill enhancing practical courses to develop their skillset through hands on practical laboratory classes.

ii. **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.

iii. **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.

iv. **Value-Added Courses:**

- As an initiative towards developing students as industry ready professionals and competent entrepreneurs, value added courses are introduced in final semester.
- 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.
- 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.
- 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.
- Students shall choose minimum of two courses or more based on their interests and account the credit points.
- These value-added courses are voluntary basis and credits obtained will be added to the course credit as mentioned under 3b/3c.
- These credits cannot be compensated to the course credit that is mentioned under 3b/3c.

v. **Self-interest courses**

- 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.
- 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.
- This flexible learning provides the students a broad spectrum of study.
- Each student can undergo one open-source course through MOOC, SWAYAM, NPTEL etc., in the sixth semester based on their interest which is related to the programme of study.
- These courses shall account to one credit on successful completion of the course prescribed by the organizer. The credits such obtained will be added to the course credit as mentioned under 3b/3c.
- The credits cannot be compensated to the course credit as mentioned under 3b/3c.

d. Internship:

- With the consultation of a faculty guide and coordinator, every student shall undertake a suitable internship at an industry for a period of three weeks 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 given in the guidelines 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 industry, fashion studio to help students understand the importance and application of apparel and fashion 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. (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 four-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.

5. ASSESSMENT OF THEORY COURSES

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.

Criteria:

- 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

- a. 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.

- b. 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.

3.

.....

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)

6. ASSESSMENT OF PRACTICAL COURSES

- a. 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.
- b. Maximum Marks for practical is 100 which consist of:

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

- c. 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.
- d. Criteria for evaluation of experiment may be framed by the course faculty based on the laboratory course.

7. EVALUATION OF INTERNSHIP, PROJECT WORK & DISSERTATION:

a. Internship

- ✓ 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.
- ✓ 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.

a. Project Work

- ✓ 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.
- ✓ 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 Examinations.

b. 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 and 40 marks would be allocated 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.

c. Dissertation

- ✓ The dissertation for B.Sc Textile and Apparel Design (4th 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.

- ✓ 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

- ✓ 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.
- ✓ 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 Examinations.

8. ELIGIBILITY CRITERIA FOR APPEARING IN EXAMINATIONS AND ATTENDANCE REQUIREMENT

- Students fulfilling the following criteria will be allowed to appear in the examinations:
 - ✓ Paid all the fees and dues to the Institute
 - ✓ He/She has minimum prescribed attendance in a semester in all courses.
- 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.
- The Institute may, for valid and convincing reasons, condone a shortage in attendance on the recommendation of the Head – Textiles and with the approval of the Director.
- The condonation of attendance shortage shall be governed by the following provisions:
 - ✓ **Attendance between 70% and 74.9%:** Eligible for condonation on payment of a condonation fee of **₹500 per course**.
 - ✓ **Attendance between 65% and 69.9%:** Eligible for condonation on payment of a condonation fee of **₹1,000 per course**.
 - ✓ **Attendance below 65%:** Not eligible for condonation. Such students shall not be permitted to appear for the End Semester Examination
- 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 may also be permitted for valid medical and physical illness.

- f. The above said relaxations will be considered for students whose academic progress and conduct is observed satisfactory.
- g. 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.
- d. Candidates with benchmark disabilities shall be provided reasonable examination facilities in accordance with the Rights of Persons with Disabilities Act, 2016 and applicable Government guidelines. Eligible candidates requiring a scribe/reader/lab assistant may be permitted the facility on submission of the prescribed medical certificate. **Compensatory Time** shall be provided as per the applicable norms, with a minimum of **20 minutes per hour** for candidates availing scribe assistance and **at least 1 hour for a 3-hour examination** for candidates not availing scribe assistance. For examinations of less than one hour, compensatory time shall be provided on a pro-rata basis, subject to a minimum of **5 minutes**.

Question Paper Pattern (ESE)

**Total Marks: 100
Minutes**

Duration: 180

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.
 - ✓ Students who had failed to gain the minimum attendance in one or more courses conducted in the preceding semester
 - ✓ Students who had not completed the academic requirements for the course(s) in the preceding semester
 - ✓ 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
 - ✓ Students who have got pending payments due to the institute

- ✓ 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 6.5 and above and up to 7.9	First Class
3	CGPA of 5.5 and 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:

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

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:

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

Where C_i - is the credit assigned to the course

GP_i - 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. – Textile and Apparel Design (Hons. /Hons. With Research)

A student shall be eligible for the award of B.Sc. – Textile and Apparel Design if the student has,

- ✓ 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.
- ✓ No dues to the Institute, Library, Hostel etc.,
- ✓ 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:

- ✓ Grades in the courses of the semesters
 - ✓ CGPA
 - ✓ 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.

III. CURRICULUM AND SYLLABUS

B.Sc. – Textile and Apparel Design

1. MISSION OBJECTIVES(MOS):

MO1	Equip students with the right attitude, creative mindset, and domain knowledge to build a successful professional career in textile and apparel design.
MO2	Provide a strong foundation in basic sciences, design principles, textile technology, management, and computational tools relevant to the fashion and textile industry
MO3	Impart comprehensive knowledge of apparel design, textile manufacturing processes, and allied areas, integrating both theory and practical applications.
MO4	Encourage lifelong learning, innovation, and ethical practices, enabling students to adapt to emerging trends and uphold professional standards in the global textile and apparel sector.

2. PROGRAM EDUCATIONAL OBJECTIVE (PEO)

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

PEO1	Establish a successful career in textile, fashion, or related industries by applying core knowledge of textile science, apparel design, and technology.
PEO2	Demonstrate creativity, innovation, and technical skills to design and develop sustainable, market-relevant textile and apparel products.
PEO3	Pursue higher education or engage in lifelong learning to stay abreast of global trends, research developments, and advanced technologies in the field.
PEO4	Exhibit leadership, communication, and teamwork abilities in multidisciplinary environments, contributing effectively to industry, entrepreneurship, or academia.
PEO5	Uphold professional ethics, environmental responsibility, and cultural sensitivity while designing and producing textiles

and apparel for diverse global markets.

3. PROGRAMME OUTCOMES (POs)

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

PO1	Apply fundamental knowledge of textile science, fiber, yarn and fabric manufacturing, chemical processing, and testing techniques in garment production and product evaluation.
PO2	Demonstrate technical and practical skills in pattern engineering, garment construction, sewing, merchandising, marketing, and woven/knitted fabric design for effective apparel development.
PO3	Identify, analyze, and solve technological problems in the textile and apparel industry using modern tools, computational platforms, and relevant software.
PO4	Exhibit creativity and innovation in textile and apparel design, effectively communicating ideas through appropriate design tools and techniques.
PO5	Understand and apply sustainable design principles in the development of textile and apparel products with a focus on quality, functionality, and environmental responsibility.

4. MAPPING OF MOS AND PEOS

S- Strong, M - Medium

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

5. MAPPING OF PEOS AND POS

S- Strong, M - Medium

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

6. GRADUATE ATTRIBUTES OF B.SC. TEXTILE AND APPAREL DESIGN PROGRAMME

- Technical skills** : Understanding textiles, apparel design, 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 CURRICULUM

SEMESTER I

COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
26BSUG11T/ 26BSUG11H	Tamil - I / Hindi – I	3	0	0	3	AEC	40	60
26BSUG12	Communicative English	3	0	0	3	AEC	40	60
26BSTD11	Indian Textiles	3	0	0	3	MC	40	60
26BSTD12	Design Principles and Elements	4	0	0	4	MC	40	60
26BSTD13	Fiber and Yarn Science	4	0	0	4	MS	40	60
26BSTD14L	Basic Sketching Laboratory	0	0	4	2	MC	60	40
26BSTD15L	Basics of Graphic Designing Laboratory	0	0	4	2	MC	60	40
26BSTD16L	Fiber and Yarn Science Laboratory	0	0	4	2	MS	60	40
26BSTD17	Computer Practices - I	0	0	2	1	MD	100	-
Total		17	0	14	24			

SEMESTER II

COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
26BSUG21T/ 26BSUG21H	Tamil - II / Hindi – II	3	0	0	3	AEC	40	60
26BSUG22	Technical English	3	0	0	3	AEC	40	60
26BSTD21	Applied Statistics	3	0	0	3	MD	40	60
26BSTD22	Fashion and Design Psychology	3	0	0	3	MC	40	60
26BSTD23	Environmental Science and Disaster Management	3	0	0	3	MD	40	60
26BSTD24L	Fashion Illustration Laboratory	0	0	4	2	MC	60	40
26BSTD25L	Basic Apparel Construction Laboratory	0	0	4	2	MC	60	40
26BSTD26	Computer Practice - II	0	0	2	1	MD	100	-
26BSTD27	Yoga for Human Excellence#	0	0	2	1	VAC	100	-
26BSTD28	Independent study* – course from SWAYAM / NPTEL/Course Era, etc.	0	0	0	1	VAC	100	-
Total		15	0	12	22			

SEMESTER III

COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
26BSTD31	Textile Colouration	4	0	0	4	MC	40	60
26BSTD32	Fabric Manufacturing	4	0	0	4	MC	40	60
26BSTD33	Apparel Manufacturing & Pattern Engineering	4	0	0	4	MC	40	60
26BSTD34L	Draping Laboratory	0	0	4	2	MC	40	60
26BSTD35	Elective – I	3	0	0	3	SEC	40	60
26BSTD36L	Pattern making Laboratory - I	0	0	4	2	MC	60	40
26BSTD37L	Garment Construction Laboratory – I	0	0	4	2	MC	60	40
26BSTD38L	Surface Embellishment Laboratory	0	0	4	2	MC	60	40
26BSUG39I	Internship – I	0	0	0	3	SI	60	40
Total		15	0	16	26			

SEMESTER IV

COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
26BSTD41	Fabric Structure and Analysis	4	0	0	4	MC	40	60
26BSTD42	Fashion Forecasting and Brand Management	4	0	0	4	MC	40	60
26BSTD43	Apparel Marketing and Merchandising	4	0	0	4	MS	40	60
26BSTD44	Fashion Accessories	3	0	0	3	MC	40	60
26BSTD45	Elective – II	3	0	0	3	SEC	40	60
26BSTD46L	Pattern Making Laboratory II	0	0	4	2	MC	60	40
26BSTD47L	Garment Construction Laboratory II	0	0	4	2	MC	60	40
26BSTD48L	Fabric Structure and Analysis Laboratory	0	0	4	2	MC	60	40
26BSTD49	Independent study* – any course from SWAYAM / NPTEL/ Course Era, etc.	0	0	0	1	VAC	100	-
Total		18	0	12	25			

SEMESTER V								
COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
26BSTD51	Textile and Apparel Quality Evaluation	4	0	0	4	MS	40	60
26BSTD52	Industrial Engineering for Apparel Production	3	0	0	3	MS	40	60
26BSTD53	Sustainable Fashion and Circular Economy	3	0	0	3	MC	40	60
26BSTD54	Elective – III	3	0	0	3	SEC	40	60
26BSTD55	Elective – IV	3	0	0	3	SEC	40	60
26BSTD56L	Textile and Apparel Quality Evaluation Laboratory	0	0	4	2	MS	60	40
26BSTD57L	Computer Aided Garment Design Laboratory	0	0	4	2	MC	60	40
26BSTD58L	Fashion Portfolio Laboratory	0	0	4	2	MC	60	40
26BSUG59I	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	ESE
26BSTD61	Textile Costing and Exim Management	3	0	0	3	MS	40	60
26BSTD62	Entrepreneurship Development	3	0	0	3	MD	40	60
26BSTD63	Value Added Course - I #	1	0	0	1	VAC	100	-
26BSTD64	Value Added Course - II #	1	0	0	1	VAC	100	-
26BSTD65S	Self Interest Course #	0	0	0	1	VAC	100	-
26BSUG66P	Project Work	0	0	16	8	PW	80	120
Total		8	0	24	17			

	Total credits – 139
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SEMESTER VII

COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
26BSTD71	Research Methodology & IPR	4	0	0	4	MC	40	60
26BSTD72	Industrial Management	3	0	0	3	MS	40	60
26BSTD73	New Product Development & Assessment	3	0	0	3	MC	40	60
26BSTD74	Textile Traditions: Documentation and Design	4	0	0	4	MC	40	60
26BSTD75	Work Wear Designing and Manufacture	3	0	0	3	MS	40	60
26BSTD76	Fashion Aesthetics and Media Innovation	3	0	0	3	MC	40	60
Total		20	0	0	20			

SEMESTER VIII (for students pursuing B.Sc (Hons.)

COURSE CODE	COURSE NAME	L	T	P	C	CT	AM	
							CIA	ESE
26BSTD81	Total Quality Management for Textile & Apparel Industry	3	0	0	3	MS	40	60
26BSTD82	High performance fibers	3	0	0	3	MS	40	60
26BSTD83L	Creativity and Innovation lab	0	0	4	2	MC	40	60
26BSUG84M	Mini Project	0	0	8	4	MC	80	120
Total		6	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
26BSUG81D	Dissertation	0	0	24	12	MC	80	120
Total		0	0	24	12			

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

Total credits – 171

ELECTIVES	
SEM III --26BSTD35	
- Elective I	
A	Apparel Size and Fit Analysis
B	Home Textiles
SEM IV --26BSTD45	
Elective II	
A	Technical Textiles
B	Apparel Production Planning and Process Control
SEM V -- 26BSTD54	
Elective III	
A	Fashion Photography
B	Apparel Industry Compliance and Standards
SEM V --26BSTD55	
Elective IV	
A	Retail Management and Visual Merchandising
B	Clothing Care and Maintenance

List of Value-Added Courses:

- Product Design and Development
- Digital Marketing
- Event Management
- Low-Cost Automation
- Internet of things (IoT)
- Critical Issues in Fashion Research
- Fashion journalism
- Lean manufacturing
- Sustainable Energy
- Just in Time
- Six sigma
- History of Indian Fashion industry

Independent Study

- Clo3D software
- Video designing software
- Photo designing software

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.

***Self-Study Course (NPTEL courses)**

- The joy of Computing using PYTHON
- Programming in Java
- Programming in Modern C++
- Energy Conservation and Waste Heat Recovery
- System Design for Sustainability
- Water, Society and Sustainability
- Design Thinking - A Primer
- Designing Work Organization
- Threads Of Visual Exploration: Textiles and Allied Practices
- Science Of Clothing Comfort
- Or any other course of interest by student

10.CREDIT FRAMEWORK / SUMMARY

S.No.	Course particulars	Semester vice split									Total	
		I	II	III	IV	V	VI	VII	VIII	VIII *	VIII	VIII *
1	Major core	11	7	20	17	7		14	6	12	82	88
2	Minor stream	6			4	9	3	6	6		34	28
3	Multi-Disciplinary	1	7				3				11	11
4	Ability Enhancement course	6	6								12	12
5	Skill Enhancement course			3	3	6					12	12
6	Value Added Course		2		1		3				6	6
7	Internship			3		3					6	6
8	Project work						8				8	8
	Total	24	22	26	25	25	17	20	12	12	171	171

SEMESTER I**26BSUG11T****TAMIL - I**

L	T	P	C
3	0	0	3

Course Objectives

- To develop Tamil language competency through the study of literature and grammar.
- To foster an appreciation of Tamil literary heritage, culture, and the evolution of major literary forms.

