# DIPLOMA IN GARMENT TECHNOLOGY

## SYLLABUS

# H- SCHEME

**(WITH EFFECT FROM JUNE 2025)**

**DR. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN, THARAMANI, CHENNAI –600113.**

**Dr. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN**
**THARAMANI CHENNAI-600 113**

**Discipline wise task force meeting held on: 06/11/2024**

Internal and External Members Present:

| SL.NO. | NAME & ADDRESS OF THE EXPERT | NAME OF THE INSTITUTION |
|---|---|---|
| **INTERNAL MEMBERS** | | |
| 1 | Dr.A.R.Saravanan<br>HOD I/C / Dept of Garment Technology | Dr. Dharmambal Government Polytechnic College for Women Chennai-113 |
| 2 | B.Yuvarani<br>Consolidated Lecturer<br>Department of Garment Technology | Dr. Dharmambal Government Polytechnic College for Women Chennai-113 |
| 3 | A.Abinaya<br>Consolidated Lecturer<br>Department of Garment Technology | Dr. Dharmambal Government Polytechnic College for Women Chennai-113 |
| 4 | A.Preethi<br>Consolidated Lecturer<br>Department of Garment Technology | Dr. Dharmambal Government Polytechnic College for Women Chennai-113<br>CHENNAI-113 |
| 5 | A.Iswariya<br>Consolidated Lecturer<br>Department of Garment Technology | Dr. Dharmambal Government Polytechnic College for Women Chennai-113 |
| **EXTERNAL MEMBERS** | | |
| 1 | Dr.N.Gopi<br>Professor<br>Department of Textile Technology | Anna University,<br>Chennai-25 |
| 2 | Dr.V.Banurekha<br>Professor Head<br>School of Fashion Technology | KCG College of Technology<br>Karapakkam,Chennai-97 |
| 3 | Mr.S.Vaidheeswaran<br>Junior Work Manager | Ordnance Clothing Factory<br>Avadi,Chennai |

| | | |
|---|---|---|
| 4 | Mrs.B.VishnuPriya<br>Merchandiser | Rattha Group<br>Solinganallur, Chennai |
| 5 | Mrs.SelvamaniGanesan (Alumni)<br>Retired Staff | Dr. Dharmambal Government Polytechnic College for Women<br>Chennai-113 |
| 6 | Mrs.S.Kalavathi(Alumni)<br>Principal | ATDC , chennai |
| 7 | Ms.A.Monika<br>Fashion Designer | Mala Fashions<br>Chennai-41 |
| 8 | Mr.Saikishore<br>(Entrepreneur) | Gajalakshmi Narrow Fab<br>Chennai |

**Dr. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN**
**THARAMANI CHENNAI-600 113**

**Apex Body meeting held on: 20/12/2024**
Internal and External Members Present:

| SL NO | NAME & ADDRESS OF THE EXPERT | NAME OF THE INSTITUTION |
|---|---|---|
| **INTERNAL MEMBERS** | | |
| 1 | Dr.A.R.Saravanan<br>HOD I/C / Dept of Garment Technology | Dr. Dharmambal Government Polytechnic College For Women Chennai-113 |
| 2 | B.Yuvarani<br>Consolidated Lecturer<br>Department of Garment Technology | Dr. Dharmambal Government Polytechnic College For Women Chennai-113 |
| 3 | A.Abinaya<br>Consolidated Lecturer<br>Department of Garment Technology | Dr. Dharmambal Government Polytechnic College For Women Chennai-113 |
| 4 | A.Preethi<br>Consolidated Lecturer<br>Department of Garment Technology | Dr. Dharmambal Government Polytechnic College For Women Chennai-113 |
| **EXTERNAL MEMBERS** | | |
| 1 | Dr.M.Murugesan<br>Professor,<br>Department of Textile Technology | Anna University<br>Chennai-25 |
| 2 | Dr.R.Rathinamoorthy<br>Associate professor(senior) | Fashion Institute of technology<br>VIT,Chennai-127 |
| 3 | Mr.peetamberkinger<br>CEO | Krishna Creations<br>Chennai-44 |
| 4 | Mr.P.Rajesh<br>Merchandiser | Win India Exports<br>Chennai |
| 5 | Ms.P.K.Janani (Alumni)<br>Industrial Engineer-Trainee | Jay Jay Mills (Garment Division)<br>Erode |

| | | |
|---|---|---|
| 6 | Ms.R.Janani (Alumni)<br>CAD Designer | Mokksha Designs<br>Pattravakkam,Chennai |
| 7 | Mrs.G.Hemalatha<br>Founder | Good Luck Fashions<br>Chennai |
| 8 | Mr.MohamedAbrar<br>Proprietor | Venus Marketing Services<br>Chennai |

# Table of Contents

## 1. Preamble

Dr. Dharmambal Government Polytechnic College for Women, Chennai-113, was established in 1962. As many as 10 (Ten) diploma programmes are offered in this polytechnic college. Semester system is followed during the entire course of study. This institution contributes significantly to the state's talent pipeline, and it was initially started with the primary objective of producing women skilled technicians to support mass industrialization.

Today there is an evolving manpower need, as TN's economy is beginning to focus on advanced technology and knowledge-based industries, rather than low-cost labor-intensive manufacturing. To produce future-ready talent and bridge the industry-academia gap, it is only pertinent to rethink the existing curriculum and revamp the syllabi.

The institution envisions reimagining and redefining the diploma programme to make it relevant for the ever-changing economic, industrial, and regulatory landscapes of the new era. The current dynamic ecosystem poses challenges that span across fields and demands multidisciplinary knowledge to address them. This has propelled the need for higher technical education to cover diverse areas such as STEM, arts, humanities, design, innovation, business, and entrepreneurship; hence the programme is modelled to incorporate all these areas.

The challenges of the 21st century demand young women diploma Engineers/Architects to have a command over the ever- changing body of technical knowledge along with an array of personal, interpersonal, and system-building knowledge that will prepare them with skills & competencies to address the modern-day challenges by building a new generation of machines, methods and materials.

The rapid adoption of Advanced Technologies is changing the nature of work today. Technologies such as advanced robotics, knowledge work automation, the internet of things, cloud computing, autonomous & near-autonomous vehicles, next-generation genomics, energy storage, 3D printing, advanced materials, additive manufacturing and renewable energy are changing industries in an unprecedented manner. These technologies are making companies become leaner and more productive and also pave the way for future technologies to be invented. This makes companies constantly look for to be invented. This makes companies constantly look for talent that can fit into

into the dynamic technological environment.

The objective of the new applied-to-learn track is to train a pool of graduates who are technically competent, professionally proficient and socially responsible in quality management, regulatory compliance and manufacturing processes in the respective sectors. This is followed by an iterative process of developing the learning outcomes, aligning the learning outcomes, designing the learning activities and applying the assessment methods of the modules offered on this track in an integrated manner to meet the industry's needs.

The programme is offered through the core, electives, certifications, capstone projects and other ways to enable a student's transformation. Each domain is carefully crafted to cater to the diversified needs, dynamic contexts, and differentiated expectations in a learner-centric environment. The crux of this programme lies in the way experiential learning, divergent thinking, problem-solving creativity and so on are integrated into one.

## 1(a)-Objective

To retain and further strengthen the quality of the human capital produced by our institution at the diploma level as the force behind the state's social, cultural, and economic pre- eminence.

## 1(b)-Admission

Candidates seeking admission to the first semester of the Diploma programme should have passed the SSLC Examinations prescribed by the Government of Tamil Nadu or any examination of any other board or authority recognized by the Board of Secondary Education as equivalent thereto with eligibility for Higher Secondary Education in Tamil Nadu.

## 1(c)-Lateral Entry Admission:

**Engineering and Technology / Commercial Practice**

The candidates who possess a pass is the HSC (Academic) or equivalent prescribed in the Higher Secondary Schools in Tamil Nadu affiliated to the Tamil Nadu Higher Secondary Board, with a pass in at least three of the following subjects: Physics / Chemistry / Mathematics / Computer Science / Electronics Information Technology / Biology / Informatics Practices / Biotechnology / Technical Vocational Subjects / Agriculture / Engineering Graphics / Business Studies / Entrepreneurship are eligible to apply for

Lateral entry admission to the third semester of Diploma programmes, as per the rules fixed by the Government of Tamil Nadu. (or) the candidates who possess a pass in 2-year ITI with appropriate grade or equivalent examination.

## 1(d)-Age limit:

There is no age limit prescribed for admissions to Diploma programmes.

## 1(e)-Medium of Instruction:

The medium of instruction is English for all courses, examinations, seminar presentations and project work reports, except for the programmes offered in Tamil Medium.

# 2. Structure of the Programme

The redesigning and revamp of the Diploma programme in this institution will focus on improving the employability and entrepreneurship outcomes of the campuses through skill centric and industry allied curriculum and syllabi. The following structure is being proposed for the new curriculum.

## 2(a)-Pathways for Progressive Learning Experience

The programme offers 4 different pathways for progressive learning. Entrepreneurs, Higher Education, Technocrats and Technologists have different pathways from which the students will pick one of these pathways that they find fascinating and work to ameliorate their knowledge base over the desired pathway.