Course Outcome:

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

அலகு - 1 (கவிதை)

- 1.பாரதியார் – பாரத நாடு
- 2.பாரதிதாசன் - பத்திரிக்கை

3. கண்ணதாசன் – காலக்கணிதம்
4. நாமக்கல் கவிஞர் -குடிப்பதை தடுப்போம்
5. அப்துல் ரகுமான்- ஆறாத அறிவு
6. வைரமுத்து – மரங்களைப் பாடுவேன்

அலகு - 2 (சிறுகதை)

1. அகிலன் - வெள்ளம் வந்தது
2. கா. நா. சுப்பிரமணியம் – சிட்டுக்குருவி
3. கு.அழகிரிசாமி - ராஜா வந்திருக்கிறார்
4. விந்தன் – சுயநலம்
5. கல்கி - ஸினிமாக் கதை

அலகு - 3 (இலக்கணம்)

1. வல்லலமுத்து மிகும் இடங்கள்
2. வல்லலமுத்து மிகா இடங்கள்

அலகு-4 (இலக்கிய வரலாறு)

1. புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும்
2. சிறுகதையின் தோற்றமும் வளர்ச்சியும்
3. நாவலின் தோற்றமும் வளர்ச்சியும்
4. நாடகத்தின் தோற்றமும் வளர்ச்சியும்

அலகு-5(நாடகம்)

1. அகிலா நாடகங்கள் - மா. கமலவேலன்

குறிப்பு புத்தகம்:

1. தமிழ் இலக்கிய வரலாறு – முனைவர் கா.கோ.வேங்கட ராமன்
2. தீந்தமிழ் இலக்கணம் (க. வெள்ளிமலை எம்.ஏ.) – ஐவரி அச்சகம், சென்னை
3. சகோதரர் அன்றோ (அகிலனின் சிறுகதைத் தொகுப்பு) – தமிழ் எழுத்தாளர் கூட்டுறவு சங்கம்
4. பாரதி முதல் பிரபஞ்சன் வரை (தேர்ந்தெடுத்த சிறுகதைகள்) – அய்யா நிலையம் தஞ்சாவூர்
5. புதுமைப்பித்தன் முதல் இறையன்பு வரை (சிறுகதைத் தொகுப்பு) – நியூ செஞ்சுரி புக் ஹவுஸ்
6. தெய்வயானை (சிறுகதைத் தொகுப்பு) – கல்கி – கணியம் அறக்கட்டளை

7. அகிலா நாடகங்கள் – மா. கமலவேலன் – தாமரை பப்ளிகேஷன்ஸ்,
சென்னை

26BSUG11H**HINDI – I**

L	T	P	C
3	0	0	3

Course Objectives

- To develop basic proficiency in Hindi language skills through the study of prose, non-detailed texts, translation, and comprehension exercises.
- To enhance students' reading, writing, and communication abilities in Hindi while promoting an understanding of linguistic and cultural expressions.
- To enable students to comprehend, interpret, and translate simple Hindi texts effectively for academic and practical purposes.

Course Outcome:

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

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

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

26BSUG12**COMMUNICATIVE ENGLISH**

L	T	P	C
3	0	0	3

Course Objectives:

- To convey message to others clearly
- To develop communication skills
- To enhance students' communicative competence and performance
- To instill language skills

Course Outcome:

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

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

26BSTD11

INDIAN TEXTILES

L T P C
3 0 0 3

Course Objectives

- Understand the evolution of Indian costumes and textiles.
- Analyze regional costume traditions and textile crafts.
- Appreciate India's rich textile heritage..
- Apply traditional design elements in contemporary fashion.

Course Outcome:

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

	Course Outcome	Level
CO 1	Understand historical developments in Indian costume traditions.	Apply
CO 2	Differentiate various traditional textile techniques and products.	Apply
CO 3	Identify Compare regional costumes and their cultural significance.	Understand
CO 4	Identify regional embroidery techniques and applications.	Remember / Undertsnad
CO 5	Evaluate the role of jewellery and accessories in Indian costume culture.	Understand

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

UNIT I

Evolution of Indian Costumes: Origin and development of clothing, Influence of religion, climate

and culture on dress, Costumes during: Indus Valley Civilization, Vedic Period, Mauryan period, Gupta period, Mughal period, British colonial period and Post-Independence India. Influence of religion, climate and culture on dress.

UNIT II

Traditional Textiles of India: Dyed and Printed Textiles: Bandhani, Leheriya, Patola, Ikat, kalamkari, Batik, Bagru, Ajrakh. Woven Textiles: Dacca Muslin, Banarasi Brokades, Chanderi, Baluchari, Himru and Amru, Kashmir Shawls, Pochampally, Kanchipuram silk, Paithani, Sambalpuri.

UNIT III

Traditional Costumes of India: Northern India: Punjab, Rajasthan, Uttar Pradesh, Jammu & Kashmir. Southern India: Tamil Nadu, Kerala, Karnataka, Telangana. Eastern India: West Bengal, Odisha, Assam. Western & Central India: Gujarat, Maharashtra, Madhya Pradesh. North-East India: Nagaland, Manipur, Meghalaya.

UNIT IV

Traditional Embroideries and Surface Ornamentation: Kashida (Kashmir), Phulkari (Punjab), Kutch & Kathiawar (Gujarat), Chikankari (Lucknow), Kasuti (Karnataka), Kantha (West Bengal), Toda (Tamilnadu), Zardosi and Mirror work.

UNIT V

Traditional Painted Textiles– Pattachitra Madhubani, Warli Art. Tribal and Folk Textile Arts – Toda, Naga shawls, Bodo weaving, Lambani embroidery. Carpet & rug weaving – Kashmiri carpets, Jaipur rugs, Bhadohi carpets.

TEXT BOOKS:

1. Berndt, D. (1999). World textiles: A concise history. Thames & Hudson.
2. Devereux, D. (1995). The fabric of style: A handbook of textile history. Yale University Press.
3. Elkins, J. (2008). What is textile art?: A critical inquiry. Bloomsbury Publishing.
4. Fairchild, P. (1991). Threads through history: A comprehensive source book on the history and development of major textile fibres, fabrics, and garment styles from the earliest times to the present day. New York: Drama Publishers.

26BSTD12**DESIGN PRINCIPLES AND ELEMENTS****L T P C****4 0 0 4****Course Objectives**

- To develop students' understanding of the basic principles of design, such as balance, contrast, emphasis, rhythm, unity, and variety.
- To teach students how to apply these principles to their own work, in order to create visually appealing and effective designs.
- To introduce students to the different elements of design, such as line, shape, color, texture, and space.
- To help students develop their creativity and self-expression through their designs.
- To prepare students for careers in design-related fields, such as graphic design, interior design, or product design.

Course Outcome:

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

	Course Outcome	Level
CO 1	Identify and apply the principles of design to create visually appealing and effective compositions.	Apply
CO 2	Demonstrate an understanding of the different elements of design, such as line, shape, color, texture, and space.	Understand
CO 3	Use a variety of design techniques and materials to create original and innovative designs	Apply
CO 4	Analyze and critique the designs of others.	Analyze
CO 5	Communicate their design ideas effectively, both verbally and visually.	Apply

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

UNIT I

Introduction to Design Elements: Understanding the significance of design elements in visual communication, Exploration of the six fundamental elements of design; Line as an Element of Design: The role of lines in design, Different types of lines and their meanings; Shape and Form: Understanding shapes and forms in design, Geometric vs. organic shapes.

UNIT II

Color Theory and Application: Introduction to color as a design element, Color models and harmonies; Texture in Design: The importance of texture in design, Visual and tactile texture; Space and Depth: Creating depth and space in two-dimensional design, Positive and negative space.

UNIT III

Value and Contrast: Understanding value as a design element, Creating contrast and emphasis through value; Typography as a Design Element: Typography as a visual element in design selecting and pairing typefaces

UNIT IV

Introduction to Design Principles: Understanding the role of design in various fields, Exploration of the foundational principles of design; Balance in Design: Symmetrical and asymmetrical balance, Creating visual equilibrium in design; Contrast and Emphasis: Exploring the use of contrast to create visual interest, Creating emphasis and focal points.

UNIT V

Unity and Harmony: Achieving unity and cohesion in design, Principles of design harmony; Proportion and Scale: Understanding the importance of proportion and scale, Proportion in typography and layout, applying proportion and scale in design projects; Typography and Layout: Typography as a fundamental element of design, Principles of effective typography, Designing layouts for print and digital media.

TEXT BOOKS:

1. Bertin, J. (1983). *Semiology of graphics: Diagrams, networks, maps*. University of Chicago Press.
2. Callahan, J. (2001). *How designers think: A cognitive science approach to design*. New York: W. W. Norton & Company.
3. Don Norman, A. (2002). *The design of everyday things*. Basic Books.
4. *Graphic Design Theory: Readings on the nature of graphic design and its methods of inquiry*. (1994). Steven Heller, ed. New York: Van Nostrand Reinhold.
5. Heller, S. (2004). *The design of desire: Essays on the life and work of Beljanin*. New York: Phaidon Press.

Course Objectives

- To study the basics of textile fibre and its properties
- To provide students with a fundamental understanding of the structure, properties, and processing of fibers.
- To develop students' ability to characterize and analyze fibers and fabrics.
- To equip students with the knowledge and skills to design and develop new fibers and fabrics with improved properties.
- To prepare students for careers in the textile, apparel, and related industries.

Course Outcome:

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

	Course Outcome	Level
CO 1	Identify and classify different types of fibers based on their structure and properties.	Understand
CO 2	Understand the relationship between fiber structure and properties.	Understand
CO 3	Explain the principles of fiber processing and fabric manufacturing.	Understand
CO 4	Perform common fiber and fabric tests.	Apply
CO 5	Interpret the results of fiber and fabric tests to assess quality and performance.	Analyze

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

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 Private Limited.

Course Objectives

- To develop students' ability to communicate their design ideas through sketches.
- To teach students the different techniques of design sketching, such as perspective drawing, shading, and rendering.
- To help students develop a visual vocabulary for their design work.
- To prepare students to use sketching in the design process, from ideation to final presentation.

Course Outcome:

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

	Course Outcome	Level
CO 1	Create accurate and detailed sketches of their design ideas, using a variety of sketching techniques	Create
CO 2	Use sketching to explore different design concepts and to communicate their ideas to others.	Apply
CO 3	Develop a personal sketching style that is both effective and visually appealing.	Create
CO 4	Use sketching to support the design process, from idealization to final presentation.	Apply

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

LIST OF EXPERIMENTS:

1. Free hand sketching
2. Pencil Shading techniques

3. Grid Drawing – Enlarging and reducing motif
4. Colour wheels: Prang colour chart & Munsell, Value & Intensity Chart
5. Development of stick figure to flesh figure of female and male – 8 Head
6. Different growth stages of male and female
7. Illustrate Facial features – Eyes, Nose, Lips & Ears
8. Illustrate different men's and women's face shapes – front and side face with feature
9. Illustrate different hand and leg poses – Male & Female
10. Illustration of different hair styles
11. Illustration of different styles of skirts, pants, waist band and pocket
12. Illustration of different styles of sleeves, cuff, neckline, yoke, collars
13. Illustration of different kinds of accessories and design

REFERENCES:

1. "Sketching: Drawing Techniques for Product Designers" by Koos Eissen and Roselien Steur.
2. "Sketching for Architecture + Interior Design" by Stephanie Travis
3. "How to Draw: drawing and sketching objects and environments from your imagination" by Scott Robertson and Thomas Bertling
4. "Visual Thinking for Design" by Colin Ware

Course Objectives

- To introduce students to the basic principles and elements of graphic design.
- To teach students how to use software programs such as Adobe Photoshop and Illustrator to create and manipulate graphics.
- To help students develop their visual communication skills.
- To prepare students to apply their graphic design skills to real world projects.

Course Outcome:

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

	Course Outcome	Level
CO 1	Create and manipulate basic graphic elements such as text, shapes, and images using software programs such as Adobe Photoshop and Illustrator	Create
CO 2	Apply the basic principles of graphic design, such as typography, composition, and color theory, to create effective visual communications.	Apply
CO 3	Produce a variety of graphic design projects, such as logos, posters, brochures, and social media graphics.	Create
CO 4	Collaborate with others to develop and execute creative graphic design solutions.	Apply

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

LIST OF EXPERIMENTS:

Experiment 1: Introduction to Graphic Design: Software; Graphic Design and colors – print on textile, print on paper and media; principles and elements of graphic design.

Experiment 2: Creation of poster with lines, objects and images using raster software.

Experiment 3: Image Composition and Color Adjustments.

Experiment 4: Retouching and Repairing Images.

Experiment 5: Working with Masks and layers.

Experiment 6: Introduction to Digital Illustration: Basics of drawing and painting.

Experiment 7: Creating and Editing Shapes using vector software.

Experiment 8: Typography - Combining text and graphics

Experiment 9: Creating and Managing Art boards; Image Tracing and Live Paint

Experiment 10: Preparing for Print and Web

REFERENCES:

1. "Graphic Design School: The Principles and Practice of Graphic Design" by David Dabner, Sandra Stewart, and Eric Zempel.
2. "The Elements of Graphic Design" by Alex White.
3. "Graphic Design: The New Basics" by Ellen Lupton and Jennifer Cole Phillips.

Course Objectives

- To provide students with hands-on experience with fiber testing and analysis.
- To teach students the different methods used to characterize and evaluate fibers.
- To help students develop their skills in scientific experimentation and data interpretation.
- To prepare students to apply their knowledge of fiber science to solve real-world problems.

Course Outcome:

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

	Course Outcome	Level
CO 1	Perform common fiber tests, such as fiber identification, fiber strength testing	Apply
CO 2	Collect and analyze data from fiber tests.	Analyse
CO 3	Interpret the results of fiber tests to assess quality and performance.	Evaluate
CO 4	Design and conduct experiments to investigate fiber and fabric properties.	Create
CO 5	Apply their knowledge of fiber science to solve real-world problems, such as developing new fibers and fabrics with improved properties or troubleshooting problems with existing fibers and fabrics.	Apply

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

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 yarn count
7. Determination of yarn twist
8. Determination of yarn lea strength
9. Determination of sliver and yarn hank
10. Determination of yarn grading

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.

Course Objectives

- To provide students with a fundamental understanding of the principles and practices of software development for research studies.
- To teach students how to use software tools and libraries to design, implement, and evaluate research studies.
- To help students develop their skills in data management, analysis, and visualization.
- To prepare students to use software to conduct high-quality research studies in a variety of fields.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the different types of software used in research studies, such as data collection software, statistical analysis software, and visualization software.	Understand
CO 2	Use software tools and libraries to design, implement, and evaluate research studies, taking into account the needs of the study participants and the research team.	Apply
CO 3	Manage and analyze data from research studies using software tools and libraries.	Analyze
CO 4	Visualize data from research studies using software tools and libraries to create clear and informative charts and graphs	Apply

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

LIST OF EXPERIMENTS

Experiment 1	Create a simple word document and format using various options available.
Experiment 2	Create a resume for the field of textile/apparel/fashion using Word document.
Experiment 3	Prepare a mail merge for client meeting.
Experiment 4	Create a class time table using Word document.
Experiment 5	Create a stock report for the trims and accessories in a ware house.
Experiment 6	Prepare Student mark sheet using mathematical formulae in Excel sheet.
Experiment 7	Create an invitation for Boutique inauguration using word document
Experiment 8	Prepare an invitation for fashion parade using power point.
Experiment 9	Create a power point presentation to advertise a product.
Experiment 10	Create a chart for result analysis of a fashion survey using Excel sheet.
Experiment 11	Create a database for boutique customer details using MS-Access
Experiment 12	Create a video presentation for a hypothetical textile/apparel/fashion brand.

REFERENCES:

1. Sanjay Saxena; A First Course in Computers, Vikas Publishing House Pvt. Ltd., (2013).
2. Alexis Leon, Mathews Leon; Introduction to computers, Leon Tech World, (2001).
3. Joseph W. Habraken; Microsoft Office 2010 in-depth, (2011).
4. Bernard John Poole, Essential Microsoft Office 2013.

SEMESTER II**26BSUG21T****TAMIL – II****L T P C****3 0 0 3****Course Objectives**

- To provide practical knowledge of fibre and yarn testing techniques used in textile quality evaluation.
- To develop laboratory skills in identifying textile fibres and determining their physical properties and performance characteristics.
- To enable students to analyze and interpret fibre and yarn test results for quality control and textile manufacturing applications.

Course Outcome:

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

Course Outcome		Level
CO 1	Explain the ethical values, educational principles, and social virtues presented in Tamil didactic literature.	Understand
CO 2	Interpret the spiritual, moral, and religious messages conveyed through Tamil devotional literature.	Understand
CO 3	Apply the grammatical concepts and literary conventions presented in <i>Nannool</i> for effective language usage.	Apply
CO 4	Describe the cultural, social, and communication-related concepts discussed in the prescribed prose texts.	Understand
CO 5	Analyze the themes, characters, and social issues portrayed in the novel <i>Panjum Pasiyum</i> .	Analyse

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

அலகு - 1

1. திருக்குறள் – இனியவை கூறல் (அதிகாரம்)
2. நாலடியார் – i) கல்வி (131 முதல் 135 ைவர)
ii) நட்பாராய்தல் (216 முதல் 220 ைவர)
3. மூFவர என்Fம் ைாக்குண்டாம் – (முதல் 10 பாடல்கள்)

அலகு - 2(வசய்யுள்- பக்ை இலக்கியம்)

1. திருஞானசம்பந்தர் ததவாரம் – தகாளறுதிருப்பதிகம் (5 பாடல்கள்)
2. ஆண்டாள் – திருப்பாவை. (முதல் 5 பாடல்கள்).
3. இதேசுகாவிேம் – பாரச்சிலுவவ (8 பாடல்கள்)
4. சீறாப்புராணம் - கடவுள் வாழ்த்து (5 பாடல்கள்)

அலகு - 3 - இலக்கணம்

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

அலகு - 4 - உரைநரைப் பகுதி

1. சங்க நறறிகள் – ை.சுப.மாணிக்கம்
2. தமிழர் உவட - நதா.பரமசிண்
3. அக்னிச் சிறகுகள் (அத்தியாயம் 1) – முவனைர். ஏ.பி.ஜே. அப்Fல் கலாம்
4. அன்பிற் சிறந்த தைமில்வல - தமிழருவி மணியன்
5. தகைல் நதாடர்பில் ஊடகங்களின் பங் கு மற்றும் ஊடகங்களின்
ை்வககள் - டாக்டர்.த.நரஜித்குமார்

அலகு - 5(நாவல்)

பஞ்சம் பசியும் - நதா.மு.சி. ரகுநாதன்

குறிப்பு புத்தகம்:

1. அற இலக்கியங்கள் , பக்ை இலக்கியங்கள்
2. பவணந்தி முனிவர் - நன்னூல்
3. சங்க வறறி கற்பபாம் - வ.சுப.மாணிக்கம் - மணிவாசகர் பைப்பகம்
4. பண்பாட்டு அதசவுகள் - வைா. பரமசிவன் காலச்சவடு பைப்பகம்
5. அக்னிச் சிறகுகள் (அத்ைியாயம் 1) - முதனவர் ஏ.பி.பஜ. அப்துல் கலாம்
6. அன்பிற் சிறந்த ைவமில்லதல - ைமிழருவி மணியன் - கற்பகம் புத்ைகாலயம்
7. ஊடகவியல் - டாக்டர்.ை்வரஜித்குமார் - நியூ வசஞ்சுரி புக் ஹவுஸ்

Course Objectives:

- To develop proficiency in Hindi language through the study of prose, short stories, grammar, vocabulary, and letter writing.
- To enhance students' reading, writing, comprehension, and communication skills in Hindi for academic and professional purposes.
- To enable students to apply grammatical rules and effective written communication techniques in real-life situations.

Course Outcomes:

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

Course Outcome		Level
CO 1	Interpret the themes, values, and messages conveyed through the prescribed Hindi prose lessons.	Understand
CO 2	Explain the moral and social significance of the prescribed Hindi short stories.	Understand
CO 3	Apply Hindi grammatical rules accurately in sentence construction and language usage.	Understand
CO 4	Use appropriate vocabulary, including one-word substitutions and antonyms, in written and oral communication.	Apply
CO 5	Compose formal letters for academic, professional, and personal communication purposes in Hindi.	Apply

MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
COs / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	-	M
CO2	-	-	-	-	S
CO3	-	-	-	-	S
CO4	M	-	-	M	S
CO5	M	-	M	M	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. Ulte arthavale shabda likiye, 4. Karak cinhom se bariye, 5. Vakyom mem prayog kijiye, 6. Kaal Badaliye.

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 the college, 4. Applying for the job, 5. Ordering for the books.

TEXT BOOKS:

1. Hiranmay, 'Hindi Gadhya Prabakar', Shiksha Bharathy, Kashmiri Gate, New Delhi - 6
2. Prakashan V, 'Bharathi Gadhya Sangrah', 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.

26BSUG22**TECHNICAL ENGLISH**

L	T	P	C
3	0	0	3

Course Objectives:

- To enhance ability and skills of the students to comprehend technical texts
- To develop their speaking skills in paper presentation, discussions etc.
- To acquire proper writing skill for reports, and official communications
- To facilitate them to acquire proper pronunciation skills.

Course Outcome:

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

Definition and key factors – types – contents – format – evaluation – Formal Reports - Definition – preparatory steps – types – structure

UNIT III: Textile Vocabulary

Glossary in fibres, spinning, weaving, knitting, textile processing, garment manufacturing and quality evaluation.

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 University Press: New Delhi, 2014
2. Means, L Thomas and Elaine Langlois, English & Communication for Colleges, Cengage Learning, USA: 2007

Course Objectives

- To provide fundamental knowledge of statistical methods and their applications in textile and apparel design analysis.
- To develop the ability to analyze and interpret data using measures of central tendency, dispersion, correlation, and regression techniques.
- To enable students to apply statistical tools for quality evaluation, production analysis, and decision-making in the textile and apparel industry.

Course Outcome:

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

CO	Course Outcomes	Bloom's Level
CO1	Explain the methods of presenting and organizing statistical data using diagrams, graphs, and frequency distributions relevant to textile and apparel data.	Understand
CO2	Apply measures of central tendency to analyze textile and apparel production and quality data.	Apply
CO3	Calculate and interpret measures of dispersion to study variations in textile and apparel data.	Apply
CO4	Analyze relationships between variables using correlation techniques in textile and apparel applications.	Analyze
CO5	Apply regression analysis for prediction and interpretation of textile and apparel production data.	Apply

MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M - Medium)					
CO	PO				
	1	2	3	4	5
CO1	S	M			
CO2	S	S	M		
CO3	S	M	S		
CO4	M	M	S	M	
CO5	M	S	S	M	M

UNIT I

Presentation of data by diagrammatic and graphical method - Formation of frequency distribution. – Probability – Concept – Baye's Theorem.

UNIT II

Measures of central tendency - Arithmetic mean, median, mode, geometric and harmonic mean, Empirical Relation. (simple problems only)

UNIT III

Measures of Dispersion - Different methods of calculation of Range, Quartile deviation, Mean Deviation, Standard deviation, Coefficient of Variation – Relationship between measures of variation (simple problems only)

UNIT IV

Simple correlation - Scatter diagram - Karl Pearson's Co-efficient of correlation – Rank correlation

UNIT V

Regression – Simple and multiple regression analysis - Regression lines
Note: Theory and problem shall be distributed at 20% and 80% respectively.

TEXT BOOKS:

1. Das N G. (2008). *Statistical Methods* (1st ed.). McGraw Hill Education.
2. Goon, A. M., Gupta, M. K., & Das Gupta, B. (1968). *Fundamentals of statistics*, I and II. World Press P Ltd.
3. Miller, & Freuntz. (2010). *Probability & Statistics for Engineers* (8th ed). Prentice Hall of India.
4. Gupta S.C. and Kapoor V.K., *Fundamendals of Mathematical Statistics* – Sultan Chand & Sons, 2011
5. Vittal.P.R.(2016), *Mathematical Statistics*(2016th ed), Maragatham Publishers

REFERENCES:

1. Gupta, S. P. (2022). *Statistical methods* (46th ed). S Chand & Sons.
2. Pillai, R. S. N., & Mrs. Bagavathi. (1984). *Statistics – Theory and practice* (7th ed). S Chand & Sons.
3. Leaf, G. A. V. (2009). *Practical statistics for the textile industry*. Cornell University Part I and II

Course Objectives:

- To introduce the fundamental concepts of **design psychology**, human cognition, perception, and emotional responses in design.
- To understand the **psychological impact of color** and its influence on user behavior, mood, and performance.
- To explore **emotional design principles** and human-centered approaches for creating meaningful user experiences.
- To develop knowledge of **visual communication and graphic design principles** for effective message delivery.
- To analyze **visual illusions and perceptual processes** and their applications in art and design.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the principles of human cognition, perception, and their role in design psychology.	Understand
CO 2	Analyze the psychological effects of color on emotions, behavior, and cultural perception.	Analyze
CO 3	Apply emotional design principles and human-centered design approaches in product and visual design.	Apply
CO 4	Evaluate visual communication strategies using graphic design principles and aesthetics.	Evaluate
CO 5	Interpret visual illusions and perceptual phenomena for creative and functional design applications.	Analyze

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

UNIT I

Introduction to Design Psychology: Meaning of psychology and its importance in design. The role and relationship of psychology in design. Importance of psychology in fashion industry. Human needs and clothing behavior. Fashion as non-verbal communication. Self-image and identity through clothing. Psychological functions of dress. Fashion and emotional expression. Fashion communication analysis.

UNIT II

Psychology of Perception and Visual Psychology in fashion: Concept of perception, Sensation and perception process. Visual perception theories – Gestalt Principles, Depth perception, Cognitive perception, Ecological perception, Constructivist theory, Color perception theory and Illusion Theory. Role of lines, shapes, textures and patterns in design. Body perception and visual balance.

UNIT III

Color Psychology in Fashion: Color Psychology: Psychological effects of colors – warm and cool colors. Emotional responses to colors. Color preferences, symbolism and consumer behavior. Color Illusions (eg. Afterimage illusions, Simultaneous contrast illusions, Color constancy illusions). Color harmony, forecasting and brand color identity in fashion.

UNIT IV

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 V

Personality, Self-Image and Fashion Behavior: Relationship between personality and fashion – choice of color, garment silhouettes, accessories, grooming style, brand preference and trend adoption. Personality theories related to fashion – Trait, psychoanalytic, Self-concept, behavioral, humanistic, and social identity theory. Importance of studying personality in fashion design.

TEXT BOOKS

1. Don Norman, The Design of Everyday Things, Basic Books, 2013.
2. Dan Saffer, Designing for interaction, New Riders publications, 2010
3. Cognition and the Visual Arts, Robert L. Solso, MIT Press, 1996
4. Design basics, David A. Lauer and Stephen Pentak, Wadsworth Publishing, 1999
5. Rick Williams & Julianne Newton, Visual Communication - Integrating media art & science, Routledge, 2009
6. Ellen Lupton, "Graphic Design: The New Basics: Second Edition, Revised and Expanded", Princeton Architectural Press. 2015.
7. Designing for Emotions, Aaron Walter, ISBN 978-1-937557-00-3
8. Color and Culture: Practice and Meaning from Antiquity to Abstraction, John Gage, University of California Press, 1999

26BSTD23**ENVIRONMENTAL SCIENCE AND DISASTER
MANAGEMENT****L T P C
3 0 0 3****Course Objectives.**

- To provide knowledge of environmental systems, biodiversity, natural resources, pollution, and sustainable development with emphasis on industrial and textile applications.
- To develop an understanding of environmental management, disaster risk reduction, industrial safety, and legal frameworks for sustainable professional practice.
- To promote environmental ethics, disaster preparedness, and responsible decision-making for societal and environmental well-being

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the concepts of ecosystems, biodiversity, natural resources, and environmental sustainability.	Understand
CO 2	Analyze environmental pollution, environmental legislation, and sustainable practices in textile and apparel industries.	Analyse
CO 3	Explain environmental management systems, waste management, and cleaner production technologies for sustainable industrial development.	Understand
CO 4	Apply disaster preparedness, mitigation, emergency response, and industrial safety measures during natural and man-made disasters.	Apply
CO 5	Demonstrate environmental ethics, disaster resilience, and responsible professional practices for sustainable development.	Apply

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

UNIT I Environmental Science, Ecosystems and Natural Resources

Introduction to environmental science—scope, importance, multidisciplinary nature and environmental components; ecosystem structure and functions; food chain, food web, ecological pyramids and ecosystem services; biodiversity, ecosystem conservation, and ecological balance; natural resources including forest, water, land, mineral and energy resources; renewable and non-renewable resources; Sustainable Development Goals (SDGs); environmental challenges and conservation practices with emphasis on responsible resource utilization in textile industries.

UNIT II – Environmental Pollution and Sustainable Textile Manufacturing

Air, water, soil, noise, thermal and solid waste pollution; causes, effects and control measures; climate change, global warming, ozone depletion, carbon footprint and environmental health; textile processing and its environmental impacts including wastewater, dyes, chemicals, air emissions and solid waste; cleaner production, green chemistry, water conservation, recycling, circular economy, sustainable fibres, eco-labelling, environmental compliance and environmental legislations including the Environment (Protection) Act, Water Act and Air Act.

UNIT III – Environmental Management and Industrial Sustainability

Environmental Impact Assessment (EIA); Environmental Management System (ISO 14001); environmental auditing; life cycle assessment (LCA); resource efficiency and energy conservation; renewable energy; wastewater treatment principles; Zero Liquid Discharge (ZLD); occupational health, safety and environmental management; ESG concepts; Extended Producer Responsibility (EPR); environmental reporting; sustainability initiatives in textile, apparel and technical textile industries.

UNIT IV – Fundamentals of Disaster Management

Concepts of hazard, vulnerability, risk, resilience and disaster management; disaster management cycle; classification of disasters—natural, biological, technological and industrial; earthquakes, floods, cyclones, droughts, landslides, heat waves, pandemics, chemical and fire accidents; disaster preparedness, mitigation, response, recovery and rehabilitation; institutional framework including NDMA, SDMA, DDMA, NDRF and SDRF; disaster preparedness plans for educational institutions and industries.

UNIT V – Industrial Safety, Disaster Risk Reduction and Community Resilience

Industrial hazards in textile manufacturing; chemical storage and handling; fire prevention and fire-fighting systems; emergency preparedness and evacuation procedures; first aid, CPR and workplace safety; business continuity planning; disaster risk reduction strategies; GIS and early warning systems; community participation; occupational health and safety standards; case studies on industrial disasters, chemical accidents, floods, cyclones and textile factory safety management.

REFERENCES

1. Bharucha, E. (2021). *Textbook of environmental studies for undergraduate courses* (3rd ed.). Universities Press.
2. Government of India. (2005). *Disaster Management Act, 2005*. Ministry of Law and Justice.
3. National Disaster Management Authority. (2023). *National disaster management plan*. Government of India.
4. Rajagopalan, R. (2022). *Environmental studies: From crisis to cure* (4th ed.). Oxford University Press.
5. United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. United Nations.
6. University Grants Commission. (2023). *Curriculum and credit framework for undergraduate programmes*. University Grants Commission.
7. United Nations Environment Programme. (2021). *Making peace with nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies*. UNEP.

26BSTD24L**FASHION ILLUSTRATION LABORATORY****L T P C****0 0 4 2****Course Objectives**

- To develop fashion illustration skills through the study of human anatomy, croquis development, garment details, and fashion figure rendering.
- To enhance students' ability to visualize and communicate fashion ideas using design elements, principles, and illustration techniques.
- To foster creativity and artistic expression in fashion design through the illustration of garments, accessories, and fashion details.

Course Outcome:

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

	Course Outcome	Level
CO 1	Develop fashion figures and croquis for male and female forms using appropriate body proportions and poses.	Apply
CO 2	Apply elements and principles of design in fashion illustrations.	Apply
CO 3	Create dress designs using different colour harmonies and colour applications.	Create
CO 4	Analyze figure irregularities and illustrate suitable silhouettes for different body types.	Analyze
CO 5	Design appropriate garments for various figure types using design and colour principles.	Create

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

LIST OF EXPERIMENTS:

1. Illustrate fashion Croquis – male and female: 9, 10 & 12 Head croquis
2. Illustrate different croquis poses - 9, 10 & 12 Head croquis
3. Illustrate garment designs for the Elements of Design
 - a. Line
 - b. Colour
 - c. Texture
 - d. Shape or form
 - e. Size
4. 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
5. 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
6. 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
7. Illustration of Basic silhouettes of figure irregularities
8. Designing dresses for figure irregularities – becoming and unbecoming Stout figure, Thin Figure, Slender figure.

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. Ireland
6. 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.

26BSTD25L BASIC APPAREL CONSTRUCTION LABORATORY

L T P C
0 0 4 2

Course Objectives

- Prepare samples for various types of stitches.
- Prepare samples for fullness, plackets, zippers, collars, pockets, sleeves and yokes.

Course Outcome:

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

	Course Outcome	Level
CO 1	Identify and explain the parts and functions of a sewing machine	Understand
CO 2	Prepare various samples for stitching.	Apply
CO 3	Categorize various attachments for enhancing the garment value.	Analyse

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

LIST OF EXPERIMENTS

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 basting, overhanding and whipping.
3. Prepare samples for seams and seam finishes
 - a. Seams: plain, single top stitch, double top stitch, welt, lapped, slot, flatfell, french,

hemmed flatfell, mantua maker's and piped seam

b. Seam Finishes: pinked, double stitch, edge stitch, herring bone, bound seamedge 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, raglan and kimono
10. Prepare samples of yoke types – Partial, **Midriff**, shirt yoke, yoke with fullness, **yoke holding 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.