There are courses offered for the specific pathways in their final semesters that will aid them to choose their career in their specific pathways. Pathway direction for the students can be assisted by faculty mentors from time to time.

- **Entrepreneur:**
  Students who aspire to transform opportunity into reality, create social and economic value for themselves and for others.

- **Higher Education:**
  Students with aspirations of pursuing higher education to acquire higher-order skills and competencies in the domain of interest.

- **Technocrats:**
  Students who aspire to acquire mastery of technical tools and methods to manage people who manage the processes.
- **Technologists:**
  Students who aspire to gain leadership in a particular discipline / technology to evolve into Problem Solvers & Innovators.

## 2(b)-Various Dimensions for Transformation

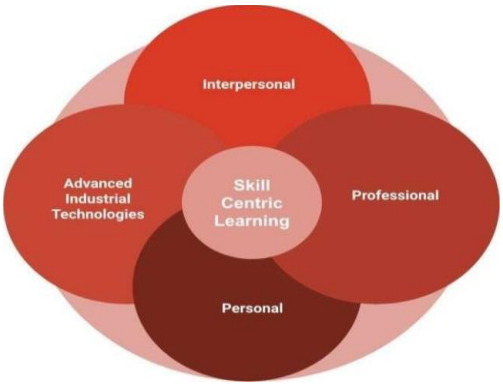
Today's world is rapidly changing and increasingly interconnected, and the future talent pipeline to be sourced from the campuses needs to adapt to changes that will keep accelerating in the future. The new diploma programme focuses on equipping learners with skills that will enable them to cope with the foreseeable social and economic changes and manage often unpredictable realities. The various dimensions of transformation are designed to nurture skills towards holistic human development. Such skills are acquired not only on formal courses but in a variety of contexts throughout the academic curriculum.

Four broad dimensions of skills to ensure holistic human development:

(1) Personal, (2) Professional, (3) Interpersonal and (4) Advanced Industrial Technologies skills and competencies.

## 2 (c) Integrated Curriculum

An integrated curriculum is based on learning experiences that lead to the acquisition of disciplinary knowledge and its application in a professional environment interwoven with the teaching of personal, interpersonal, and professional skills, and ways in which the integration of emerging technological skills and multidisciplinary connections are made.



**Course Levels**

A course is a component (a paper/subject) of a programme. All the courses need not carry the same weightage. The course should have defined Course Objectives and Course Outcomes. A course may be designed to involve lectures/tutorials/laboratory work/project work/Internships/seminars or a combination of these, to effectively meet the teaching and learning needs and the credits may be assigned suitably.

The programmes consist of various levels of courses, structured as Foundation (F), Concentration (C) and the Specialization(S) courses for a greater understanding of the core concepts of the fundamentals in the initial year of learning and thereby moving towards the specialization are as by choice.

- **Foundation (F) | Year I**: Foundation courses build strong fundamental requirements across mathematics, statistics, science, engineering domain, advanced technologies, social sciences and humanities.

- **Concentration (C) | Year II:** Concentration courses shall deliver domain-specific knowledge and technological skills. They are offered as core and electives to provide the requisite mandatory working knowledge of the chosen domain.

- **Specialisation (S) | Year III:** Specialization courses are focused on a particular area of study leading to a specific pathway. Some of the courses can also be beyond the programme, leading to skills and competencies in emerging technology domains.

**Course Types**

Every diploma programme shall have a curriculum with syllabi comprising Theory, Practicum and Practical courses with well-defined Programme Outcomes (PO) as per the outcome Based Education (OBE) model. The content of each course is designed bassed on the intended Course Outcomes (CO). Every programme shall have a distinct curriculum with syllabi consisting of courses broadly categorized under:

**Core (C)/Elective (E)** - Core / Elective courses are offered to students of a particular programme to gain basic and specialized knowledge/skills in a selected field. Core courses are mandatory to complete the programme and shall not be exempted or provided with credit equivalence. Elective Courses may be grouped

Into different domains / streams / specializations to enable the students to have at least 3 to 5 options. Based on elective courses may be offered.

- **Practicum (P) -** Integrated course taught in a hands-on learning environment. This may be offered wherever theoretical concepts are to be learned simultaneously with relevant practical sessions. Such courses shall be offered only if sufficient laboratory facilities are available to conduct such courses, and both laboratory and theory components shall be considered for continuous assessment. Final evaluation based on the proportion of the credit awarded for the respective component.

- **Lab (L) -**Practical Courses taught in a designated lab. This may be offered when conceptual learning has to be augmented by practical experiments and also to bring focus on acquiring skills through doing. Such courses shall be offered only if sufficient laboratory facilities are available to conduct such courses.

- **Field Study (FS) -** Offered as a special / curriculum-enriching component to understand certain practical issues / work practices / hands-on training / immersion project / market survey. Field Study, if it forms a part of the course, then credit(s) shall be assigned accordingly. Otherwise, such course(s) may be specified in the Grade Sheet without grades.

- **Certification (Cer)** - Industry-driven course shall be offered, jointly with an industry that would result in learning the emerging trends / employment potential topics / solving real- time problems. The contents of the course shall be jointly designed by an industry expert and a suitable faculty member, with relevant assessment and evaluation. Hybrid / Online learning options shall be available. Students are permitted to complete these courses through MOOCs / Professional Certification and credit equivalence (Programme Elective or Open Elective), to maximum of 6 credits.

- **In-House Projects (J)-**Capstone Project shall be offered once a student completes > 95% of the core courses related to the Diploma programme. The Capstone Project is expected to involve concepts from fundamentals to recent developments and may be restricted to one domain or multi-

domains / multi-disciplines. Capstone Project shall be offered only after completing all the fundamental courses and offered during the final semester. It shall also focus on Environment, Society, Sustainability, Entrepreneurship and Project Management. In the case of a multidisciplinary project, a suitable co-supervisor shall be opted for by the students from the relevant Department for successful completion. Capstone Project may be offered in phases, i.e. Phase I and Phase II (single topic or two different topics). Students are encouraged to submit the soft copy of the complete report for evaluation and abstract in the printed form during the final presentation.

- **Fellowship (Fs) -** Upto 6 months for professional and / or academic development offered by an external organization identified and nominated by DoTE in India or abroad. Students shall be shortlisted for the same under sponsorship / scholarship by competent authorities and approved by the Head of the Institution.

- **Boot Camp (B) -**2 to 5 days training camps for imparting knowledge and skills in emerging areas. It may be offered jointly by a team of faculty members /external experts with course content that includes interdisciplinary topics from different domains, thereby enhancing the Professional Knowledge & Skills of the students. However, such courses shall not have any significant repetition of other courses offered in that particular diploma programme. If a student fails to complete such a course on the first attempt or lacks attendance requirements, they may opt for a different course in the subsequent semester and meet the minimum credit requirements of the programme or may re-do the same course whenever offered.

- **Hackathon (H) -** 3 to 6 days of problem-solving and building a solution for real-world problems in an intensive / accelerated manner. It may be considered as one of the course types in situations where multiple solutions are expected to a problem or multiple problems are expected to be solved, in a particular industry / research laboratory. Such a course shall be essentially a Practicum and may be offered in a workshop mode. Credit allocation, Assessment and Evaluation shall be based on the respective syllabi designed for the same.

- **Internship (I) -** Internship is offered as a credit course with the Industry / Research Laboratories / other Universities in India or abroad. Credit allocation, Assessment and Evaluation shall be based on the procedures given. Every student is encouraged to gain Credits through an Internship.

- **Audit Courses** are optionally registered by a student to understand certain basic / advanced concepts in his / her own discipline or other disciplines offered by the college. In this case, if a student fails in an Audit Course, it is not mandatory to repeat that course, and these courses shall not be considered for eligibility for awarding the Diploma. Grades shall be awarded as "Completed".

**2 (d) Definition of Credit:** Credit is a kind of weight age given to the contact periods* to teach the prescribed syllabus, which is in a modular form. The credit distributions for theory, laboratory and project courses are mentioned in the table below.

| | |
|---|---|
| Theory(L) - 15 periods | 1 credit |
| Tutorial(T) - 15 periods | 1 credit |
| Practical(P) – 30periods | 1 credit |
| Internship(I) - 45 periods | 1 credit |
| Project(J) - 30periods | 1 credit |

*1 period = 50 minutes of class

## 2(e) - Curriculum Structure

Every programme shall have a distinct curriculum with syllabi consisting of courses broadly categorized under Basic Sciences, Basic Engineering, Professional Core, Programme Electives, Open Electives, and Certification Courses. Credit distribution for various categories of the courses will follow the guidelines given below, subject to minor variations, as may be suggested by the respective Board of Studies.

| Category | Credit Range |
|---|---|
| Humanities and Social Sciences | 11 |
| Basic Science Courses | 17-20 |
| Engineering Sciences | 6-13 |
| Programme Core | 40-51 |
| Programme Elective | 9-12 |
| Open Elective | 10 |
| Industrial Training / Project Work | 14 |
| Audit Course | 0 |

| Integrated Learning Experiences | |
|---|---|
| Induction Programme | Non-Credits Course |
| I&E/Club Activity/Community Initiatives | Non-Credits Course |
| Shop Floor Immersion | Non-Credits Course |
| Health &Wellness | Non-Credits Course |
| Student - Led Initiative | Non-Credits Course |
| Special Interest Groups (Placement Training) | Non-Credits Course |
| Emerging Technology Seminars | Non-Credits Course |

Each programme will consist of Basic Science (BS), Engineering Sciences (ES), Professional Core (PC), Programme Electives (PE), Open Electives (OE), Audit Courses and In-House Project / Internships / Fellowships.