26BSTD26**COMPUTER PRACTICES II****L T P C****0 0 2 1****Course Objectives**

- To provide students with a fundamental understanding of the principles and practices of software development for research studies.
- To teach students how to use software tools and libraries to design, implement, and evaluate research studies.
- To help students develop their skills in data management, analysis, and visualization.
- To prepare students to use software to conduct high-quality research studies in a variety of fields.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the different types of software used in research studies, such as data collection software, statistical analysis software, and visualization software.	Understand
CO 2	Use software tools and libraries to design, implement, and evaluate research studies, taking into account the needs of the study participants and the research team.	Apply
CO 3	Manage and analyze data from research studies using software tools and libraries.	Analyze
CO 4	Visualize data from research studies using software tools and libraries to create clear and informative charts and graphs	Apply

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

4			M	S	
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List of Experiments:

1. Mathematical functions (SUM (), MAX (), MIN (), COUNT (), AVERAGE () combining basic function (MAX, MIN))
2. Logical Functions (IF, AND, OR, COMPUND INTEREST, SIMPLE INTEREST)
3. Prepare Final Accounts (Trading, Profit & Loss Account and Balance Sheet) by using formula.
4. Illustrate year-wise performance of sales, purchase, profit of company by using chart wizard.
5. Aggregation Functions (SUM IF, COUNT IF)
6. Look up Functions (LOOK UP, H LOOK UP, V LOOK UP)
7. Regression Analysis (FORECAST and TREND)
8. Financial Functions (NPV, IRR, PMT)
9. Mini Project – Apply necessary Excel tools to analyse textile database
10. Distributions and Probability in Excel

REFERENCES:

1. Sanjay Saxena; A First Course in Computers, Vikas Publishing House Pvt. Ltd., (2013).
2. Alexis Leon, Mathews Leon; Introduction to computers, Leon Tech World, (2001).
3. Joseph W. Habraken; Microsoft Office 2010 in-depth, (2011).
4. Bernard John Poole, Essential Microsoft Office 2013.

26BSTD27**YOGA FOR HUMAN EXCELLENCE****L T P C****0 0 2 1****Course Objectives**

- To provide knowledge of various yoga systems, yogic practices, and holistic approaches to physical and mental well-being.
- To develop self-awareness, personality development, emotional balance, and healthy lifestyle practices through yoga and introspection.
- To familiarize students with ethical values, philosophical principles, and life skills for personal and social well-being.

Course Outcome:

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

	Course Outcome	Level
CO 1	Know the importance of Physical Exercises, yogasana 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 COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
PO					
CO					
	1	2	3	4	5
1	M	M	M	-	M
2	M	S	M	M	M
3	M	S	M	-	M
4	S	M	S	S	M

5	S	S	S	M	M
---	---	---	---	---	---

UNIT I: Yoga Types

Types of yoga – karma yoga – bhakthi yoga – raja yoga – gnana yoga – hata yoga. agna- santhi – clearance – 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 BOOKS:

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.

26BSTD31

SEMESTER III
TEXTILE COLORATION

L T P C
4 0 0 4

Course Objectives

- To provide students with a fundamental understanding of the various methods used to enhance the properties of textiles.
- To teach students how to select and apply the appropriate textile enhancement methods for specific applications.
- To help students develop their skills in textile testing and quality control.
- To prepare students for careers in the textile industry, particularly in textile finishing and product development.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the different types of textile enhancement processes, such as dyeing, printing, finishing, and coating.	Understand
CO 2	Describe the principles and chemistry of different textile enhancement processes.	Understand
CO 3	Select the appropriate textile enhancement methods for specific applications, taking into account the desired properties of the final product.	Apply
CO 4	Conduct common textile tests to assess the quality of enhanced textiles.	Apply

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

UNIT I

Operation sequence in chemical processing of cotton, silk, wool, rayon, polyester, polyamide, polyester and cellulosic blend materials with emphasis on the objectives of each operation. Identification of blend proportion for blends. Scouring – Introduction, theory, types, recipe of scouring;

UNIT II

Bleaching – Introduction, theory, types, comparison of peroxide and hypochlorite bleaching agents, bleaching recipe and mercerization of cotton; preparatory process for wool and silk. Stages involved in dyeing process

UNIT III

Principle of application of direct, reactive, vat, acid, disperse and natural dyes; principles of working of loose fibre, yarn and fabric processing machines. Dyeing recipe for the above dyes pertaining to cotton. Printing methods and styles of printing;

UNIT IV

General constitution of printing paste, printing with pigments, principles of transfer and ink-jet printing, dyeing and printing faults, assessment of fastness properties of dyed and printed goods ; garment dyeing and washing ; Finishing - Calendering, shrink proofing, antistatic finish, softening, water and flame proofing, UV protection, antimicrobial finish, resin finishing – crease recovery, wash and wear and durable press finishes; Standard methods of assessment of all the above finishes.

UNIT V

Fundamentals of colour science, assessment of colour of dyed and printed goods; basics of colour matching technique; assessment of whiteness and yellowness indices and colour difference; pass/fail decision making; Eco friendly chemical processes, banned dyes and chemicals.

TEXT BOOKS:

1. Trotman E. R., “Dyeing and Chemical Technology of Textile Fibres”, B.I Publishing Pvt. Ltd., New Delhi, 1994, ISBN: 0471809101 | ISBN-13: 9780471809104
2. Karmarkar S.R., “Chemical Technology in Pre-treatment processes of Textiles”, Elsevier Publications, Newyork,1999, ISBN: 044450060X | ISBN-13: 9780444500601
3. Shenai V. A., “Chemistry of Dyes and Principles of Dyeing”, Sevak Publications, Mumbai, 1995, ISBN: B0007BFE9Y.
4. Shenai V. A., “Technology of Printing”, Sevak Publications, Mumbai, 1996
5. Miles W. C., “Textile Printing”, Wood head Publication, 2003, ISBN 0 901956 76 1

REFERENCES:

1. Hall A.J., “Textile Finishing”, 2nd ed., McGraw Hill, 1995.
2. Marsh J.T., “Introduction to Textile Finishing” Vol. II, New Age, 1996
3. Heywood D.,”Textile Finishing”, Woodhead Publishing Ltd.,2003 ISBN 090195681
4. Shenai V.A., “Technology of Finishing”, Vol. X, Usha, 1998
5. Schindler W.D and Hauser P., “Chemical Finishing of Textiles”, Wood head Publications, ISBN: 1855739054.
6. Yin-Ling Lam , Chi-Wai Kan & Chun-Wah Marcus Yuen, "Developments in functional finishing of cotton fibres – wrinkle-resistant, flameretardant and antimicrobial treatments", Textile Progress, Vol. 44, Nos. 3 - 4, September-December 2012,175–249.
7. Jones B. W., “Garment Dyeing: Ready to Wear Fashion from the Dyehouse”, Textile Progress, Vol. 19, No. 2, 1988, ISBN 1870812131.
8. Roshan Paul (Ed.), "Denim – Manufacture, Finishing and Applications", Woodhead Publishing, 2015.
9. Reife A. and Freeman H.S., “Environmental Chemistry of Dyes and Pigments”, Wiley, 1996, ISBN: 0471589276

26BSTD32**FABRIC MANUFACTURING****L T P C****4 0 0 4****Course Objectives**

- To provide comprehensive knowledge of fabric manufacturing technologies, including weaving, knitting, nonwoven, and braiding processes.
- To develop an understanding of machine mechanisms, fabric formation principles, and process parameters involved in textile production.
- To enable students to analyze fabric manufacturing systems and evaluate their suitability for different textile applications.

Course Outcome:

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

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.
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

26BSTD33**APPAREL MANUFACTURING AND PATTERN
ENGINEERING****L T P C
4 0 0 4****Course Objective**

- To impart knowledge on work room terms and practices, measurements, Block preparation, Dart manipulation and drafting method for various components and garments, Draping and grading.
- To make students gain knowledge on various techniques involved in different stages of manufacturing apparels

Course Outcomes

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 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 1 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 combined with 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, Principles and 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:

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 Scientific Publications, 1995.
4. Gerry Cooklin, "Master Patterns and Grading for Men's Outsize", Blackwell Science Publications, 1992.
5. Helen Joseph Armstrong, "Draping for Apparel Design" , Fairchild Publications, New York, 2000.

Course Objectives

- To provide students with hands-on experience with fabric draping techniques.
- To teach students how to drape different types of fabrics on different types of dress forms.
- To help students develop their skills in pattern development and garment construction.
- To prepare students for careers in fashion design and apparel manufacturing.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the principles of fabric draping.	Understand
CO 2	Identify and select the appropriate fabric draping techniques for different types of fabrics and dress forms	Apply
CO 3	Drape different types of fabrics on different types of dress forms to create a variety of garment silhouettes.	Apply
CO 4	Develop and execute patterns for draped garments.	Create
CO 5	Construct draped garments using a variety of sewing techniques.	Apply
CO 6	Evaluate the drape of finished garments.	Evaluate

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

LIST OF EXPERIMENTS:

Experiment 1: Draping Terminology – Apex, Balance, Plumb line, Trueing, locking, Blending, Princess line, Clipping and marking. Material used: Muslin cloth, bell pins, L and curve scale. Fabric Knowledge and Behavior: Fabric types and their drape characteristics – Grain lines, stretch, and bias in draping.

Experiment 2: Draping of basic bodice- front & Back

Experiment 3: Skirt draping: Basic skirt/Pencil fit, A-line, gathered, and circular skirts.

Experiment 4: Sleeves Draping: set-in, raglan, and types of flared sleeves.

Experiment 4: Collars- Peter pan collar, shirt collar, mandarin collar and any two variations.

Experiment 5: Yokes- design yoke, midriff yoke, shirt yoke, yoke with fullness, yoke holding fullness.

Experiment 6: Skirt- basic skirt and types of skirts

Experiment 7: Bias draping - Cowl neckline and skirts, ruffles, godets.

Experiment 8: Twist Draping – Single, double, central, butterfly, shoulder, side and rope twist.

Experiment 8: Advanced Draping Techniques: dart manipulation techniques - Asymmetrical designs for bodice and skirt - One-Shoulder, cascading folds or Grecian-style drapes, Diagonal bodice drape, High-Low Hem, peg skirt, peplum.

Experiment 9: Conceptual draping and experimental designs – Translating sketches to 3D garments

Experiment 10: Portfolio and Presentation: Preparing garments for exhibition using portfolio layout boards

REFERENCES:

1. Hilde Jaffe, NurieRelis; Draping for Fashion Design, Pearson Education, Singapore, 4th Edition, (2004).
2. Connie Amaden- Crawford; The Art of Fashion Draping, Fairchild Publications Inc and Om Books International, New Delhi, (2005).
3. Hilde Jaffe, NurieRelis; Draping for Fashion Design, Prentice Hall Career and Technology, 2nd Edition, (1993).
4. PremalataMullick; Garment Construction Skills, Kalyani Publishers, New Delhi, (2002).
5. Gillian Holman; Pattern Cutting Made Easy, Om Books International, New Delhi, (2005).
6. Complete Guide to Sewing, The Reader's Digest Association (Canada) Ltd, New York, (2002).

Course Objectives

- To impart knowledge of body measurements and pattern drafting techniques used in garment construction.
- To develop skills in drafting basic and advanced garment patterns for different apparel components and age groups.
- To enable students to design, grade, and prepare garment patterns for children's wear using standard sizing systems.

Course Outcome:

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

	Course Outcome	Level
CO 1	Identify and record body measurements for men, women, and children required for pattern development.	Understand
CO 2	Draft basic patterns for bodice, sleeve, skirt, and trouser using standard measurements.	Apply
CO 3	Develop patterns for garment components such as sleeves, collars, and yokes according to design specifications	Apply
CO 4	Design and grade patterns for children's garments including baby frocks, rompers, and T-shirts.	Analyse
CO 5	Construct and evaluate garment patterns for fit, functionality, and production requirements.	Evaluate

MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
PO					
CO	1	2	3	4	5
1	-	-	-	M	M
2	M	-	-	M	S
3	M	M	-	M	S
4	M	M	-	S	S
5	S	M	M	S	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: Plain, puff, Bell and Raglan
 - b) Collar: Peter pan, Stand and Shirt
 - c) Yoke: Partial, midriff, yoke Yoke with fullness and yoke holding fullness
5. Designing, drafting and grading for children wear
 - a) Bib & Baby Mitten
 - b) Baby wrapper
 - c) Jabla (with sleeve/without sleeve)
 - d) Baby frock with sleeve
 - e) Rompers with sleeve
 - f) Knicker / Bloomer
 - g) Skirt & top
 - h) Boy's Shirt with sleeve and collar
 - i) Boy;s Shorts

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.

26BSTD37L**GARMENT CONSTRUCTION LABORATORY – I****L T P C****0 0 4 2****Course Objectives**

- To impart knowledge of basic sewing tools, hand stitches, machine operations, and garment construction techniques.
- To develop practical skills in preparing garment components such as seams, plackets, collars, sleeves, pockets, yokes, and fasteners.
- To enable students to construct and evaluate garment samples with appropriate finishing and decorative techniques.

Course Outcome:

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

Course Outcome		Level
CO 1	Explain the functions of sewing machines, hand stitches, seams, seam finishes, and garment construction components.	Understand
CO 2	Perform hand and machine stitching techniques to prepare samples of seams, seam finishes, and fullness.	Apply
CO 3	Construct garment components such as facings, plackets, collars, pockets, sleeves, yokes, and fasteners using standard methods.	Apply
CO 4	Analyze the suitability of construction techniques and finishing methods for different garment applications.	Analyse
CO 5	Develop well-finished garment samples incorporating appropriate construction, fastening, and decorative techniques.	Create

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

LIST OF EXPERIMENTS:

Construct samples for kids garments:

1. Bib & Baby Mitten
2. Baby wrapper
3. Jabla

4. Bloomer
5. Baby frock with sleeve
6. Rompers with sleeve
7. Skirt & top
8. Shirt with sleeve and collar (without yoke)
9. Shorts with elastic

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.

26BSTD38L**SURFACE EMBELLISHMENT LABORATORY****L T P C****0 0 4 2****Course Objectives**

- To provide students with hands-on experience with a variety of surface embellishment techniques.
- To teach students how to apply surface embellishment techniques to different types of fabrics and garments.
- To help students develop their creativity and artistic expression through surface embellishment.
- To prepare students for careers in fashion design, apparel manufacturing, and other fields where surface embellishment is used.

Course Outcome:

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 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 4: Machine Embroidery

Experiment 5: Shibori Dyeing

Experiment 6: Appliqué

Experiment 7: Beadwork and Sequin Embellishments

Experiment 8: Crocheting

Experiment 9: Stitch and Shirring Smocking, Geometric Smocking

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.

Course Objectives

- To provide students with practical exposure to industrial operations, technologies, and professional practices in the textile and apparel sector.
- To develop technical, analytical, communication, and teamwork skills through hands-on industrial training.
- To enable students to apply classroom knowledge to real-world industrial problems and prepare professional internship reports.

Course Outcomes

After successful completion of this course, the students should be able to

	Course Outcome	Level
CO 1	Explain the organizational structure, workflow, and operational practices of the industry where the internship is undertaken.	Understand
CO 2	Apply theoretical knowledge and technical skills to perform assigned tasks in the industrial environment.	Apply
CO 3	Analyze industrial processes, machinery, quality requirements, and workplace practices relevant to the profession.	Analyse
CO 4	Demonstrate professional ethics, teamwork, safety awareness, and responsibility in the workplace.	Apply
CO 5	Prepare and present a comprehensive internship report highlighting observations, learning experiences, and recommendations.	Evaluate

	MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)				
	PO				
CO	1	2	3	4	5
1	M	M	-	M	M
2	M	M	-	S	M
3	S	S	M	M	M
4	S	M	S	S	M
5	M	M	M	M	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**26BSTD41****FABRIC STRUCTURE AND ANALYSIS**

L	T	P	C
4	0	0	4

Course objective

- To provide comprehensive knowledge of woven and knitted fabric structures, their construction principles, and design characteristics.
- To develop an understanding of loom requirements, fabric formation mechanisms, and structural variations used in decorative and functional textiles.
- To enable students to analyze and evaluate woven and knitted fabric structures for appropriate textile and apparel applications..

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the construction, characteristics, and loom requirements of basic weaves and their derivatives.	Understand
CO 2	Analyze honeycomb, huck-a-back, mock leno, crepe, and colour-and-weave effect fabrics with respect to structure and performance.	Analyse
CO 3	Examine the construction and applications of Bedford cords, piques, backed fabrics, and figured fabrics.	Analyse
CO 4	Explain the structural principles and characteristics of pile fabrics, fabrics, and 3D woven structures.	Understand, design, leno
CO 5	Analyze weft and warp knitted fabric structures and relate stitch formations to fabric properties and end-use applications.	Analyse

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

UNIT I

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

derivatives – loom requirements. GSM –Meaning and importance. Methods of identifying warp and weft.

UNIT II

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

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 backvelveteen, lashed pile, corduroy, weft plush – loom requirements. Double cloth, types of stitches; Damasks; Gauze and Leno principles – loom requirements, 3Dwoven structures.

UNIT V

Weft Knit Structures: Needle loop, sinker loop, technical face, technical back, open loop, closedloop, 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 Cablestitch. 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

26BSTD42

FASHION FORECASTING AND BRAND MANAGEMENT

L T P C
4 0 0 4

Course Objectives

- To provide knowledge of fashion forecasting processes, trend analysis, and market research techniques used in the fashion industry.
- To develop skills in interpreting consumer trends and translating forecasts into fashion products and collections.
- To familiarize students with brand development, positioning, communication, and strategic management of fashion brands.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the concepts, processes, and significance of fashion forecasting and brand management.	Understand
CO 2	Analyze fashion trends, consumer behavior, and market information to forecast fashion products and collections.	Analyse
CO 3	Develop forecasting tools such as mood boards, theme boards, colour boards, and trend reports.	Create
CO 4	Evaluate brand identity, positioning, communication strategies, and brand performance in the fashion industry.	Evaluate
CO 5	Formulate branding and marketing strategies for fashion and lifestyle products based on consumer and market insights.	Create

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

UNIT I – Fundamentals of Fashion Forecasting

Introduction to fashion forecasting – Definition, scope, and importance – Fashion cycle – Trend,

fad, classic and mega trends – Types of forecasting: Short-term and long-term forecasting – Fashion forecasting process – Role of forecasting agencies – Sources of fashion information – Factors influencing fashion trends: social, cultural, economic, political, technological, and environmental factors.

UNIT II – Trend Research and Forecast Development

Trend research methods – Primary and secondary research – Consumer behavior and lifestyle analysis – Demographic and psychographic studies – Trend spotting and cool hunting – Colour forecasting – Fabric, texture, print, trim, and silhouette forecasting – Seasonal forecasting – Forecast interpretation and application in apparel product development.

UNIT III – Forecast Presentation and Fashion Product Development

Development of inspiration boards, mood boards, theme boards, colour boards, and story boards – Fashion calendars – Range planning and collection development – Forecast report preparation – Role of forecasting in fashion merchandising and retailing – Digital tools and AI applications in fashion forecasting – Sustainable fashion forecasting.

UNIT IV – Fundamentals of Brand Management

Brand: Meaning, functions, and importance – Product versus brand – Brand identity, brand image, brand personality, and brand equity – Brand positioning and repositioning – Brand architecture – Consumer behaviour and brand perception – Building and managing fashion brands – Indian and international fashion brands.

UNIT V – Strategic Brand Management

Brand communication strategies – Integrated Marketing Communication (IMC) – Fashion advertising and promotion – Digital branding and social media marketing – Influencer and celebrity marketing – Brand extension, co-branding, and luxury branding – Sustainable branding – Brand audit and valuation – Case studies of successful fashion and lifestyle brands.

TEXT BOOKS

1. Brannon, E. L. (2015). *Fashion forecasting* (4th ed.). Fairchild Books.
2. Posner, H. (2015). *Marketing fashion* (2nd ed.). Laurence King Publishing.
3. Tungate, M. (2012). *Fashion brands: Branding style from Armani to Zara* (3rd ed.). Kogan Page.
4. Keller, K. L. (2013). *Strategic brand management* (4th ed.). Pearson Education.
5. Easey, M. (2009). *Fashion marketing* (3rd ed.). Wiley-Blackwell.

26BSTD43**APPAREL MARKETING AND MERCHANDISING****L T P C****4 0 0 4****Course Objectives**

- To provide knowledge of apparel merchandising, marketing, sourcing, and supply chain management practices in the textile and apparel industry.
- To develop an understanding of the roles and responsibilities of merchandisers in product development, sampling, approvals, vendor management, and order execution.
- To equip students with skills in marketing research, sourcing decisions, and supply chain strategies for effective business operations.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the concepts, functions, and processes involved in apparel merchandising, export merchandising, and buying house operations.	Understand
CO 2	Describe the role of merchandisers in sampling, approvals, production planning, vendor evaluation, and order management.	Understand
CO 3	Analyze marketing concepts, consumer behavior, marketing mix, and market research techniques relevant to apparel business.	Analyse
CO 4	Evaluate sourcing methods, supply chain strategies, warehousing systems, and technology applications such as barcoding and RFID.	Evaluate
CO 5	Develop solutions for merchandising, sourcing, and marketing challenges using appropriate business and research tools.	Create

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

Course Objectives

- To introduce students to the classification and importance of fashion accessories.
- To understand materials, components, trims, and embellishments used in accessory design.
- To develop knowledge of jewelry, footwear, handbags, and lifestyle accessories.
- To create innovative and sustainable fashion accessory products.
- To develop entrepreneurial and merchandising skills in the accessories sector.

Course Outcome:

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

	Course Outcome	Level
CO 1	Classify various categories of fashion accessories and their functions.	Understand
CO 2	Identify materials, trims, and components used in accessory manufacturing.	Apply
CO 3	Analyze contemporary and traditional accessory design trends.	Understand
CO4	Prepare professional portfolios and merchandising plans for fashion accessories.	Apply

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

UNIT I

Introduction to Fashion Accessories: Definition and scope of fashion accessories. History and evolution of accessories. Classification of accessories – Personal, Apparel, Lifestyle accessories. Functions of accessories. Fashion forecasting and accessory trends. Relationship between garments and accessories.

UNIT II

Materials, Components and Trims: Materials used in accessories – Leather, Fabric, Metal, wood, Beads, Natural fibres, Sustainable materials. Garment components and trims – labels, motifs, linings, interlinings, laces, elastics, tapes, buttons, buckles, rivets, Velcro, zippers. Quality evaluation of trims and accessories.

UNIT III

Jewellery and Fashion Ornamentation: History of jewellery. Traditional Indian jewellery – Temple jewellery, Kundan, Meenakari, Filigree, Terracotta Jewellery. Contemporary jewellery. Costume jewellery. Beadwork and ornamentation techniques.

Beadwork and ornamentation techniques. Embellishment techniques – Embroidery, Applique, Sequins, Patchwork, Beadwork.

UNIT IV

Fashion Accessory Design and Product Development: Handbags and clutches. Footwear design. Belts and leather goods. Hats and headgear. Scarves and wraps. Gloves and hosiery. Watches and eyewear. Lifestyle accessories.

UNIT V

Accessory Merchandising, Sustainability and Entrepreneurship: Fashion accessory merchandising. Product costing. Pricing strategies. Branding and packaging. Retail and visual merchandising. Sustainable accessory design. Circular economy in accessories. E-commerce and digital marketing. Entrepreneurship opportunities in accessories sector.

TEXT BOOKS:

1. Gini Stephens Frings, *Fashion: From Concept to Consumer*, 12th Edition, 2022.
2. Olivier Gervat, *Fashion Accessories*, Firefly Books, 2010.
3. John Peacock, *Fashion Accessories: The Complete 20th Century Sourcebook*, Thames & Hudson, 2000.
4. Kathryn McKelvey & Janine Munslow, *Fashion Design: Process, Innovation and Practice*, 2018.
5. Sue Jenkyn Jones, *Fashion Design*, Laurence King Publishing, 2021.
6. Ritu Kumar, *Costumes and Textiles of Royal India*, 2018.
7. Sandy Black, *Sustainable Fashion and Textiles: Design Journeys*, 2024.
8. Roshan Paul, *Sustainable Fashion Management*, 2024.

26BSTD46L**PATTERN MAKING LABORATORY – II****L T P C****0 0 4 2****Course Objectives**

- To develop knowledge and skills in designing, drafting, and grading patterns for men's and women's garments.
- To provide practical exposure to pattern development techniques and size grading for apparel production.
- To enable students to apply draping techniques for creating garment components and fashion designs

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the principles of pattern drafting, grading, and draping used in garment design and production.	Understand
CO 2	Draft and grade patterns for women's garments such as nighties, salwar-kameez, blouses, and skirts using standard measurements.	Apply
CO 3	Develop and grade patterns for men's garments including knickers, formal shirts, and formal trousers.	Apply
CO 4	Apply draping techniques to create bodices, collars, yokes, cowls, and skirts on dress forms.	Apply
CO 5	Create and evaluate garment patterns and draped designs for fit, aesthetics, functionality, and apparel production requirements.	Create

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

LIST OF EXPERIMENTS:

1. Designing, drafting and grading for women's wear:

a. Saree petticoat

- b. Salwar & Kameez with sleeve
 - c. Nighty / Maxi
 - d. Skirt and top
 - e. Blouse with sleeve
2. Developing pattern and grading for Men's wear
- a. Briefs
 - b. Kurta & Pyjama
 - c. Night Robe
 - d. Formal shirt with full sleeve, cuff, collar, and pocket
 - e. Formal trouser with side seam pockets

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.

Course Objectives

- To develop knowledge and skills in designing, drafting, and constructing garments for children, women, and men.
- To provide practical experience in pattern development, garment assembly, fitting, and finishing techniques.
- To enable students to create functional and aesthetically appealing apparel products suitable for different age groups and end-use requirements.

Course Outcome:

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

Course Outcome		Level
CO 1	Explain the principles of garment design, pattern drafting, construction, and finishing for children's, women's, and men's apparel.	Understand
CO 2	Draft patterns and construct children's garments such as bibs, jablas, rompers, and A-line frocks using standard measurements.	Apply
CO 3	Design, draft, and construct women's garments including skirts, tops, salwars, kameez, and saree blouses.	Apply
CO 4	Develop patterns and construct men's garments such as shirts, trousers, and waistcoats with appropriate fit and finishing.	Apply
CO 5	Create and evaluate complete garments with suitable design features, fit, functionality, aesthetics, and construction quality.	Create

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

LIST OF EXPERIMENTS:

1. Step by step construction of lady's salwar
2. Step by step construction of ladies kameez
3. Step by step construction of lady's blouse

4. Step by step construction of Saree Petticoat
5. Step by step construction of ladies Nighty
6. Step by step construction of men's formal shirt
7. Step by step construction of men's formal trouser
8. Step by step construction of men's shorts
9. Step by step construction of men's Kurtha

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. Padmavathi B, "Techniques of Drafting & Pattern Making, Garments for Kids & Adolescents", Atlantic Publishers & Distributors P Ltd.
5. Anita Tyagi (2012), Handbook of fashion Technology, Sonali Publications, New Delhi.
6. Nancy J. S. Langdon and Sabine Pollehn (2010), Sewing Clothes Kid;s Love, Creative PublishingInternational Inc. USA.
7. Peg Couch (2011), Garment Construction: A Complete course on making clothing for fit and Fashion, Fox Chapel Publishing. USA.

26BSTD48L FABRIC STRUCTURE AND ANALYSIS LABORATORY**L T P C****0 0 4 2****Course Objective:**

- To impart knowledge of fabric structure analysis for woven and knitted fabrics through the study of weave patterns and construction parameters.
- To develop practical skills in identifying, analyzing, and interpreting woven and knitted fabric structures.
- To enable students to evaluate fabric characteristics and relate structural parameters to fabric performance and end-use applications.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the principles of woven and knitted fabric structures and their constructional features.	Understand
CO 2	Analyze woven fabrics by determining design, draft, lifting plan, thread density, yarn count, crimp, and GSM.	Analyse
CO 3	Identify and differentiate various woven fabric structures such as plain, twill, satin, honeycomb, pile, leno, and double cloth weaves.	Apply
CO 4	Analyze the constructional parameters and structural characteristics of knitted fabrics including single jersey, rib, and interlock fabrics.	Analyse
CO 5	Evaluate fabric structures and construction details for suitable textile applications and performance requirements.	Evaluate

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

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

SEMESTER V**26BSTD51 TEXTILE AND APPAREL QUALITY EVALUATION****L T P C****4 0 0 4****Course Objectives**

- To inculcate the knowledge of sampling, testing instruments and testing of textile and apparel materials.
- To inculcate the knowledge of inspection and quality control of apparel products.

Course Outcome:

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 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

Fibre Testing: Fibre properties - Fibre length: Staple length Span length – Hand stapling method, Baer sorter, Fibro graph. Fibre trash analyzer. Fibre strength – Stelometer, Pressley tester. Fibre fineness: Airflow principle, Micronaire testers. Maturity. Moisture content - regain and RH % determination. Measurement of fibre crimp- HVI and AFIS.

UNIT II

Yarn Testing: Numbering systems: Direct system, indirect system and yarn Count Determination, Twist and its measurement-Twist construction, principle of twist measurement for single- corded yarns. Tensile testing of yarn: Constant Rate of Elongation, Constant Rate of Loading and Constant Rate of Traverse, Lea strength tester - Factors influencing tensile testing of yarns, Tenacity, elongation% & CSP.

UNIT III

Fabric Testing: EPI, PPI, strength: tensile, tearing and bursting - GSM, thickness, shrinkage, abrasion, crease recovery, pilling, stiffness, drapability, thermal resistance, air and water permeability, water repellency - Objective evaluation of fabric handle – KES and FAST systems.

UNIT IV

Apparel Testing: Strength Testing: Loop and Knot Strength test for sewing threads – Seam Strength – Seam Slippage - Seam Severance – button strength – Snap - Zipper Strength. Spirality test for knitted garments - Evaluation of Interlinings Quality - Apparel Dimensional Stability Testing.

UNIT V

Fabric and Apparel Inspection: Definition –stages of inspection: Raw material - In-process inspection - Final inspection - Types: Fabric inspection, 4-point system, 10-point system, 100% inspection, Zero inspection and Statistical sampling – AQL standards. Fabric defects – Pre-sewing defects - Sewing defects - Post sewing defects - causes and remedies.

TEXT BOOKS:

1. Grover & Hamby. (1969). “Hand book of Textile Testing and quality Control”. New Delhi: WileyEastern P Ltd.
2. Bhardwaj & Pradip V Mehta. (1998). “Managing Quality in Apparel Industry”. New Delhi:NewAge International Publishers.
3. Solinger, Jaccob. (1993). “Apparel Manufacturing Hand book”, New Delhi: Prentice Hall of India.

REFERENCES:

1. Pradip V Mehta. (1992). “An Introduction of Quality control for the Apparel Industry”, New York:ASQC quality press, Marcel Dekker Inc.

26BSTD52

INDUSTRIAL ENGINEERING FOR APPREL PRODUCTION

L T P C
3 0 0 3

Course Objectives

- To provide knowledge of industrial engineering principles, productivity improvement techniques, and production management in the apparel industry.
- To develop skills in plant layout planning, material handling, work study, and production efficiency analysis.
- To familiarize students with lean manufacturing concepts and continuous improvement practices for apparel production systems.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the concepts of industrial engineering, productivity measurement, organizational structure, and plant layout in apparel manufacturing.	Understand
CO 2	Analyze plant layout, material handling systems, storage, and warehousing requirements for apparel production facilities.	Analyse
CO 3	Apply work study techniques including method study, motion study, time study, and SAM calculation to improve production efficiency.	Apply
CO 4	Evaluate productivity improvement methods, operator performance, and production systems using industrial engineering tools.	Evaluate
CO 5	Assess lean manufacturing principles and implement tools such as 5S, Kaizen, Kanban, Takt Time, and Six Sigma for continuous improvement.	Evaluate

MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
PO					
CO					
	1	2	3	4	5
1	-	-	-	M	M
2	M	M	-	M	M
3	M	M	-	S	M
4	S	M	M	S	M
5	S	S	M	S	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. Casestudies 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: BobbinBlenhein Media Corp,
4. Juan Carlo, Hiba. (1998). “Improving working conditions and productivity in the garment industry”. Geneva: International Labour Organization.

26BSTD53

SUSTAINABLE FASHION AND CIRCULAR ECONOMY

L	T	P	C
3	0	0	3

COURSE OBJECTIVES

- To provide knowledge of sustainable fashion principles, environmental impacts of the fashion industry, and responsible production practices.
- To develop an understanding of circular economy concepts and their application in textile and apparel value chains.
- To equip students with skills to evaluate and develop sustainable fashion products, business models, and circular design strategies.

COURSE OUTCOMES (CO)

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

Course Outcome		Level
CO 1	Explain the concepts, principles, and importance of sustainable fashion and circular economy.	Understand
CO 2	Analyze the environmental and social impacts of textile and apparel production and consumption.	Analyse
CO 3	Evaluate sustainable materials, manufacturing processes, certifications, and supply chain practices.	Evaluate
CO 4	Apply circular economy principles in fashion product development, waste management, and business models.	Apply
CO 5	Develop sustainable and circular fashion solutions considering environmental, social, and economic sustainability.	Create

MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)

CO	PO				
	1	2	3	4	5
1	M	M	-	-	M
2	S	S	M	M	M
3	S	S	M	M	M
4	S	S	M	M	S
5	S	S	S	S	S

UNIT I – Introduction to Sustainable Fashion

Concept and importance of sustainability – Triple Bottom Line (People, Planet, Profit) – Sustainable Development Goals (SDGs) – Environmental and social impacts of the fashion industry – Fast fashion versus slow fashion – Sustainable fashion movements – Ethical fashion and responsible consumption – Sustainable fashion value chain.