1. **Basic Sciences:** This course is common to all programmes to develop fundamental knowledge of science and mathematics; it also enhances the reasoning and analytical skills amongst students.

2. **Engineering Sciences:** Engineering Science shall create awareness of different specializations of engineering studies. The goal of these courses is to create engineers of tomorrow, who possess the knowledge of all disciplines and can apply their interdisciplinary knowledge in every aspect. It could be any branch of engineering - Civil, Computer Science and Engineering, Electrical, Mechanical, etc.

3. **Professional Core:** This includes core courses designed in the programme, which are major courses of the discipline, are required to attain desired outcomes and to ignite critical thinking skills amongst students.

4. **Programme Elective:** This includes elective courses that can be chosen from a pool of courses which may be very specific or specialized or advanced or supportive to the programme of study or nurtures the student's proficiency / skill.

5. **Open Elective:** An elective course chosen generally from another discipline / subject, to seek interdisciplinary exposure is called an open elective. While choosing the electives, students shall ensure that they do not opt for courses with syllabus contents which are similar to that of their departmental core / elective courses.

6. **Audit Courses:** An audit course is one in which the student attends classes, does the necessary assignments and takes exams. The Institute encourages students towards extra learning by auditing for the additional number of courses. The results of audit courses shall not be considered for the prescribed “carry over courses” limit.

7. Health & Wellness: This aims to teach students about various aspects of health and fitness, including exercise, nutrition, yoga, mental health, and substance awareness.

8. **Humanities and Social Science:** Basic courses offered across language, communication and social science subjects, including any management skills and shall be categorized as Humanities and Social Science.

9. **In-House Project / Internships / Fellowships:** Every student must do one major project in the Final year of their programme. Students can do their major project in Industry or R&D Lab or in-house or a combination of any two or a fellowship in a reputed organization.

## 2 (f)- Outcome-Based Education

Outcome-based education aims to create a clear expectation of results that students must achieve. Here, the outcome includes skills, knowledge and attitude. Outcomes inform both the way students are evaluated on a course and the way a course will be organised. Effective learning outcomes are student-centred, measurable, concise, meaningful, achievable and outcome-based (rather than task- based). To identify achievable learning goals and develop plans to meet them, revised Bloom's Taxonomy framework is introduced to allow educators to assess learning on an ongoing basis, encouraging students to reflect on their progress.

All the programmes offered should adopt Outcome Based Education (OBE) in order to enhance the opportunities for the students with respect to their career track (through a student-centric approach). The Programme Outcomes (POs) of the respective programme of study are achieved through the Course Outcomes (COs). Necessary remedial actions are taken at regular intervals to ensure the proper attainment of outcomes by the students. The evaluation procedures outlined are to be followed by the departments before arriving at the data for the outcome attainment analysis.

1. OBE is an approach to education in which the decisions about the curriculum instruction and assessment are driven by the learning outcomes that the students should display at the end of a programme or course.

2. The vision and mission statements are the guiding forces behind an institute / department. The vision statement provides insight into what the department focuses to achieve or become in the future. The mission statement communicates the process involved in achieving the vision. An effective vision statement should be concise, unambiguous, futuristic, and realistic, aspirational, and inspirational. Furthermore, it shouldn't be generic but rather focus on outcomes specific to the department. A good mission statement should focus on the ways to achieve the vision of the department. It should be brief, clear, informative, simple, and direct.

3. Graduate Attributes (GAs) represent the standard abilities to be looked for in a graduate of any diploma programme. They form the Programme Outcomes (POs) that reflect the skills, knowledge, and abilities of diploma graduates regardless of the field of study. At the same time, Pos are necessarily independent of disciplinary knowledge; rather, these qualities may be developed in various disciplinary contexts. POs are composite statements made-up of multiple aspects

relevant to a broader outcome like domain knowledge, design, analysis, etc. They also ensure the holistic development of the students by covering aspects like communication, ethics, project management, etc.,

4. Assessments are designed to measure the POs, and POs give useful guidance at the programme level for the curriculum design, delivery, and assessment of student learning. However, they represent fairly high-level generic goals that are not directly measurable. Real observability and measurability of the POs at the course level are very difficult. To connect high-level learning outcomes (POs) with course content, course outcomes and assessments are designed, they are necessary to bring further clarity and specificity to the programme outcomes.

5. For each PO, the skills and competencies implied generally require a different assessment methodology. This helps us to create a shared understanding of the competencies that students want to achieve.

6. Course Outcomes (COs) are specific, measurable statements that help the learners to understand the capabilities to be attained by them at the end of the course. COs should highlight what the learner can attain by studying the course and undergoing the evaluation of outcomes prepared for the same. It includes the knowledge to be gained, skills to be acquired and the application of the same towards solving problems specific to the context. The topics for the course should be decided based on the course outcomes in such a way that the specific topics alone do not map to the specific course outcomes.

7. Revised Bloom's Taxonomy for Assessment Design: It attempts to divide learning into three types of domains (cognitive. affective and behavioural) and then defines the level of performance for each domain. Conscious efforts to map the curriculum and assessment to these levels can help the programmes to aim for higher-level abilities which go beyond remembering or understanding, and require application, and analysis, evaluation or creation.

8. CO-PO course articulation matrix should indicate the correlation between the CO and PO based on the extent to which the CO contributes to the PO. This is mapped at three levels 1, 2 or 3 representing low, medium and high correlation respectively. This also ensures that every PO is covered across the courses offered as a part of the programme. The matrix will be adopted for all the courses run by the department.

9. The attainment of COs of any course can be assessed from the performance of the students through continuous and final assessments. The goal of continuous assessment is to understand / realise the critical information about student comprehension throughout the learning process and provides an opportunity for

the facilitator to improve their pedagogical approach and for students to improve learning out comes. The goal of the final assessment is to evaluate student learning outcomes at the end of the course instruction. According to the new regulation, 40% weight age is for the continuous assessment, and 60% weight age is for the final assessment.

10. The PO assessment should be carried out by both direct and indirect assessment. The assessment can be estimated by giving 80% weightage to direct assessment and 20% weightage to indirect assessment. Direct assessment is purely based on CO attainment through the course Assessment Method, and indirect assessment is through the feedback taken from the relevant stakeholders of the system. Indirect assessment can be done in the form of a graduate exit survey where the student is required to answer a questionnaire that reflects their satisfaction with respect to the attainment of POs. The questionnaire should be carefully designed as not to have the POs themselves as direct questions.

11. Each PO attainment corresponding to a specific course can be determined from the attainment values obtained for each course outcome related to that PO and the CO-PO mapping values. The threshold value of 60%, shall be set for the POs and the same can be modified with due approval of the Authorities.

12. The gap identified in the attainment of the Cos and Pos can be addressed by organizing talks from the industry, bridge courses, organising workshops, arranging field visits (industrial visits) with respect to the course, improving the student performance under the innovative teaching- learning process of the institution, etc.,

## 3. Academic and Curriculum Flexibility

Academic and curriculum flexibility enhance a student's learning experience by providing various options such as adjusting the timeframe of courses, horizontal mobility, interdisciplinary opportunities, and other benefits through curricular transactions.

The types of academic and curriculum flexibilities are listed below.

1. Break of Study
2. Course Add / Drop
3. Course Withdrawal
4. Credit Equivalence
5. Credit Transfer
6. Examination Withdrawal
7. Fast-Track Option
8. Flexi-Credit System
9. Bridge Course

### 3 (a) - Break of Study

If a student intends to take a break / temporarily discontinue the programme in the middle of a semester / year, during the period of study, for valid reasons (such as Internships, accident or hospitalization due to prolonged ill health) and wishes to re-join the programme in the next academic year, student shall intimate stating the reasons.

Break of study is permitted only once during the entire period of the diploma programme for a maximum period of one year. The student is permitted to re-join the programme after the break and shall be governed by the rules and regulations in force, at the time of re-joining. The break shall be notified in the grade sheet. If a student is detained for want (shortage) of attendance or disciplinary issues, the period spent in that semester shall not be considered a permitted Break of Study.

### 3(b)- Course Add / Drop

Subject to resource availability, a student has the option to add additional courses within a week after the regular semester begins. Furthermore, a student can drop registered courses before completing the first Continuous Assessment (CA) test in a semester, limited to a maximum of 6 credits. These dropped courses will not be considered as arrears, but the student will need to retake them when they are offered by the institution. In order to carry out these actions, students must obtain permission from the head of the institution, who will then communicate with the Chairman, Autonomous Examination.

### 3(c) –Credit Equivalence

It is an option that can be exercised by a student under the following circumstances:

(i) Credits earned through Extra and Co-Curricular Activities (only against programme elective / open elective – Global)

(ii) Credits earned through online courses (only against Open Electives-Technical and Global and programme electives)

(iii) Credits accumulated through Capsule courses, One-Credit courses

Such courses and credits earned shall be presented in the Board comprising the Principal, the Head of the department and committee member along with the Equivalent Credit(s).

**3 (d) – Credit Transfer**

Credits earned by a student through Credit Equivalence (as said above) and credits earned by attending and completing the courses successfully, offered by other approved Universities / Institutions / Professional Bodies (only against Technical and Global Open Electives and programme electives) shall be considered as "Transferred Credits" (specified in the Grade Sheet) and considered for the calculation of CGPA.

**3 (e)-Examination Withdrawal**

A student may be permitted to withdraw from appearing for the end semester examination in any course or courses for valid reasons (medically unfit / unexpected family situations / sports approved by the Physical Director / HOD / Principal / DoTE). This privilege can be availed ONLY ONCE during the entire programme. Valid documents, for medically unfit / unexpected family situations, shall be submitted by the student within seven days before the commencement of the examination in that course or courses and also recommended by the Head of the Department, approved by the Head of the Institution / Chairman with intimation to DoTE.

Special cases under extraordinary conditions will be considered on the merit of the case if any student applies for withdrawal, notwithstanding the requirement of mandatory seven days' notice. Those students who withdraw from any course or courses during the programme are eligible for the award of first class and first class with distinction as per the requirement in this regard. Withdrawal is permitted for the end semester examinations in the final semester, only if the period of study, the student concerned, does not exceed 1 semester after the regular period of 3 years so that his eligibility for distinction is considered. The final approval for withdrawal will depend on the merit of the case and will be decided by the Head of the Institution.

**3 (f) – Fast-Track**

This option enables a student to complete the minimum credit requirements of a programme, to enable

(i) Her own entrepreneurial venture (start-up),

(ii) An internship in industry / research laboratories / fellowship.

This option is currently available for students to complete the two elective papers offered in Semester 6 in advance [Recommended to be completed in Semester 4 or 5] to avail the last semester for internship / fellowship / do his own start-up / enterprise /

project outside the campus. However, such an option shall not be exercised to pursue higher education elsewhere. The duration of the study shall remain the same as per the prescribed syllabi for the fast-track option also.

**3 (g) – Flexi – Credit System**

It offers a student to earn additional credits than that specified (minimum credits) to a programme for which student has enrolled. Such additional credits earned shall be mentioned in the Grade Sheet, as 'Additional Credits Earned'. Credits earned through Flexi-Credit System shall not be considered for the calculation of SGPA or CGPA.

**3 (h) - Bridge Course**

This is specifically designed for Lateral Entry (LE) students who join the Diploma Programme in 2nd year (3rd Semester). This course will be a 40 period in which the faculty gives the gist of important topics that the LE students may have missed in the first year of the programme specific to the department concerned.

## 4. Integrated Learning Experience

Integrated learning experiences encompass activities that foster the acquisition of disciplinary knowledge, personal and interpersonal skills, and technological proficiency. These experiences promote active engagement in meaningful real-life situations and establish connections between different curricula, co-curricular activities, and extracurricular pursuits across diverse disciplines. Integrated learning experiences are concatenated in the academic curriculum for each semester enabling the students to learn, adapt and transform through experiential learning pedagogy.

This approach enriches the curriculum by incorporating dynamic and up-to-date co-curricular courses and activities that may not be directly aligned with the students' programme of study. It prioritizes the holistic development of students, fostering their growth and well roundedness.

1. Innovation & Entrepreneurship
2. Peer to Peer Learning
3. Growth Lab
4. Shop Floor Immersion
5. Health & Wellness

6. Induction Programme
7. Special Interest Groups
8. Club Activity
9. Community Initiatives
10. Emerging Technology Seminars
11. Student Led Initiative
12. Industry-Specific Training

**4 (a) - Innovation Track**

They are offered to the student, to bring awareness on start-up / entrepreneurial ventures through a series of courses / activities. Based on the inputs gained, students can select their electives, specialization, capstone project and deferred placement option.

**4 (b) Peer to Peer Learning**

P2P learning involves interactions between students from senior classes, leading to valuable additions and deepening the understanding of certain concepts. This may happen as a part of a scheduled time- table or after instructional hours in a day, by Peers (from senior classes), leading to value addition, enriching the understanding of certain concepts and implementing practically (developing models, prototypes, proofs-of-concept) for learning satisfaction, participating in competitions / competitive examinations. These efforts are expected to improve teamwork, communication, and understanding of societal needs, project management and life-long learning activities.

**4 (c) - Growth Lab**

Growth lab plays an integral role to stimulate and develop a student's personality & skills in various fields of life. It also teaches about a growth mind-set to tackle real-world problems and life challenges. It brings self-confidence and empowerment to transform the inter-personality of the student. The process brings the progression to achieve higher goals in life.

**4(d)-Shop Floor Immersion**

This introduces new ideas, inspires participants to further explore them on their own or may illustrate and promote actual process practice through seminars, workshops, Industrial Visits etc that result in learning hands-on skills as it gives the

students an opportunity to try out new methods and fail in a safe environment.

### 4 (e) – Induction Programme

It shall be organised to all the students, admitted into first year, to offer the course on Universal Human Value, awareness sessions on campus facilities, academic regulation and curriculum, highlight the culture, values and responsibilities of an Engineer in the Society and the Nation as a whole, besides Institutional infrastructure and facilities and student support systems. Awareness of domain-specific requirements is to be organised in the second year of induction.

### 4 (f) – Special Interest Groups

The training is especially based on the placements on campus. Concepts required for aptitude tests, group discussions, resume building; personal interviews, industry-specific orientation and Business Case Competition are taught to the students.

### 4 (g) – Club Activity

A small community that attracts people who share the same interests such as music, arts, or sports working on a common goal to develop a sense of unity and teamwork, learning how to work with others in reaching the same goals

### 4 (h) - Community Initiatives

Community Initiatives involve activities that aim to define values, cultivate empathy, foster social skills, and enhance students' understanding of their community. Through these initiatives, students have the opportunity to build meaningful relationships, gain insights into different perspectives, and engage with diverse cultures. This engagement enables the development of crucial interpersonal skills.

### 4 (i)- Emerging Technology Seminars

A technical presentation made by the students & the cross-functional Members of the Faculty to showcase the technology adopted in the industry. This collaborative teaching-learning session between the student & the faculty results in a better understanding of the use of technology in various applications.

**4(j)-Student-Led Initiative**

A student-led session will help students to acquire and share knowledge on emerging industrial technologies that will comprehend & introduce the emerging technology to the students. This includes student-led Tech talk series & other initiatives.

**4. (k)-Industry Specific Training**

Gaining information about the industry's way of working and understanding the process. This enables one to understand the various non-technical skills & competencies required for the transformation from a student to a professional.

## 5. Duration of the Programme

A student is ordinarily expected to complete the Diploma programme in 6 semesters (for SSLC students) and four semesters (for Lateral Entry students) but in any case, not more than 12 Semesters for SSLC (or equivalent) students and not more than 10 semesters for Lateral Entry students.

- Each semester shall normally consist of 16 weeks with periods of 50 minutes each. The Head of the Institution shall ensure that every faculty imparts instruction as per the number of periods specified in the syllabus and that the faculty teaches the full content of the specified syllabus for the course being taught.

- The Head of the Institution may conduct additional classes for improvement, special coaching, conduct model tests etc., over and above the specified periods.

- The End Semester Examination will normally follow immediately after the last working day of the semester as per the academic schedule prescribed from time to time.

- The total period for completion of the programme from the commencement of the first semester to which the student was admitted shall not exceed the maximum period specified irrespective of the period of break of study in order

That student may be eligible for the award of the diploma. The minimum and maximum period of study shall be:

| Diploma programme | Min. Period | Max. Period |
|---|---|---|
| Full Time | 3 Years | 6 Years |
| Full Time [Lateral Entry] | 2 Years | 5 Years |

## 6. Attendance Requirements

A student who has fulfilled the following conditions shall be deemed to have satisfied the requirements for completion of a semester.

- Ideally every student is expected to attend all classes of all the courses and secure 100% attendance.
- However, in order to make provision for certain unavoidable reasons such as medical / participation in sports, the student is expected to attend at least 75% of the classes.

- Therefore, the student shall secure not less than 75% (after rounding off to the nearest integer) of overall attendance for each semester.