UNIT II – Sustainable Materials and Manufacturing

Sustainable fibres: Organic cotton, hemp, bamboo, linen, recycled polyester, regenerated cellulosic fibres – Eco-friendly dyes and chemicals – Water and energy conservation in textile processing –

Cleaner production techniques – Sustainable manufacturing practices – Green certifications and standards (GOTS, OEKO-TEX, Fair Trade, Bluesign) – Carbon and water footprint in textiles.

UNIT III – Circular Economy in Fashion

Introduction to circular economy – Linear versus circular production systems – Principles of circular fashion – Design for durability, repairability, recyclability, and disassembly – Closed-loop and open-loop recycling – Textile waste management – Upcycling and downcycling – Extended Producer Responsibility (EPR) – Circular business models in fashion.

UNIT IV – Sustainable Fashion Business and Supply Chain

Sustainable sourcing and procurement – Traceability and transparency in supply chains – Ethical labour practices and social compliance – Sustainable merchandising and retailing – Fashion rental, resale, repair, refurbishment, and sharing economy – Sustainable packaging and logistics – Green marketing and consumer awareness.

UNIT V – Emerging Trends and Innovations

Digital fashion and virtual garments – AI and technology for sustainability – Smart materials and biodegradable textiles – Life Cycle Assessment (LCA) – Circular design strategies – Sustainable entrepreneurship in fashion – Case studies of global and Indian sustainable fashion brands – Future trends in circular fashion and regenerative fashion systems.

REFERENCES:

1. R. S. Khurmi & J. K. Gupta (2019). A Textbook of Environmental Studies. S. Chand Publishing.
2. Anubha Kaushik & C. P. Kaushik (2021). Perspectives in Environmental Studies (7th ed.). New Age International Publishers.
3. M. L. Jhingan (2020). The Economics of Development and Planning. Vrinda Publications. (Useful for sustainable development and circular economy concepts.)
4. Meenu Srivastava (2018). Textiles and Environment. CBS Publishers & Distributors.
5. Roshan Paul (Ed.). (2015). Functional Finishes for Textiles: Improving Comfort, Performance and Protection. Woodhead Publishing. (Includes sustainable textile processing concepts.)
6. A.K. Sarkar (2019). Textile Science and Technology. CBS Publishers & Distributors.
7. V. K. Kothari (Ed.). (2019). Progress in Textiles: Science and Technology. IAFL Publications. (Contains chapters on sustainability and eco-friendly textiles.)

TEXTILE AND APPAREL QUALITY EVALUATION
26BSTD56L **LABORATORY**

L T P C
0 0 4 2

Course Objectives

- To provide students with hands-on experience in using a variety of textile and apparel testing instruments and procedures.
- To develop students' skills in collecting and analyzing textile and apparel quality data.
- To enable students to identify and assess the quality of textile and apparel materials, products, and processes using a variety of testing methods.
- To prepare students to apply the principles and practices of textile and apparel quality evaluation in real-world industrial settings.

Course Outcome:

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

LIST OF EXPERIMENTS:

1. Determination of Trash Content in Raw Cotton Using a Trash Analyzer
2. Assessment of Fibre Properties Using a High Volume Instrument (HVI)
3. Measurement of Single Yarn Strength
4. Measurement of Yarn Evenness and Imperfections Using a Yarn Evenness Tester
5. Measurement of Fabric Thickness and Stiffness
6. Measurement of Fabric GSM and Crease Recovery
7. Measurement of Fabric Tensile Strength (Strip Test and Grab Test)
8. Measurement of Fabric Bursting Strength and Tearing Strength
9. Assessment of Fabric Abrasion Resistance and Pilling Resistance
10. Assessment of Colour Fastness to Rubbing and Washing
11. 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.

26BSTD57L

COMPUTER AIDED GARMENT DESIGNING LABORATORY

L	T	P	C
0	0	4	2

Course Objectives

- To develop creative and technical skills in apparel design, motif development, pattern drafting, grading, and marker planning.
- To provide practical knowledge of garment design and pattern development for children's, women's, and men's apparel.
- To enable students to create design-oriented apparel products by integrating fashion design principles with pattern engineering techniques.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the principles of apparel design, motif development, pattern drafting, grading, and marker planning.	Understand
CO 2	Create motifs and fashion illustrations for children's, women's, and men's wear based on design requirements.	Create
CO 3	Develop patterns and perform grading for various garments such as baby frocks, T-shirts, shirts, trousers, skirts, tops, blouses, and party wear.	Apply
CO 4	Prepare efficient marker plans and analyze material utilization for apparel production.	Analyse
CO 5	Design and develop innovative apparel products through a design-oriented project by integrating creativity and technical skills.	Create

MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
PO					
CO					
	1	2	3	4	5
1	-	-	-	M	M
2	M	M	-	M	S
3	M	M	-	M	S
4	M	S	-	M	M
5	S	S	M	S	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. Pattern drafting and grading for Baby frock.
5. Pattern drafting, grading and marker plan for T- Shirt.
6. Pattern drafting, grading and marker plan for Formal shirt.
7. Pattern drafting, grading and marker plan for Trouser.
8. Pattern drafting, grading and marker plan for Skirt and Top's.
9. Pattern drafting, grading and marker plan for Blouse.
10. Pattern drafting, grading and marker plan for Women's Party wear.
11. 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. Beazant, 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

26BSTD58L**FASHION PORTFOLIO LABORATORY****L T P C****0 0 4 2****Course Objectives**

- To develop creative, technical, and presentation skills required for professional fashion portfolio development.
- To enable students to integrate trend forecasting, design development, fabric selection, pattern making, and garment construction into a cohesive fashion collection.
- To prepare students for professional fashion presentations through portfolio preparation and garment exhibition.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the concepts of trend forecasting, theme development, customer profiling, and portfolio presentation in fashion design.	Understand
CO 2	Develop theme boards, mood boards, colour boards, inspiration boards, and design development boards based on market and customer requirements.	Create
CO 3	Prepare professional fashion portfolio components including illustrations, flat sketches, specification sheets, fabric boards, and accessory boards.	Apply
CO 4	Analyze fabric sourcing, garment construction processes, and design feasibility for apparel collection development.	Analyse
CO 5	Create and present a complete fashion collection and portfolio through a designer show or garment exhibition.	Create

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

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)

Course Objectives

- To provide students with practical exposure to industrial operations, technologies, and professional practices in the textile and apparel sector.
- To develop technical, analytical, communication, and teamwork skills through hands-on industrial training.
- To enable students to apply classroom knowledge to real-world industrial problems and prepare professional internship reports.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the organizational structure, workflow, and operational practices of the industry where the internship is undertaken.	Understand
CO 2	Apply theoretical knowledge and technical skills to perform assigned tasks in the industrial environment.	Apply
CO 3	Analyze industrial processes, machinery, quality requirements, and workplace practices relevant to the profession.	Analyse
CO 4	Demonstrate professional ethics, teamwork, safety awareness, and responsibility in the workplace.	Apply
CO 5	Prepare and present a comprehensive internship report highlighting observations, learning experiences, and recommendations.	Evaluate

MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
PO					
CO	1	2	3	4	5
1	M	M	-	M	M
2	M	M	-	S	M
3	S	S	M	M	M
4	S	M	S	S	M
5	M	M	M	M	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**26BSTD61****TEXTILE COSTING AND EXIM MAANAGEMENT****L T P C****3 0 0 3****Course Objectives**

- To provide knowledge of budgeting, costing principles, pricing methods, and garment cost estimation techniques used in the apparel industry.
- To develop skills in calculating garment costs and analyzing factors influencing production and pricing decisions.
- To familiarize students with export procedures, documentation, international trade practices, and export market requirements.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the concepts of budgeting, costing, depreciation, pricing policies, and garment cost determinants.	Understand
CO 2	Calculate garment costs by considering material, labour, overheads, trims, and production-related factors.	Apply
CO 3	Analyze costing methods, pricing strategies, and export market selection criteria for apparel products.	Analyse
CO 4	Evaluate export procedures, legal requirements, financing options, and international trade practices.	Evaluate
CO 5	Prepare and interpret export documents and apply appropriate trade terms for international business transactions.	Evaluate

MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
PO					
CO					
	1	2	3	4	5
1	M	-	-	-	M
2	M	M	-	M	M
3	S	M	M	M	S
4	S	M	S	M	S
5	M	M	S	M	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,” VikasPublishing House, New Delhi, Ministry of Commerce, Govt. of India.

Course Objectives

- To provide knowledge of entrepreneurship concepts, entrepreneurial processes, business planning, and venture creation.
- To develop entrepreneurial skills in opportunity identification, creativity, innovation, and business decision-making.
- To familiarize students with institutional support systems, funding sources, and entrepreneurial opportunities in the fashion and apparel industry.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the concepts, theories, characteristics, and processes of entrepreneurship and entrepreneurial development.	Understand
CO 2	Analyze entrepreneurial opportunities through idea generation, feasibility studies, project planning, and business plan development.	Analyse
CO 3	Apply creativity, innovation, and problem-solving techniques for establishing and managing entrepreneurial ventures.	Apply
CO 4	Evaluate the role of financial institutions, government policies, venture capitalists, angel investors, and support organizations in business development.	Evaluate
CO 5	Develop entrepreneurial strategies and business models for fashion and apparel enterprises by integrating market opportunities and institutional support.	Create

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

UNIT I – Entrepreneurship Fundamentals

Entrepreneurship: Concept, characteristics, functions and types of entrepreneurs – Entrepreneurial competencies and skills – Internal and external factors influencing entrepreneurship – Entrepreneurial motivation and barriers – Theories of entrepreneurship – Entrepreneurial culture and ecosystem – Stages in the entrepreneurial process – Opportunities in fashion and textile entrepreneurship.

UNIT II – Creativity, Innovation and Business Planning

Creativity and innovation in entrepreneurship – Idea generation techniques – Opportunity identification and screening – Design thinking and creative problem solving – Feasibility analysis (technical, market, financial and operational) – Preparation of business plans – Business model development – Project planning, evaluation, monitoring and control – Innovation and value creation in fashion enterprises.

UNIT III – Fashion Business Models and Startup Ecosystem

Fashion entrepreneurship and emerging business models – Direct-to-consumer (D2C), Omni channel retailing and e-commerce – Digital marketing strategies for fashion brands – Social media marketing and influencer marketing – Institutional support for startups – Government schemes and startup initiatives – Angel investors, incubators, accelerators and private equity funding – Intellectual Property Rights (IPR) and brand protection.

UNIT IV – Venture Creation and Enterprise Management

Family and non-family businesses – Professional management in entrepreneurial ventures – Women entrepreneurship and social entrepreneurship – Venture capital: concept, process and funding stages – Sources of finance for startups and MSMEs – Leadership, team building and organizational culture – Risk management and sustainability in fashion enterprises.

UNIT V – Support Institutions and Contemporary Entrepreneurship

Role of support institutions in entrepreneurship development – MSME ecosystem and government support agencies – DIC, SIDCO, SIDBI, NSIC, NIESBUD, SFC, TIIC and Startup India initiatives – Unicorn startups and emerging entrepreneurial trends – Sustainable and circular fashion entrepreneurship – Case studies of successful fashion, textile and apparel startups in India and abroad.

TEXT BOOKS

1. Khanka, S. S. (2022). *Entrepreneurial Development* (Latest Edition). S. Chand Publishing, New Delhi.
2. Gupta, C. B., & Srinivasan, N. P. (2021). *Entrepreneurial Development*. Sultan Chand & Sons, New Delhi.
3. Desai, V. (2020). *Dynamics of Entrepreneurial Development and Management*. Himalaya

Publishing House, Mumbai.

4. Hisrich, R. D., Peters, M. P., & Shepherd, D. A. (2023). *Entrepreneurship* (12th Edition). McGraw-Hill Education.
5. Mariotti, S., & Glackin, C. (2022). *Entrepreneurship and Small Business Management* (Latest Edition). Pearson Education.

REFERENCE BOOKS

1. **Balaraju, T., & Ramakrishna, H.** (2021). *Entrepreneurship Development*. Himalaya Publishing House, Mumbai.
2. **Kuratko, D. F.** (2023). *Entrepreneurship: Theory, Process and Practice* (12th Edition). Cengage Learning.
3. **Barringer, B. R., & Ireland, R. D.** (2023). *Entrepreneurship: Successfully Launching New Ventures* (7th Edition). Pearson.

SEMESTER VII**26BSTD71****RESEARCH METHODOLOGY AND IPR****L T P C****4 0 0 4****COURSE OBJECTIVES**

- To provide knowledge of entrepreneurship concepts, entrepreneurial processes, business planning, and venture creation.
- To develop entrepreneurial skills in opportunity identification, creativity, innovation, and business decision-making.
- To familiarize students with institutional support systems, funding sources, and entrepreneurial opportunities in the fashion and apparel industry.

COURSE OUTCOMES (CO)

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

Course Outcome		Level
CO 1	Explain the concepts, processes, and ethical principles of scientific research and intellectual property rights.	Understand
CO 2	Apply appropriate research designs, sampling methods, and data collection techniques for research studies.	Apply
CO 3	Analyze research data and interpret findings using suitable statistical and analytical tools.	Analyse
CO 4	Evaluate different forms of intellectual property and their applications in research, innovation, and industry.	Evaluate
CO 5	Prepare research reports and recommend suitable IPR protection strategies for innovative products and technologies.	Create

**MAPPING OF COURSE OUTCOMES AND PROGRAMME
OUTCOMES
(S – Strong, M-Medium)**

CO	PO				
	1	2	3	4	5
1	M	-	S	-	M
2	M	M	M	M	M
3	M	M	M	M	S
4	S	M	S	M	M
5	S	M	S	M	S

UNIT I – Introduction to Research Methodology

Research: Meaning, objectives, significance, and types – Basic, applied, descriptive, exploratory, and experimental research – Research process – Identification and formulation of research problems – Research objectives and hypotheses – Variables and measurement – Review of literature – Research ethics and plagiarism.

UNIT II – Research Design and Data Collection

Research design: Meaning and types – Sampling techniques: Probability and non-probability sampling – Sources of data – Primary and secondary data – Methods of data collection: Observation, interview, questionnaire, survey, schedules, and case study – Questionnaire design – Scaling techniques – Reliability and validity.

UNIT III – Data Analysis and Research Report Writing

Data processing and analysis – Classification, tabulation and graphical presentation of data – Descriptive statistics: Mean, median, mode, standard deviation – Correlation and regression – Hypothesis testing – t-test, Chi-square test, F-test and One-way ANOVA – Interpretation of results – Use of statistical software (Excel/SPSS) for research analysis – Structure of research report – Technical paper writing – Thesis/dissertation preparation – Citation and referencing styles (APA, MLA and IEEE).

UNIT IV – Fundamentals of Intellectual Property Rights

Introduction to Intellectual Property Rights – Need and importance of IPR – Types of Intellectual Property: Patents, Copyrights, Trademarks, Industrial Designs, Geographical Indications, Trade Secrets – National and international IPR systems – Role of IPR in innovation, entrepreneurship, and economic development.

UNIT V – Patents and IPR Management

Patent system in India – Patentability criteria – Patent application procedure – Patent search and documentation – Patent drafting basics – Copyright registration – Trademark registration process – Protection of textile, fashion, and design innovations – IPR commercialization, technology transfer, licensing, and case studies related to textiles, apparel, and fashion industries.

REFERENCES:

1. Research Methodology: Methods and Techniques, Kothari, C. R., & Garg, G. (2019). Research Methodology: Methods and Techniques (4th ed.). New Age International Publishers.
2. Research Methodology, Paneerselvam, R. (2014). Research Methodology. PHI Learning.
3. Research Methodology, Saravanavel, P. (2015). Research Methodology. Kitab Mahal.
4. Intellectual Property Rights, Bouchoux, D. E. (2020). Intellectual Property Rights. Cengage Learning.
5. Intellectual Property Rights, Pandey, N., & Dharni, K. (2022). Intellectual Property Rights. PHI Learning.
6. World Intellectual Property Organization publications on patents, copyrights, trademarks, and innovation management.

Course Objectives

- To provide fundamental knowledge of management principles and the functional areas of management relevant to industrial organizations.
- To develop an understanding of human resource, production, marketing, and financial management practices in manufacturing industries.
- To equip students with managerial skills for effective decision-making, resource utilization, productivity improvement, and organizational performance

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the principles, functions, and theories of management and their application in industrial organizations.	Understand
CO 2	Analyze human resource management practices and their role in organizational effectiveness and industrial relations.	Analyse
CO 3	Apply production planning, inventory control, scheduling, and productivity improvement techniques in industrial operations.	Apply
CO 4	Evaluate marketing strategies, consumer behavior, demand forecasting, and pricing decisions in business environments.	Evaluate
CO 5	Assess financial management practices, budgeting, capital investment decisions, and cost control measures for organizational growth.	Evaluate

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

UNIT I

Management: Definition, nature and scope of management – Evolution of management thought – Scientific Management, Administrative Management and Human Relations Approach – Management as a science, art and profession – Professionalization of management in India – Functions of management: Planning, Organizing, Staffing, Directing and Controlling – Levels of management – Decision making – Case studies.