- However, a student who secures overall attendance between 65% and 74% in the current semester due to medical reasons (prolonged hospitalization / accident / specific illness) / participation in sports events may be permitted to appear for the current semester examinations, subject to the condition that the student shall submit the medical certificate/ sports participation certificate attested by the Head of the Institution.
- Students who secure less than 65% overall attendance shall not be permitted to write the end semester examination and not permitted to move to the next semester. They are required to repeat the incomplete semester in the next academic year, as per the norms prescribed.
- Students who have earned more than 50% attendance but fall short of the basic requirement of 65% attendance (in all subjects of the current semester put together) shall be permitted to proceed to the next semester, only one time during

the course of study by considering all the papers in that current semester as absent and to complete the programme of study. For such students by default, the classification of class shall be second class on successful passing of course.

## 7. Class Committee

- Every class shall have a class committee consisting of faculty of the class concerned, student representatives and a chairperson, who is not teaching the class. It is like the 'Quality Circle' (more commonly used in industries) with the overall goal of improving the teaching learning process. The functions of the class committee include:

- Solving problems experienced by students in the classroom and in the laboratories. Clarifying the regulations of the diploma programme and the details of rules therein.

- In forming the student representatives, the academic schedule including the dates of assessments and the syllabus coverage for each assessment.

- Informing the student representatives, the details of regulations regarding weightage used for each assessment. In the case of practical courses (laboratory / drawing / project work / seminar etc.) the breakup of marks for each experiment /exercise /module of work, should be clearly discussed in the class committee meeting and informed to the students.

- Analyzing the performance of the students of the class after each test and finding the ways and means of solving problems, if any.

- Identifying the slow learners, if any, and requesting the faculty concerned to provide some additional help or guidance or coaching to such students.

- The class committee for a class under a particular branch is normally constituted by the Head of the Department. However, if the students of different branches are mixed in a class (like the first semester which is generally common to all branches), the class committee is to be constituted by the Head of the Institution.

- The class committee shall be constituted within the first week of each semester. At least 4 student representatives (usually2 boys and 2 girls) shall be included in the class committee, covering all the elective courses.

- The chairperson of the class committee may invite the class adviser(s) and the Head of the Department to the class committee meeting.

- The Head of the Institution may participate in any class committee meeting of the institution.

- The chairperson is required to prepare the minutes of every meeting, submit the same to the Head of the Institution within two days of the meeting and arrange to circulate it among the students and faculty concerned. If there are some points in the minutes requiring action by the management, the same shall be brought to the notice of the Head of the Institution.

- The first meeting of the class committee shall be held within one week from the date of commencement of the semester, in order to inform the students about the nature and weightage of assessments within the framework of the regulations.

- Two or three subsequent meetings may be held in a semester at suitable intervals.

- During these meetings the student members representing the entire class, shall meaningfully interact and express the opinions and suggestions of the other students of the class in order to improve the effectiveness of the teaching-learning process.

**7(a)-Course Committee for Common Courses**

Each common theory course offered to more than one discipline or group, shall have a "Course Committee" comprising all the faculty teaching the common course with one of them nominated as the course coordinator. The nomination of the course coordinator shall be made by the Head of the Department /Head of the Institution depending upon whether all the faculty teaching the common course belong to a single department or to several departments. The 'Course Committee' shall meet in order to arrive at a common scheme of evaluation for the test and shall ensure a uniform evaluation of the tests. Wherever feasible, the Course Committee may also prepare a common question paper for the internal assessment test(s).

## 8. Assessment and Examination

- Performance in each course of study shall be evaluated for a maximum of 100 marks based on one of the following:

### 8. (a) Continuous Assessment [40%]:

- Every subject shall have its own framework for continuous assessment designed by the course committee and approved by the academic board as part of the curriculum. The continuous assessment shall be awarded as per the assessment proposed in respective syllabi.

- For one credit courses and Advanced Skill Certification programmes, no end semester examination shall be conducted, and final grade will be awarded based on continuous assessment for 100 marks.
- Continuous assessment shall be carried out for 40 marks as mentioned below.

**TABLE FOR THEORY PAPERS AND PRACTICUM PAPERS WITH END EXAMINATION THEORY**

| ASSESSMENT FOR THEORY PAPERS | | | | |
|---|---|---|---|---|
| **Assessment** | **Duration** | **Portions covered** | **Mark allocation** | **Reduced to** |
| CAT 1 | 2Periods | UNITS I & II | 30Marks<br>1Mark Questions (10) ->10Marks<br>10 Mark Questions (2outof 4) ->20Marks | 15 Marks |
| CAT 2 | 2Periods | UNITS III & IV | 30Marks<br>1Mark Questions (10) ->10Marks<br>10 Mark Questions (2 out of 4) ->20Marks | 15 Marks |
| CAT 3<br>(OR)<br>SEMINAR | 1Period | UNIT V | 15 Marks<br>1 Mark Questions (5) -> 5Marks<br>10 Mark Questions (1outof 2) ->10Marks | 10 Marks |
| | During the semester | Subject/General | | |
| | | | **Total** | **40 Marks** |

| ASSESSMENT FOR PRACTICUM PAPERS WITH END EXAMINATION THEORY | | | | |
|---|---|---|---|---|
| **Assessment** | **Duration** | **Portions covered** | **Mark allocation** | **Reduced to** |
| CAT 1 | 2 Periods | UNITS I& II | 30 Marks<br>1 Mark Questions(10) ->10 Marks<br>10 Mark Questions (2 out of 4) ->20 Marks | 15 Marks |
| | | UNITS I & II and Activity | 30 Marks<br>Theory ->18 Marks Activity ->12 Marks | |
| CAT 2 | 2 Periods | UNIT III & IV | 30 Marks<br>1Mark Questions (10) ->10Marks<br>10 Mark Questions (2outof4) ->20Marks | 15 Marks |
| | | UNITS III & IV And Activity | 30Marks<br>Theory->18 Marks Activity->12Marks | |
| PRACTICALS (OR) CAT 3 | 2Periods | All Experiments | 60 Marks | 10Marks |
| | 1Period | UNIT V and Activity | 15Marks<br>Theory ->10Marks Activity->5Marks | |
| | | | **Total** | **40 Marks** |

- For practical papers and practicum papers with end exam practicals, continuous assessment shall be carried out for 40 marks. Each department is given flexibility to determine and implement its own assessment pattern for 40 marks based on the nature and requirements of their respective courses.

| ASSESSMENT FOR PRACTICAL PAPERS WITH END EXAMINATION PRACTICALS | | | | | |
|---|---|---|---|---|---|
| **TYPE OF ASSESSMENT** | **DURATION** | **MARKS** | **CONVERTED TO** | **MARKS** | **REMARKS** |
| OBSERVATION | - | - | **20 MARKS** | **20** | - |
| RECORD | - | - | **20 MARKS** | **20** | - |
| TOTAL | | | | **40** | |

| ASSESSMENT FOR PRACTICUM PAPERS (End Exam Practical) | | | | | |
|---|---|---|---|---|---|
| **TYPE OF ASSESSMENT** | **DURATION** | **MARKS** | **CONVERTED TO** | **MARKS** | **REMARKS** |
| CAT I | **2 PERIODS** | **50** | **10 MARKS** | **10** | **50% of Exercises** |
| CAT II | **2 PERIODS** | **50** | **10 MARKS** | **10** | **All Exercises** |
| CAT III | - | **50** | **10 MARKS** | **10** | **ALL UNITS MCQs** |
| RECORD | - | - | **10 MARKS** | **10** | - |
| TOTAL | | | | **40** | |

**SCHEME OF EVALUATION**

**CAT I and CAT II Examination - Practical Examination**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 25 |
| C | Viva voce | 05 |
| **TOTAL** | | 50 |

**SCHEME OF EVALUATION**

**End Semester Examination - Practical Examination**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| **TOTAL** | | 60 |

## 8. (b) End Semester Examination [60%]:

- The End Semester Examination will be conducted for 60 marks.
- The End Semester Examinations (Theory, Practical, Project) will be conducted for 150 minutes duration.
- For theory papers and practicum papers with end examination theory, the question paper will consist of two parts: Part (A) and Part (B). Part

(A) carries a total of 30 marks and will have Multiple Choice Questions (MCQs), True or False questions, Match the following questions, Image based Multiple Choice Questions covering all the five units. Part (B) carries a total of 30 marks and students are required to answer 3 questions out of 6 questions. The six questions will be distributed across five units with each unit contributing at least one question and no unit can have more than two questions.

- For Practicum courses, the end semester examination will be conducted as a theory or a practical or a project examination based on the credits for each component, the decision on the mode of exam could be based on the recommendation by the internal committee duly forwarded and approved by Head of the Institution.

- Every practical exercise/experiment shall be evaluated based on conduct of exercise / experiment and records to be maintained, students shall submit a record work duly completed and signed by faculty in charge and the Head of the Department.

- For the Final Year project work (in-house/Industry), the Department will constitute a three- member committee consisting of head of the department, internal guide & external expert from industry to monitor the progress of the project (online/offline) and conduct reviews regularly.

- The final examination for project work will be evaluated based on the final report submitted by the project group (of not exceeding four students), and the viva voce by an external examiner.
- The split up of marks for Internal and End Semester Viva Voce can follow the below mentioned rubrics,

| **Internal Mark Split (40Marks)** | | | **End Semester (60Marks)** | | |
|---|---|---|---|---|---|
| Review1 (10Marks) | Review 2 (15Marks) | Review 3 (15marks) | Record/ report writing (20 Marks) | Presentation (20 Marks) | Viva Voce (20 marks) |
| Committee: 10 Marks | Committee: 15 Marks | Committee : 15 Marks | External:20 | External:20 | External:20 |

- Students who are unable to complete the project work at the end of the semester can apply for an extension to the Head of the Department, with the recommendation from the project guide for a period of a maximum of one month. For those students who extend the project work for one month, Viva Voce will be carried out and results will be declared separately. If the project report is not submitted even beyond the extended time, then students are not eligible to appear for Project Viva Voce Examination.

- The performance of each student in the project group would be evaluated in a viva voce examination conducted by a committee consisting of an external examiner and the Department project coordinator as an internal examiner.

- If a student indulges in malpractice in any of the End Semester Examination / Internal Examinations, student will be liable for punitive action as prescribed by the college from time to time.

## 9. Pass Requirement for Award of Diploma

- A student who secures not less than 40% of total marks prescribed for the course [Internal Assessment + End semester Examinations] with a minimum of 40% of the marks prescribed for the end semester examination (Minimum Marks to be secured in end semester exam is 24 marks out of 60 marks for Theory Papers) shall be declared to have passed the course and acquired the relevant number of credits. This is applicable for theory subjects.

- A student who secures not less than 50% of total marks prescribed for the course [Internal Assessment + End semester Examinations] with a minimum of 50% of the marks prescribed for the end semester examination (Minimum Marks to be secured in end semester exam is 30 marks out of 60 marks for Practical Papers), shall be declared to have passed the course and acquired the relevant number of credits. This is applicable for theory subjects.

- No Minimum marks for continuous assessment (Internal).

- If a student fails to secure a pass in a theory course / laboratory course / elective course (same elective course), the student shall register and appear only for the end semester examination in the subsequent semester. In such cases, the internal assessment marks obtained by the student in the first appearance shall be retained and considered valid for all subsequent attempts till the student secures a pass.

- However, if a supplementary student fails to obtain pass marks (Internal Assessment + End Semester Examination), then the student shall be declared to have passed the examination if the student secures a minimum of 40% marks in theory examinations and 50% marks in Practical while appearing in the supplementary examinations.

- If any other Elective course is opted by the student, the previous registration is cancelled and henceforth it is to be considered as a new Elective course. The student has to register and attend the classes, earn the continuous assessment marks, fulfill the attendance requirements and appear for the end semester examination.

- If a student is absent during the viva-voce examination, it would be considered a failure. If a student fails to secure a pass in Project Work, the student shall be considered as supplementary student, and she should reappear for the next examination.

- A student can apply for getting the copy of her manuscripts of semester examination (theory course only), as per the guidelines of the Autonomous Examinations cell (AE) on payment of a prescribed fee along with prescribed application through the Head of the Institution.

- A student can apply for revaluation directly or after getting the copy of her manuscripts of semester examination (theory course only), as per the guidelines of the Autonomous Examinations cell (AE) on payment of a prescribed fee along with prescribed application through respective department and the Head of the Institution.

- The AE cell will arrange for the revaluation process and the results will be intimated to the student concerned through Notice Board. Revaluation is not permitted for laboratory courses and projects.

## 10. Award of Grades

- The award of letter grades will be decided using relative grading principle. The performance of a student will be reported using letter grades, each carrying certain points as detailed below:

| Letter Grade | Grade Points* | Marks |
|---|---|---|
| S (Outstanding) | 10 | 91-100 |
| A (Excellent) | 9 | 81-90 |
| B (VeryGood) | 8 | 71-80 |
| C (Good) | 7 | 61-70 |
| D (Average) | 6 | 51-60 |
| E (Satisfactory) | 5 | 40-50 |
| RA (Re-Appearance) | 0 | <40 |
| SA (Shortage of Attendance) | 0 | 0 |
| MP (Malpractice) | - | - |
| WH (withheld) | - | - |
| W (Withdrawal) | - | - |
| ABSEN (Absent) | - | - |

A student is deemed to have passed and acquired the corresponding credits in a particular course if the student obtains any one of the following grades: 'S', 'A', 'B', 'C', 'D', 'E'.

'SA' denotes shortage of attendance and hence prevents students from writing the end semester examinations. 'SA' will appear only in the result sheet.

"RA" denotes that the student has failed to pass in that course. "W" denotes withdrawal from the exam for the particular course. The grades RA and W will figure in the Grade Sheet. In both cases, the student has to appear for the end semester examinations as per the regulations.

If the grade RA is given to Theory Courses / Laboratory Courses, it is not required to satisfy the attendance requirements, but has to appear for the end semester examination and fulfill the norms to earn a pass in the respective courses.

If the grade RA is given to courses which are evaluated only through internal assessment, the student shall register for the course again in the subsequent semester, fulfilling the norms as to earn a pass in the course. However, attendance requirements need not be satisfied.

For the Audit Course and Integrated Learning Experience, on its successful completion a 'completed' certificate will be issued by the Head of the Institution. Every student needs a minimum of 75% attendance in the Audit/Integrated Learning experience compulsorily. However, for valid reasons, the Head of the Institution may permit a student to exempt/complete this requirement in the subsequent years. Successful completion of these courses is compulsory for the award of degree. These courses will be monitored by the Head of the respective departments and Chairman. The grades S,A,B,C,D,E obtained for the one / two credit course (not the part of curriculum) shall figure in the Grade Sheet under the title 'Value Added Courses/Internship/Industrial training'.

The courses for which the grades obtained are SA will not figure in the Grade Sheet.

## 10 (a) - Grade Sheet

After results are declared, Grade Sheets will be issued to each student which will contain the following details: The college in which the student has studied, the list of courses registered during the semester and the grade scored. The Grade Point Average (GPA) for the semester and the Cumulative Grade Point Average (CGPA) of all courses enrolled from the first semester onwards. GPA for a semester is the ratio of the sum of the products of the number of credits acquired for courses and the corresponding points to the sum of the number of credits acquired for the courses in the semester. CGPA will be calculated in a similar manner, considering all the courses registered

from the first semester. RA grades will be excluded for calculating GPA and CGPA.

$$\text{CGPA} = \frac{\sum_{i=1}^{n} C_i GP_i}{\sum_{i=1}^{n} C_i}$$

Where, Ci is the number of Credits assigned to the course, GPi is the point corresponding to the grade obtained for each course and n is number of all courses successfully cleared during the particular semester in the case of GPA and during all the semesters in the case of CGPA.

## 11. Award of Diploma

A student shall be declared to be eligible for the award of the Diploma provided the student has,

- Successfully gained the required number of total credits as specified in the curriculum corresponding to the student's programme within the stipulated time.
- Successfully completed the course requirements, appeared for the end semester examinations and passed all the subjects within the period as prescribed.
- Successfully passed any additional courses prescribed by the autonomous Examination council whenever the student is readmitted under Regulations 2024 from the earlier regulations.
- Successfully completed the Integrated Learning Experience requirements.
- No disciplinary action pending against the student.
- The award of Diploma must have been approved by the Autonomous Examinations Council.

## 12. Classification of Diploma Awarded

### 12(a) –FIRST CLASS WITH DISTINCTION

A student who satisfies the following conditions shall be declared to have passed the examination in First class with Distinction:

- Should have passed the examination in all the courses of all the six semesters (4 semesters in the case of Lateral Entry) in the student's First Appearance. The duration of the programme shall be extended up to one additional semester in case of any withdrawals from end semester examination. Withdrawal from examination will not be considered as an appearance.

- Should have secured a CGPA of not less than 8.50.

- One-year authorized break of study (if availed of) shall be permitted within the four- year period (three years in the case of lateral entry) for award of First class with Distinction.

- The students should NOT have been prevented from writing the end semester examination due to lack of attendance in any semester.

### 12 (b) FIRST CLASS:

A student who satisfies the following conditions shall be declared to have passed the examination in First class:

- Should have passed the examination in all the courses in all six semesters (4 semesters in the case of Lateral Entry). The duration of the programme shall be extended upto one additional semester in case of any withdrawals from end semester examination. Withdrawal from examination will not be considered as an appearance.

- One-year authorized break of study (if availed of) or prevention from writing the end semester examination due to lack of attendance (if

- applicable) shall be provided with the duration of four years (three years in the case of lateral entry) for award of First class.

  Should have secured a CGPA of not less than 6.50.

**12. (c)- SECOND CLASS:** All other students who qualify for the award of the degree shall be declared to have passed the examination in Second Class.

## 13.Discipline

Every student is expected to maintain disciplined and respectable behaviour both within and outside the college premises, refraining from engaging in any activities that may tarnish the reputation of the college.

The Head of the Institution shall constitute a disciplinary committee consisting of the Head of the Institution, Two Heads of Department of which one should be from the faculty of the student, to enquire into acts of indiscipline and notify the authorities about the disciplinary action recommended for approval.