UNIT II

Human Resource Management: Introduction – Objectives and functions of HRM – HR policies – Human resource planning – Recruitment, selection and training – Performance appraisal – Compensation and welfare measures – Industrial relations – Role of HR manager – Line and staff functions – HRM and its interaction with production, marketing and finance departments – Case studies.

UNIT III

Production and Operations Management: Production systems and types of production – Production planning and control (PPC) – Forecasting – Routing, Scheduling, Loading and Dispatching – Production control functions – Inventory management – Materials management – Gantt charts and network techniques (PERT/CPM) – Productivity improvement – Relationship of production with other functional departments – Case studies.

UNIT IV

Marketing Management: Concept of marketing and marketing management – Marketing environment – Marketing mix (4Ps) – Consumer behaviour – Industrial marketing and service marketing – Market segmentation, targeting and positioning – Marketing research – Demand forecasting – Pricing methods and price determination – Relationship of marketing with production, finance and human resource departments – Case studies

UNIT V

Financial Management: Introduction to financial management – Financial and cost accounting concepts – Functions and objectives of financial management – Time value of money – Sources of finance – Capital budgeting – Working capital management – Cost control and cost reduction – Profit planning and budgeting – Risk and return relationship – Case studies.

TEXT BOOKS:

1. Principles of Management Tripathi, P. C., & Reddy, P. N. (2020). Principles of Management (6th ed.). McGraw Hill Education India.
1. Management and Organisational Behaviour Rao, P. S. (2021). Management and Organisational Behaviour. Himalaya Publishing House.
2. Human Resource Management Gupta, C. B. (2021). Human Resource Management (20th ed.). Sultan Chand & Sons.

3. Production and Operations Management Panneerselvam, R. (2017). Production and Operations Management (3rd ed.). PHI Learning.
4. Marketing Management Ramaswamy, V. S., & Namakumari, S. (2018). Marketing Management: Indian Context Global Perspective (6th ed.). Sage Publications India.
5. Financial Management Pandey, I. M. (2021). Financial Management (12th ed.). Vikas Publishing House.
6. Financial Management Chandra, P. (2019). Financial Management: Theory and Practice (10th ed.). McGraw Hill Education.
7. Operations Management Aswathappa, K., & Bhat, K. S. (2022). Production and Operations Management. Himalaya Publishing House.

26BSTD73

NEW PRODUCT DEVELOPMENT & ASSESSMENT**L T P C****3 0 0 3****Course Objectives**

- To provide knowledge of the new product development (NPD) process in textiles and apparel from concept generation to commercialization.
- To develop skills in product design, material selection, prototyping, testing, and performance evaluation.
- To enable students to assess product feasibility, market acceptance, quality, sustainability, and commercial viability.

Course Outcome:

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

Course Outcome		Level
CO 1	Explain the concepts, stages, and significance of new product development in textiles and apparel.	Understand
CO 2	Analyze consumer requirements, market opportunities, and technical specifications for product development.	Analyse
CO 3	Apply product design and development principles for creating textile and apparel products.	Apply
CO 4	Evaluate product performance, quality, feasibility, and market acceptance using appropriate assessment methods.	Evaluate
CO 5	Develop innovative and sustainable textile and apparel products considering technical, economic, and environmental factors.	Create

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

UNIT I

Concept of new product development (NPD) – Importance and objectives – Product life cycle – Innovation and creativity in textiles and apparel – Types of new products – Sources of new product ideas – Idea generation techniques – Screening and evaluation of ideas – Consumer needs and market opportunities.

UNIT II

Product design process – Design thinking approach – Product specifications and technical requirements – Material selection for textile and apparel products – Product design considerations: aesthetics, functionality, comfort, durability, safety, and sustainability – Prototype development – Sampling and product modification

UNIT III

Product performance evaluation – Physical, mechanical, comfort, and functional testing – Quality standards and specifications – Reliability and durability assessment – Consumer acceptance testing – Product benchmarking – Risk assessment and compliance requirements – Product certification and labeling.

UNIT IV

Market research for new products – Consumer behavior and preference analysis – Feasibility analysis: technical, financial, and operational – Cost estimation and pricing strategies – Product positioning – Test marketing – Product launch strategies – Branding and promotion of textile and apparel products.

UNIT V

Sustainable product development – Eco-design principles – Circular product development – Smart textiles and wearable products – Technical textile product innovations – Digital product development tools – Case studies of successful textile and apparel product innovations – Entrepreneurship opportunities in product development.

TEXT BOOKS:

1. Product Development in Textiles Nelson, G. L. (Ed.). Product Development in Textiles. Textile Institute Publication.
2. Textiles and Clothing Sustainability Muthu, S. S. (Ed.). Textiles and Clothing Sustainability: Sustainable Fashion and Product Development. Springer.
3. Fashion from Concept to Consumer Frings, G. S. Fashion: From Concept to Consumer. Pearson Education.

REFERENCE BOOKS:

1. The Fundamentals of Product Development for Textiles and Apparel Sorger, R., & Udale, J. The Fundamentals of Fashion Design and Product Development. Fairchild Books.
2. Fashion Entrepreneurship Fashion Entrepreneurship, Retail Business Planning and Product

Development. Bloomsbury Publishing.

3. Subramanian Senthilkannan Muthu (Ed.). Sustainable Innovations in Textile Product Development. Springer

26BSTD74

TEXTILE TRADITIONS: DOCUMENTATION AND DESIGN

L T P C
4 0 0 4

Course Objectives

- To introduce students to traditional and tribal textile crafts of India.
- To understand the cultural and symbolic value of indigenous textile practices.
- To explore various surface and structural textile techniques across regions.
- To develop skills in fieldwork, craft documentation, and visual recording.
- To encourage innovative design thinking for sustainable craft interventions.

Course Outcome:

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

	Course Outcome	Level
CO 1	Identify and describe key traditional and tribal textile crafts of various Indian regions.	Understand
CO 2	Explain the cultural, ritualistic, and identity-based significance of indigenous textile practices.	Understand
CO 3	Compare and differentiate regional surface and structural techniques such as weaving, dyeing, and printing.	Analyse
CO 4	Conduct field-based research and create visual and written documentation of craft practices	Apply, Create
CO 5	Develop and propose innovative, sustainable design solutions rooted in traditional textile crafts.	Create

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

UNIT I Traditional and Indigenous Textiles of India

Overview of Indian traditional and tribal textile crafts. Cultural, ritualistic, and identity-based importance of textiles. Categories of craft techniques: weaving, dyeing, printing, painting, felting. Study of tribal and indigenous looms: loin loom (North-East), Bastar weaving, Bhujodi (Kutch), Kullu, Kora cotton weaving. Introduction to GI (Geographical Indication) and intellectual property rights in textile heritage.

UNIT II: Painted and Printed Textile Traditions

Rogan Painting – history, tools, motifs, and modern revival (Kutch). Mata-ni-Pachedi – narrative temple textile art of Gujarat. Sanganeri prints (Rajasthan) – floral aesthetics, motifs, techniques. Innovations in block and screen printing across clusters. Use of natural dyes and pigment sources in traditional surface design.

UNIT III: Tribal and Regional Craft Traditions

Saura tribal textile art – symbology and materials. Warli painting in contemporary textile application. Textile crafts of Lambadi (Banjara) communities – thread and mirror work. Textile culture of Mizo, Manipuri, and Naga communities. Comparative analysis of tribal aesthetic principles and sustainable practices.

UNIT IV: Fieldwork and Craft Documentation

Introduction to craft-based field research: observation, interviews, participatory mapping. Planning field visits: selecting craft clusters, ethical considerations, permissions. Tools for documentation: sketchbooks, photography, voice recorders, digital tools. Visual and narrative documentation: artisan stories, production stages, sample collection. Report writing: documentation structure, referencing, visual integration.

UNIT V: Craft Ecosystem Study and Design Interventions

Craft cluster case studies: Bhuj (Gujarat), Pipli (Odisha), Chamba (Himachal), North-East India. Artisan livelihood: challenges, migration, role of NGOs (Dastkar, AIACA, GoCoop, Kala Raksha). Design thinking for crafts: identifying gaps in product/process/branding. Conceptualizing contemporary design interventions: sustainability, fair trade, innovation. Final project: documentation portfolio + design proposal + presentation.

REFERENCES:

1. Kirit Mankodi, “Textiles in Indian Ocean Societies”, Marg Publications, Mumbai, 1999.
2. Jasleen Dhamija, “Handwoven Fabrics of India”, Mapin Publishing, Ahmedabad, 2001.
3. Rta Kapur Chishti, “Saris of India: Tradition and Beyond”, Roli Books, New Delhi, 2010.
4. Laila Tyabji, “Threads of Life: The Fabric of Indian Textile Heritage”, Niyogi Books, New Delhi, 2021.
5. Eiluned Edwards, “Textiles and Dress of Gujarat”, Mapin Publishing, Ahmedabad, 2011.

26BSTD75**WORK WEAR DESIGN AND MANUFACTURE****L T P C****3 0 0 3****Course Objectives:**

- To provide students with a comprehensive understanding of workwear design
- To develop students' skills in designing and creating workwear garments
- To introduce students to the principles of sustainability in workwear design
- To prepare students for careers in workwear design

Course Outcome:

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

	Course Outcome	Level
CO 1	Design and create workwear garments that meet the needs of specific professions.	Create
CO 2	Select appropriate fabrics and construction methods for work wear garments.	Apply
CO 3	Evaluate and critique workwear designs.	Evaluate
CO 4	Explain apparel engineering concepts, garment performance parameters, comfort requirements, and ergonomic design principles.	Understand
CO 5	Develop apparel solutions incorporating quality, productivity, sustainability, and consumer fit requirements.	Create

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

UNIT I

Introduction to Professional Dress Design: Overview of professional dress history and trends; Understanding professional dress codes; the importance of professional dress in different workplaces.

UNIT II

Design Principles for Professional Dresses: Elements of visual design: line, shape, color, texture, pattern; Principles of design: balance, proportion, emphasis, rhythm, unity; Applying design principles to professional dress

UNIT III

Technical textile garments: Fabric, its properties and the profession it is suitable for; selecting fabrics for specific professions and work environments; Considering durability, comfort, and appearance; Sustainable alternatives for professional dress fabrics. (Medical professionals (Doctors, nurses), Construction workers, Firefighters, Cooks and chefs, Restaurant servers, Athletes, Astronauts, Scuba divers, mine workers and Pilots)

UNIT IV

Pattern making and garment construction for various profession - Medical professionals (Doctors, nurses), Construction workers, Firefighters, Cooks and chefs, Restaurant servers, Athletes, Astronauts, Scuba divers, mine workers and Pilots.

UNIT V

Portfolio presentation: Creating mood boards and sketches for professional dresses, checking the physical and chemical properties; final presentation of the collection. For each of the professions - Medical professionals (Doctors, nurses), Construction workers, Firefighters, Cooks and chefs, Restaurant servers, Athletes, Astronauts, Scuba divers, mine workers and Pilots.

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.

Course Objectives

- To explore the aesthetics and design strategies behind luxury and performance fashion.
- To understand the role of costume in media, character development, and storytelling.
- To introduce innovative technologies shaping fashion design and branding in digital and luxury markets.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the fundamentals of fashion aesthetics and costume design in the context of media and luxury markets.	Understand
CO 2	Apply design processes and techniques for developing costumes for various media and performance formats.	Apply
CO 3	Analyze the luxury fashion ecosystem and evaluate the identity and strategies of global and Indian brands.	Analyse, Evaluate
CO 4	Utilize digital tools such as CLO3D, AR/VR, and AI to enhance fashion design and presentation.	Apply, Create
CO 5	Conceptualize and create an original fashion or costume collection integrating luxury aesthetics and digital innovation.	Create

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

Unit I – Fundamentals of Fashion and Costume Aesthetics

Elements and principles of fashion aesthetics in media and luxury markets. Introduction to costume design for theatre, film, and TV. Visual storytelling and character-based costume planning. Case studies: Iconic fashion and costume moments in media

Unit II – Design Process for Media and Performance

Script and theme analysis for costume development. Role of costume in period, fantasy, and contemporary media. Costume rendering techniques: manual and digital. Material selection, sourcing, and budgeting. Practical insights: Production calendars and costume continuity

Unit III – Understanding the Luxury Fashion Ecosystem

Defining luxury: heritage, exclusivity, and craftsmanship. Market segments: haute couture, prêt-à-porter, premium. Brand storytelling and identity in luxury fashion. Global and Indian luxury fashion brands: Case studies

Unit IV – Fashion Technology and Digital Tools

3D fashion design and digital prototyping (CLO3D, Marvelous Designer). AR/VR in retail and virtual try-ons. Digital fashion shows and NFTs in fashion. Introduction to AI tools in design assistance and personalization

Unit V – Innovation and Strategy in Fashion Presentation

Creating fashion experiences for media, luxury retail, and runway. Styling and visual merchandising for luxury products. Digital branding and immersive brand storytelling. Final project brief: Conceptualize a mini-collection or costume series using a blend of luxury aesthetics and digital innovation

REFERENCES :

1. Ingham, Rosemary, *The Costume Designer's Handbook: A Complete Guide for Amateur and Professional Costume Designers*, Heinemann Drama, USA, 2003.
2. Jenkyn Jones, Sue, *Fashion Design*, Laurence King Publishing, London, 2011.
3. Kapferer, Jean-Noël & Bastien, Vincent, *The Luxury Strategy: Break the Rules of Marketing to Build Luxury Brands*, Kogan Page, London, 2012.
4. McDowell, Colin, *Fashion Today*, Phaidon Press, London, 2000.
5. Brown, Carol, *Computer-Aided Fashion Design Using Gerber Technology*, Fairchild Books, New York, 2010.

SEMESTER VIII

26BSTD81

TOTAL QUALITY MANAGEMENT FOR TEXTILE AND APPAREL INDUSTRY

L T P C
3 0 0 3

Course Objectives

- To provide knowledge of Total Quality Management (TQM) principles, philosophies, and quality systems applicable to textile and apparel industries.
- To develop skills in quality planning, quality control, process improvement, and statistical quality techniques.
- To enable students to implement quality management practices for continuous improvement, customer satisfaction, and sustainable industrial performance.

Course Outcomes (CO)

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

	Course Outcome	Level
CO 1	Explain the principles, philosophies, and quality management systems used in textile and apparel industries.	Understand
CO 2	Analyze quality standards, certifications, and supplier quality requirements for textile and apparel products.	Analyse
CO 3	Apply statistical quality control tools and process improvement techniques to manufacturing processes.	Apply
CO 4	Evaluate quality performance in textile and apparel production using inspection and quality assurance methods.	Evaluate
CO 5	Develop continuous improvement strategies to enhance customer satisfaction, sustainability, and organizational excellence.	Create

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

UNIT I – Fundamentals of Total Quality Management

Quality: Concepts, dimensions and importance – Evolution of quality management – Inspection, Quality Control (QC), Quality Assurance (QA) and Total Quality Management (TQM) – Quality gurus: Deming, Juran, Crosby, Ishikawa and Taguchi – Principles of TQM – Customer focus – Leadership – Employee involvement – Continuous improvement – Cost of quality – Quality culture in textile and apparel industries.

UNIT II – Quality Systems and Standards

Quality management systems – Documentation and quality manuals – ISO 9001 Quality Management System – ISO 14001 Environmental Management System – SA 8000 Social Accountability – OEKO-TEX standards – WRAP certification – Lean quality systems – Six Sigma concepts – Quality audits – Supplier quality management – Vendor evaluation and rating systems.

UNIT III – Statistical Quality Control and Process Improvement

Statistical Process Control (SPC) – Control charts for variables and attributes – Process capability analysis – Acceptance sampling – Sampling plans – Pareto analysis – Cause and Effect (Fishbone) diagram – Check sheets – Histograms – Scatter diagrams – Failure Mode and Effects Analysis (FMEA) – Root cause analysis – Corrective and preventive actions.

UNIT IV – Quality Management in Textile and Apparel Manufacturing

Quality control in spinning, weaving, knitting, dyeing, printing and finishing – Fabric inspection systems (4-point and 10-point systems) – Garment quality parameters – Process control in cutting, sewing, finishing and packing – In-line and end-line inspections – Defect analysis and quality improvement – Quality requirements of export buyers – Compliance and product safety.