In case of any serious disciplinary action which leads to suspension or dismissal, then a committee shall be constituted. If a student indulges in malpractice in any of the end semester examinations, student shall be liable for punitive action as prescribed by the Autonomous Examination Council from time to time. For any malpractices in any continuous assessment, the same shall be reported to the Head of the Institution for disciplinary actions.

## 14. Revision of Regulation, Curriculum and Syllabi

The Autonomous board may from time-to-time revise, amend or change the regulations, curriculum, syllabus and scheme of examinations through the Leadership Committee with the approval of the Board.

# H scheme

**Program Structure**

**Diploma in Garment Technology**

**Program Outcomes (PO's)**

POs are statements that describe what students are expected to know and be able to do upon graduating from the program. These relate to the skills, knowledge, analytical ability, attitude, and behavior that students acquire through the program.

The POs essentially indicate what the students can do from subject-wise knowledge acquired by them during the program. As such, POs define the professional profile of an engineering diploma graduate.

NBA has defined the following seven POs for an Engineering diploma graduate:

**PO1:** Basic and Discipline-specific knowledge: Apply knowledge of basic mathematics, science and engineering fundamentals and an engineering specialization to solve the engineering problems.

**PO2:** Problem analysis: Identify and analyze well-defined engineering problems using codified standard methods.

**PO3:** Design/ development of solutions: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

**PO4:** Engineering Tools, Experimentation, and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

**PO5:** Engineering practices for society, sustainability and environment: Apply appropriate technology in the context of society, sustainability, environment and ethical practices.

**PO6:** Project Management: Use engineering management principles individually, as a team member or as a leader to manage projects and effectively communicate about well-defined engineering activities.

**PO7:** Life-long learning: Ability to analyze individual needs and engage in updating in the context of technological changes.

**Program Educational Objectives:**

Garment Technology graduates after 3 years of graduation will:

- have enhanced responsibilities/ advancement in positions in Garment Industries.
- upgrade their knowledge through higher education.
- become successful small and medium scale entrepreneurs / business partners in Garment field or in allied discipline.

Program Specific Outcomes:

- Ability to understand technological problems in Garment Industry.
- Ability to apply and analyze the design and production of garments.
- Evaluate and develop apparel products & processes.

**Credit Distribution**

| Semester | No of Courses | Periods | Credits |
|---|---|---|---|
| Semester I | 8 | 640 | 20 |
| Semester II | 9 | 640 | 20 |
| Semester III | 8 | 640 | 21 |
| Semester IV | 7 | 640 | 19 |
| Semester V | 8 | 635# | 22 |
| Semester VI | 3 | 660 | 18 |
| | | **Total** | **120** |

# Industrial Training during summer vacation for Two Weeks has to be completed to earn the required two credits.

**GOVERNMENT OF TAMIL NADU**
**Dr. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN**
**DIPLOMA IN ENGINEERING & TECHNOLOGY**
**DIPLOMA IN GARMENT TECHNOLOGY (FT)**

| **III Semester** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Course Category** | **Course Type** | **Code** | **Course Title** | **L-T-P** | **Period** | **Credit** | **End Exam** |
| 1 | Program Core | Theory | GTH 301 | Yarn and Fabric Manufacture | 4-0-0 | 60 | 4 | Theory |
| 2 | Program Core | Theory | GTH 302 | Fashion Designing | 3-0-0 | 45 | 3 | Theory |
| 3 | Program Core | Theory | GTH 303 | Apparel Designing | 3-0-0 | 45 | 3 | Theory |
| 4 | Program Core | Practical | GTH 371 | Surface ornamentation | 0-0-6 | 90 | 3 | Practical |
| 5 | Program Core | Practical | GTH 372 | Fashion Illustration | 0-0-4 | 60 | 2 | Practical |
| 6 | Program Core | Practical | GTH 373 | Basic Garment Construction | 0-0-6 | 90 | 3 | Practical |
| 7 | Open Elective | Advanced Skill Certification | ASH393 | Advanced Skills Certification - 3 | 1-0-2 | 60 | 2 | NA |
| 8 | Humanities & Social Science | Integrated Learning Experience | | Growth Lab | - | 30 | 0 | - |
| 9 | Audit Course | Integrated Learning Experience | | Induction Program – II | - | 16 | 0 | - |
| 10 | Audit Course | Integrated Learning Experience | | I&E/ Club Activity/ Community Initiatives | - | 16 | 0 | - |
| 11 | Audit Course | Integrated Learning Experience | | Shop floor Immersion | - | 8 | 0 | - |
| 12 | Audit Course | Integrated Learning Experience | | Student-Led Initiative | - | 22 | 0 | - |
| 13 | Audit Course | Integrated Learning Experience | | Emerging Technology Seminars | - | 8 | 0 | - |
| 14 | Audit Course | Integrated Learning Experience | | Health & Wellness | 0-0-2 | 30 | 1 | NA |
| | | | | | Test & Revision | 45 | | NA |
| | | | | | Library | 15 | | |
| | | | | | **Total** | **640** | **21** | |

**GOVERNMENT OF TAMIL NADU**
**Dr. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN**
**DIPLOMA IN ENGINEERING & TECHNOLOGY**
**DIPLOMA IN GARMENT TECHNOLOGY (FT)**

| **IV Semester** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Course Category** | **Course Type** | **Code** | **Course Title** | **L-T-P** | **Period** | **Credit** | **End Exam** |
| 1 | Program Core | Theory | GTH 401 | Apparel Quality Control | 3-0-0 | 45 | 3 | Theory |
| 2 | Program Core | Theory | GTH 402 | Clothing Machinery and Equipment | 3-0-0 | 45 | 3 | Theory |
| 3 | Program Core | Practical | GTH 471 | Garment Construction– I | 0-0-6 | 90 | 3 | Practical |
| 4 | Program Core | Practical | GTH 472 | Home textiles | 0-0-4 | 60 | 2 | Practical |
| 5 | Program Core | Practicum | GTH 473 | Chemical Processing and Testing of Textiles | 1-0-4 | 75 | 3 | Practical |
| 6 | Program Core | Practicum | GTH 474 | Garment Pattern Drafting I | 1-0-4 | 75 | 3 | Practical |
| 7 | Open Elective | Advanced Skill Certification | ASH494 | Advanced Skills Certification - 4 | 1-0-2 | 60 | 2 | NA |
| 8 | Audit Course | Integrated Learning Experience | | I&E/ Club Activity/ Community Initiatives | - | 30 | 0 | - |
| 9 | Audit Course | Integrated Learning Experience | | Shop floor Immersion | - | 8 | 0 | - |
| 10 | Audit Course | Integrated Learning Experience | | Student-Led Initiative | - | 24 | 0 | - |
| 11 | Audit Course | Integrated Learning Experience | | Emerging Technology Seminars | - | 8 | 0 | - |
| 12 | Audit Course | Integrated Learning Experience | | Health & Wellness | - | 30 | 0 | - |
| 13 | Audit Course | Integrated Learning Experience | | Special Interest Groups *(Placement Training)* | - | 30 | 0 | - |
| | | | | | Test & Revisions | 30 | | NA |
| | | | | | Library | 15 | | |
| | | | | | | **640** | **19** | |

**GOVERNMENT OF TAMIL NADU**
**Dr. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN**
**DIPLOMA IN ENGINEERING & TECHNOLOGY**
**DIPLOMA IN GARMENT TECHNOLOGY (FT)**

| **V Semester** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Course Category** | **Course Type** | **Code** | **Course Title** | **L-T-P** | **Period** | **Credit** | **End Exam** |
| 1 | Program Core | Theory | GTH 501 | Apparel Merchandising | 4-0-0 | 60 | 4 | Theory |
| 2 | Program Core | Theory | GTH 502 | Apparel Industrial Engineering | 4-0-0 | 60 | 4 | Theory |
| 3 | Program Core | Practical | GTH 571 | Garment Pattern Drafting – II | 0-0-4 | 60 | 2 | Practical |
| 4 | Open Elective | Practical/Practicum | GTH 58X | Elective 1 | 0-0-6 | 90 | 3 | Practical |
| 5 | Open Elective | Practical/Practicum | GTH 58X | Elective 2 | 1-0-4 | 75 | 3 | Practical |
| 6 | Humanities & Social Science | Practicum | GTH 572 | Innovation & Startup | 1-0-2 | 45 | 2 | Project |
| 7 | Internship | Internship | GTH 573 | Industrial Training* [Summer Vacation - 90 Hours] | - | - | 2 | Project |
| 8 | Open Elective | Advanced Skill Certification | ASH595 | Advanced Skills Certification - 5 | 1-0-2 | 60 | 2 | NA |
| 9 | Audit Course | Integrated Learning Experience | | Induction program III | - | 40 | 0 | - |
| 10 | Audit Course | Integrated Learning Experience | | Student-Led Initiative | - | 30 | 0 | - |
| 11 | Audit Course | Integrated Learning Experience | | Health & Wellness | - | 30 | 0 | - |
| 12 | Audit Course | Integrated Learning Experience | | Special Interest Groups (Placement Training) | - | 40 | 0 | - |
| | | | | | Test & Revisions | 30 | | |
| | | | | | Library | 15 | | |
| | | | | | **Total** | **635** | **22** | |