UNIT V – Continuous Improvement and Sustainable Quality Management

Kaizen and continuous improvement – Lean manufacturing principles – 5S workplace management – Benchmarking – Quality circles – Customer satisfaction measurement – Complaint analysis and feedback systems – Sustainability and quality – Quality in circular textile systems – Digital quality management – Industry 4.0 applications in quality assurance – Case studies in textile and apparel industries.

TEXT BOOKS

1. Total Quality Management Besterfield, D. H., Besterfield-Michna, C., Besterfield-Sacre, M., & Besterfield, G. H. (2018). *Total Quality Management* (4th ed.). Pearson Education.
2. Managing Quality Integrating the Supply Chain Foster, S. T. (2021). *Managing Quality: Integrating the Supply Chain* (7th ed.). Pearson.
3. Textile Testing Fibre Yarn and Fabric Kothari, V. K. (Ed.). (2020). *Textile Testing: Fibre, Yarn and Fabric*. IAFL Publications.

REFERENCE BOOKS

1. The Management and Control of Quality Evans, J. R., & Lindsay, W. M. (2020). *The Management and Control of Quality* (10th ed.). Cengage Learning.
2. Quality Planning and Analysis Juran, J. M., & Gryna, F. M. *Quality Planning and Analysis*. McGraw Hill.
3. Quality Management in the Textile Industry Mehta, P. V. *Quality Management in the Textile Industry*. Textile Trade Press.
4. V. K. Kothari (Ed.). *Progress in Textiles: Science and Technology*. IAFL Publications.
5. A. K. Sarkar. *Textile Science and Technology*. CBS Publishers & Distributors.
6. Subramanian Senthilkannan Muthu (Ed.). *Sustainable Textile Management and Quality Systems*. Springer.

26BSTD82**HIGH PERFORMANCE FIBRES****L T P C****3 0 0 3****Course Objectives:**

- 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.

Course Outcomes:

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

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

APPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
COs / POs	PO				
CO1	S	-	M	S	-
CO2	S	M	M	-	S
CO3	S	S	M	S	-
CO4	M	S	S	M	-
CO5	M	S	S	-	M

UNIT - I

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

UNIT - II

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 and new developments

UNIT III

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

UNIT IV

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

UNIT V

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

References:

1. Mukhopadhyay S.K, High –Performance fibres, Textile Institute Vol.26,
2. Hearle J.W.S, ‘High –Performance fibres’, Woodhead publishing, 2001.

Course Objectives

- To develop creativity and innovation skills for designing products based on market requirements.
- To provide practical exposure in product design, prototyping, evaluation, and commercialization.
- To enable students to develop sustainable and innovative products through systematic product development processes.

Course Outcome:

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

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 AND PROGRAMME OUTCOMES (S – Strong, M-Medium)					
COs / POs	PO1	PO2	PO3	PO4	PO5
CO1	M	M	-	M	M
CO2	M	M	M	S	M
CO3	M	M	M	M	S
CO4	S	M	M	M	S
CO5	S	S	S	S	S

UNIT I

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 II

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 III

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 IV

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 V

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 activitybased 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 1560526479, 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 I

(A) APPAREL SIZE AND FIT ANALYSIS

L T P C

3 0 0 3

Course Objective

- To provide students with a fundamental understanding of the relationship between fabric properties and fabric fitness for purpose.
- To teach students how to select the appropriate fabric for specific applications, considering factors such as performance requirements, aesthetics, and cost.
- To help students develop their skills in fabric evaluation and quality control.
- To prepare students for careers in the textile, apparel, and home furnishings industries.

Course Outcome:

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

UNIT I

Anthropometry And Body Measurements Anthropometry – Definition, scope, and importance in apparel design. Study of body measurements – infants, children, women, and men. Perception of body appearance; figure analysis; body ideals; height and weight distributions; body proportions. Landmark identification and measurement techniques. Cross-cultural variations in body dimensions.

UNIT II

Sizing Systems and Standardization History of the sizing system: creating the sizing system. Sizing standardization – numbered sizing, lettered sizing for Men's, Women's, and Children's. Methods of sizing for mass production of clothing for men, women, and children. Mass customization – sizing technologies and applications. International sizing standards: ISO, ASTM, and Indian Standard IS 1080. Size charts and ease allowances.

UNIT III

Fit Analysis and Pattern Alteration Fit – Definition and importance. Elements of fit – line, grain, set, balance and ease. Human performance in clothing system – mobility, comfort, and aesthetics. Objective and subjective evaluation of fit. Analyzing poor fit – identification and diagnosis of common fit problems. Pattern alteration for fit – pivoting and slash methods. Virtual garmenting – 3D simulation software and applications in fit evaluation.

UNIT IV

Fabric Properties and Garment Appearance Fabric properties influencing clothing appearance and fit – extensibility, elasticity, stiffness, and surface characteristics. Fabric drape – concept, measurement methods (Cusick drapemeter). Seamed fabric drape and dynamic fabric drape. Bending rigidity and its influence on silhouette. Objective evaluation of overall garment appearance – wrinkle resistance, pilling, dimensional stability, and colour fastness in relation to fit and appearance.

UNIT V

Sustainable Sizing, Inclusive Fit, And Emerging Technologies Need for inclusive sizing in apparel. Sizing considerations for plus-size, petite, tall, maternity, and elderly consumers. Body shape classifications and design implications. Introduction to 3D body scanning technology. Size recommendation systems in e-commerce. Virtual try-on and digital fit technologies. -Future trends in apparel sizing and fit.

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.
4. Aldrich W., "Metric Pattern Cutting for Women's Wear", 6th Edition, Wiley-Blackwell, Oxford, 2015.

5. Chun-Yoon J. and Jasper C.R., "Consumer Preferences for Apparel Attributes";Journal of Consumer Studies and Home Economics, 2017.

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.
4. Istook C.L. and Hwang S.J., 3D Body Scanning Systems with Application to the Apparel Industry”, Journal of Fashion Marketing and Management, 2001.
5. Gupta D. and Zakaria N. (Eds.), & “Anthropometry, Apparel Sizing and Design”, Woodhead Publishing, 2014.
6. Bye E., LaBat K.L. and DeLong M.R., Analysis of Body Measurement Systems for Apparel & Clothing and Textiles Research Journal, 2006.
7. Rahman O. and Gong Y., “Wearable Technology in Fashion: Consumer Perspectives”, Journal of Fashion Technology and Textile Engineering, 2016.
8. Cichocka A. and Efrat S., “Vanity Sizing in Clothing: The Impact on Consumer Behaviour & International Journal of Consumer Studies, 2018.
9. BIS (Bureau of Indian Standards) IS 1080 – Size Designation of Clothes – Dress Sizes for Women (Latest Edition).
10. ASTM International Standards D5585, D6240 – Standard Tables of Body Measurements for Men’s and Women’s Apparel.

(B) – HOME TEXTILES**L T P C****3 0 0 3****Course Objectives:**

- To enable the students to learn about the
- Recent developments in furnishing, floor covering and other home textile products Various kinds of materials used in home textile.

Course Outcome:

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 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. Tuft fabric.

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. Curtains – Sheer & Opaque. Fabrics – Cotton, Organza, etc. Tapestry.

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.

Kitchen Linens: kitchen towels, dishcloths, tea towels, aprons and oven mitts. Table linens are table cloths, place mats, table runners and napkins to lay the table

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.

ELECTIVE II

(A) TECHNICAL TEXTILES

L T P C
3 0 0 3

Course Objectives

- To inculcate the knowledge of textile materials in various technical areas.
- To learn about technical textiles, and its applications in different field knowledge.

Course Outcome:

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 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. SA: ASTM Publication.

**(B) – APPAREL PRODUCTION PLANNING AND PROCESS
CONTROL**

L T P C
3 0 0 3

Course Objectives

- To understand the concepts in production planning and control.
- To utilize the various techniques in production planning and control.
- To understand the material management and their movement in the production.

Course Outcome:

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 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).

TEXT BOOKS:

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

ELECTIVE III
(A) FASHION PHOTOGRAPHY

L T P C
3 0 0 3

Course Objectives:

- To educate on principles of photography. Different techniques and lighting methods
- To educate on different types of photography equipments. Photography for different media, printing techniques.
- To impart knowledge on videography and computer applications in photography.

Course Outcome:

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 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 (body, lens, image sensor, shutter, aperture)- classification and types of camera (compact camera, DSLR, mirrorless, action, smartphone) – Applications Disadvantages. Light – Natural, artificial, flash and strobe.

UNIT III

Photography techniques (understanding exposure, composition, lighting and editing) and equipment for different fields. Basic, studio, location portraiture, Photojournalism, Fashion Photography, Fashion shows.

UNIT IV

Exposure (influence of ISO, shutter speed and aperture) 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 (choosing right camera, experimenting with different techniques, finding niche) – 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, Illinois, 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

**(B) APPAREL INDUSTRY – COMPLAINTS AND
STANDARDS**

**L T P C
3 0 0 3**

Course Objectives:

- To understand global and national compliance requirements in the apparel sector.
- To learn about quality, safety, environmental, and ethical standards.
- To prepare students for roles involving audits, certifications, and factory compliance. in photography.

Course Outcome:

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

	Course Outcome	Level
CO 1	Explain the importance of compliance and its implications for various stakeholders in the apparel industry.	Understand
CO 2	Identify and interpret key labor and social compliance standards applicable to global apparel production.	Apply
CO 3	Analyze environmental and sustainability compliance measures adopted in textile and garment manufacturing.	Analyse
CO 4	Evaluate product quality and safety compliance using international testing and labeling standards.	Evaluate
CO 5	Create audit documentation, compliance checklists, and corrective action plans for apparel certification.	Create

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

Unit I – Introduction to Apparel Industry Compliance

Overview of compliance in the global apparel industry. Importance of compliance for buyers, brands, and manufacturers. Legal vs voluntary compliance. Common compliance failures and their consequences

Unit II – Labour and Social Compliance Standards

International Labour Organization (ILO) conventions. SA 8000, WRAP, SEDEX, BSCI – purpose and audit process. Child labor, forced labor, working hours, wages, health & safety. Social accountability and CSR practices in apparel factories

Unit III – Environmental and Sustainable Compliance

Environmental regulations: hazardous substances, wastewater, emissions. Key standards: ISO 14001, Oeko-Tex, GOTS, ZDHC. Sustainable practices in textile/apparel units. Environmental audit tools and documentation.

Unit IV – Quality and Technical Compliance

Product quality requirements: dimensional stability, colorfastness, strength. International standards: ISO, ASTM, AATCC, BIS for textiles and garments. Product safety regulations: REACH, CPSIA, labeling requirements. Packaging and labeling compliance

Unit V – Audit Procedures and Certification Systems

Types of audits: internal, external, announced, unannounced. Audit preparation, documentation, corrective action plans (CAP). Certification bodies and processes. Case studies: Audit reports, compliance checklist creation

REFERENCES:

1. Glock, R. E. & Kunz, G. I., *Apparel Manufacturing: Sewn Product Analysis*, Pearson, 2004.
2. Pivnenko, Kostadinov, *Social Compliance in the Garment Industry*, Springer, 2020.
3. Mehta, Pradip V., *An Introduction to Quality Control for the Apparel Industry*, ASQC Quality Press, 1992.
4. Ainley, Pat, *Occupational Health and Safety in the Textile Industry*, Woodhead Publishing, 2015.
5. Environmental Protection Agency (EPA) and OEKO-TEX®, *Standards and Guidelines for Sustainable Textile Production*, OEKO-TEX Publications, Latest Edition.

ELECTIVE IV

(A) – RETAIL MANAGEMENT AND VISUAL MERCHANDISING

L T P C
3 0 0 3

Course Objectives

- To give an understanding to the students about the significant role of retailing in the marketing system.
- To give inputs to gain insights on the issues involved in organizing and establishing a retail format.
- To enable the students to understand about the pricing and promotion strategies in retailing.

Course Outcome:

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

	Course Outcome	Level
CO 1	Understand the significant role of retailing in the marketing system	Understand
CO 2	Gain insights on the issues involved in organizing and establishing a retail format.	Understand
CO 3	Understand about the pricing and promotion strategies in retailing	Understand
CO 4	Gain the knowledge and skill sets to become a visual merchandising expert	Skill
CO 5	Effectively perform the role of a store manager	Skill

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

UNIT I

Concept of retailing, Functions of retailing, Terms and Definition, Retail formats and types, Retailing Channels, Non-Store Retailing- On-line sales, Retail Industry in India, Importance of

retailing, changing trends in retailing. FDI in Indian retail and its importance - Strategies of international retailers in India

UNIT II

Importance of Retail locations, Types of retail locations, Factors determining the location decision, Steps involved in choosing a retail locations, Measurement of success of location, Retail value chain, Retail market segmentation, targeting and positioning. Changing nature of retailing, organized retailing, Modern retail formats, E-tailing, Challenges faced by the retail sector

UNIT III

Introduction, Objectives, Concept of Visual Merchandising, Objectives of Visual Merchandising, Growth of Visual Merchandising, Visual Merchandising in India, Scope of visual merchandising in India, Visual Merchandising as a Support for Positioning Strategy, Prospects of Visual Merchandising, Challenges in Visual Merchandising, The common challenges, Ways to overcome the visual merchandising challenges

UNIT IV

Planning a Store Layout, Various Types of Store Layouts, Grid layout, Forced-path layout, Free-form layout, Boutique layout, Combined layout, Store Space Allocation, Heads of space allocation in a store, Managing Customer Navigation in a Store, General Rules of Customer Traffic in a Store, The Loop for Guiding the Shoppers through a Store

UNIT V

Concept of Store Design and Display, Objectives of store design, Purpose and importance of display, Rules of display planning, Display Settings, Store Design, Exterior of a store, Interior of a store, Thematic Communication, Graphics, Signage, Window displays, Merchandise Presentation Strategies

REFERENCES

1. Martin M Peglar S. V. M, Visual Merchandising and Display – Fairchild Publication, Inc. New York – 2002.
2. Tony Morgan - Visual Merchandising 2nd edition
3. Swati Bhalla, Anuraag Singhal - Visual Merchandising – Tata McGraw Hill Education, 2012
4. Swapna Pradhan, “Retailing Management”, Tata McGraw Hill, New Delhi, 3rd Edition, 2009.
5. Levy M, Barton A Weitz & Ajay Pandit, “Retailing Management”, Tata McGraw Hill, New Delhi, 6th Edition, 2008.
6. Chetan Bajaj, “Retail Management”, Oxford University Press, 2nd Edition, 2010.
7. James R. Ogden & Denise T. Ogden, “Integrated Retail Management”, Biztantra, 2007.

(B) **CLOTHING CARE AND MAINTENANCE**

L T P C
3 0 0 3

Course Objective

- To understand the principles of clothing care maintenance and laundering processes, agents, and equipment.
- To study stain removal techniques and fabric-specific care and develop skills in wardrobe management and garment preservation.

Course Outcome:

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

	Course Outcome	Level
CO 1	The significance of care labels and symbols used in garments.	Create
CO 2	Identify appropriate laundering methods, detergents, and cleaning agents suitable for different textile fibers and fabric constructions.	Evaluate
CO 3	Demonstrate skills in ironing, pressing, finishing, storage, and wardrobe management to enhance garment durability and appearance	Understand

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

UNIT I

Introduction to Clothing Care: Importance of clothing care and maintenance. Objectives of garment care. Factors affecting garment life. Overview of textile fibres and their care requirements. Care Labels: Types, Label instructions and care symbols (care labeling system).

UNIT II

Fabric Properties and Care Behaviour: Classification of fibres: natural, regenerated, synthetic. Effect of fibre structure on washing and maintenance. Fabric finishes and their impact on care. Colour fastness and shrinkage behavior. Special care fabrics: silk, wool, chiffon, lace, denim, knitwear.

UNIT III

Laundry and Washing Techniques: Principles of washing and cleaning. Types of washing: hand wash, machine wash, dry cleaning. Detergents, soaps, and stain removers. Water temperature and its effect on fabrics. Sorting of clothes before washing. Stain removal techniques (tea, oil, ink, blood).

UNIT IV

Ironing, Pressing and Finishing: Difference between ironing, pressing, and steaming. Temperature settings for different fabrics. Use of steam irons and pressing equipment. Finishing techniques for garments. Wrinkle removal methods and care during pressing.

UNIT V

Storage and Wardrobe Management: Proper storage techniques for different garments. Seasonal clothing storage methods. Use of moth repellents and protective covers. Folding vs hanging methods. Wardrobe organization and maintenance.*

REFERENCES

1. Nayak, R., & Ratnapandian, S. (2018). Care and Maintenance of Textile Products Including Apparel and Protective Clothing. CRC Press.
2. D'Souza, N. (2001). Fabric Care. New Age International Publishers.
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