**GOVERNMENT OF TAMIL NADU**
**Dr. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN**
**DIPLOMA IN ENGINEERING & TECHNOLOGY**
**DIPLOMA IN GARMENT TECHNOLOGY (FT)**

| **Elective 1** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Course Category** | **Course Type** | **Code** | **Course Title** | **L-T-P** | **Period** | **Credit** | **End Exam** |
| 1 | Open Elective | Practical | GTH 581 | Garment Construction – II | 0-0-6 | 90 | 3 | Practical |
| 2 | Open Elective | Practical | GTH 582 | Handicrafts | 0-0-6 | 90 | 3 | Practical |
| 3 | Open Elective | Practicum | GTH 583 | Garment Laundering and Maintenance | 1-0-4 | 75 | 3 | Practical |

| **Elective 2** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Course Category** | **Course Type** | **Code** | **Course Title** | **L-T-P** | **Period** | **Credit** | **End Exam** |
| | Open Elective | Practicum | GTH 584 | Advanced Surface Ornamentation | 1-0-4 | 75 | 3 | Practical |
| | Open Elective | Practical | GTH 585 | Garment CAD | 0-0-6 | 90 | 3 | Practical |
| | Open Elective | Practicum | GTH 586 | Indian and Western Costume | 1-0-4 | 75 | 3 | Practical |

**GOVERNMENT OF TAMIL NADU**
**Dr. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN**
**DIPLOMA IN ENGINEERING & TECHNOLOGY**
**DIPLOMA IN GARMENT TECHNOLOGY (FT)**

| **VI Semester** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Course Category** | **Course Type** | **Code** | **Course Title** | **L-T-P** | **Period** | **Credit** | **End Exam** |
| 1 | Open Elective | Theory | GTH 68X | Elective 3 (Pathway) | 3-0-0 | 45 | 3 | Theory |
| 2 | Open Elective | Practicum | GTH 68X | Elective 4 (Specialization) | 1-0-4 | 75 | 3 | Practical |
| 3 | Industrial Training / Project | Project/ Internship | GTH 67X | In-house Project / Internship / Fellowship | - | 540 | 12 | Project |
| | | | | | **Total** | **660** | **18** | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | Industrial Training / Project | Project/Internship | GTH 671 | Internship | - | 540 | 12 | Project |
| 2 | Industrial Training / Project | Project/Internship | GTH 672 | Fellowship | - | 540 | 12 | Project |
| 3 | Industrial Training / Project | Project/Internship | GTH 673 | In-house Project | - | 540 | 12 | Project |

**GOVERNMENT OF TAMIL NADU**
**Dr. DHARMAMBAL GOVERNMENT POLYTECHNIC COLLEGE FOR WOMEN**
**DIPLOMA IN ENGINEERING & TECHNOLOGY**
**DIPLOMA IN GARMENT TECHNOLOGY (FT)**

| Elective 3 (Pathway) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Course Category** | **Course Type** | **Code** | **Course Title** | **L-T-P** | **Period** | **Credit** | **End Exam** |
| 1 | Open Elective Higher Education | Theory | GTH 681 | Advanced Engineering Mathematics | 3-0-0 | 45 | 3 | Theory |
| 2 | Open Elective Technocrats | Theory | GTH 682 | Entrepreneurship | 3-0-0 | 45 | 3 | Theory |
| 3 | Open Elective | Theory | GTH 683 | Project Management | 3-0-0 | 45 | 3 | Theory |
| 4 | Technocrats | Theory | GTH 684 | Finance Fundamentals | 3-0-0 | 45 | 3 | Theory |
| 5 | Open Elective Technocrats | Theory | GTH 685 | Garment Industry Management | 3-0-0 | 45 | 3 | Theory |
| 6 | Open Elective Technocrats | Theory | GTH 686 | Online Elective course **$** | | | | |

*$*Online courses with the same credit available in AICTE, NPTEL and reputed Institutions with the proper evaluation system and certification can be considered after proper approval from DOTE Exam Section.

| Elective 4 (Specialization) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Course Category** | **Course Type** | **Code** | **Course Title** | **L-T-P** | **Period** | **Credit** | **End Exam** |
| 1 | Open Elective | Practicum | GTH 687 | Fashion Draping | 1-0-4 | 75 | 3 | Practical |
| 2 | Open Elective | Practicum | GTH 688 | Knitwear Technology | 1-0-4 | 75 | 3 | Practical |
| 3 | Open Elective | Practicum | GTH 689 | Pattern Grading and Alteration | 1-0-4 | 75 | 3 | Practical |

# III SEMESTER

| GTH 301 | YARN AND FABRIC MANUFACTURE | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Introduction**

To understand about various preparatory processes in spinning like ginning, mixing, blow room, carding, drawing and combing. The students will be taught about ring spinning and post spinning. The students will study the definition and uses of different types of fancy yarns.

**Course Objectives**

The objective of this course is to enable the student to

1. To study the objectives of blow room, carding, drawing, combing and ring Frame
2. Understand about modern spinning systems.
3. To study the objectives and details of weaving preparatory process & woven fabric formation.
4. To study the woven & knitted fabric structures.
5. To study about the non-woven and special fabrics.

**Course Outcomes**

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

CO1: Apply suitable fibre identification and yarn manufacturing techniques for different types of natural and manmade fibres in relation to their end-use.

CO2: Analyze various spinning systems and evaluate the impact of spinning parameters, twist, and doubling on yarn characteristics and quality.

CO3: Evaluate the selection and functioning of weaving, knitting, and braiding techniques for efficient fabric production based on structural requirements.

CO4: Create suitable fabric constructions (woven, knit, and nonwoven) by interpreting design notations, structure diagrams, and process flows to meet product specifications.

**Mapping of COs to POs:**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 3 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 1 | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 1 | 1 | - | 1 | 1 | | | |

*Legend:3-HighCorrelation,2-MediumCorrelation,1-LowCorrelation*

| GTH 301 | YARN AND FABRIC MANUFACTURE | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

| GTH 301 | YARN AND FABRIC MANUFACTURE | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

| Unit I | TEXTILE FIBRE | |
|---|---|---|
| Important properties of ideal textile fibres - Identification of textile fibres - Burning test, solvent test and microscopic appearance (Cotton, Silk, Wool, Polyester, Nylon and Acrylic). Manmade fibre manufacturing techniques – Wet spinning, Dry spinning and Melt spinning with example. Importance of Spun yarn, Mono filament, Multi filament and Texturised yarn. | | 12 |
| **Unit II** | **SPINNING PROCESS** | |
| Objectives of Ginning, Mixing, Blending, Blow room, Carding, Drawing, Combing, Roving and Ring spinning. Properties of carded yarn and combed yarn. Types of twist – S & Z Twist. Principles of modern spinning – Open end, Friction and Compact spinning. Doubling – Objectives and principles of doubling. Definition and sketches of Fancy yarn - Slub yarn, Core yarn, Spiral yarn, Elastomeric yarn and Mélange yarn. | | 12 |
| **Unit III** | **WEAVING AND KNITTING PROCESS** | |
| Sequence of preparatory process and its objectives – Objectives of drawing-in and Denting – Primary, Secondary and Auxiliary motion of loom - Types of loom – Passage of material in plain loom - Advantages of automatic looms – Weft insertion techniques in shuttle-less looms. Knitting – Definition – Important terms in knitting (Wales, Course, Texture, Face loop and Back loop) – knitting elements (Needle, Sinker and cam) - Passage of material in plain circular knitting machine. Braiding – Definition and Uses. | | 12 |
| **Unit IV** | **FABRIC STRUCTURE** | |
| Woven Structures: Definition of Design, Draft, Peg plan – Design, Draft & Peg plan for Plain weave – 4x4 Matt weave – 2/1, 3/1 Twill weave – 5 end Satin weave and Sateen weave.<br>Knit Structures: Knit, Tuck and Miss Stitches – Drawing of Graphical and Needle (Diagrammatic) notation of single jersey Plain, Purl, Rib & Interlock. | | 12 |
| **Unit V** | **NON WOVEN FABRICS** | |
| Non-Woven fabrics – definition - uses - classification of Non Woven Fabrics. Web Formation Techniques – Staple Fibre Webs – Wet laid webs, Dry laid webs, Parallel, Cross and Random laid webs – Continuous Filament webs – Spun laid webs and Melt blown webs. Non Woven Fabric Formations Techniques – Adhesive bonding, Thermal Bonding, Needle punching and bonding of spun laid webs. | | 12 |
| **TOTAL HOURS** | | **60** |

| GTH 301 | YARN AND FABRIC MANUFACTURE | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Reference**


1. V A Shenai - "Technology of Textile Processing". Sevak publications, Bombay – 2007
2. J Gordoncook – Textile fibre, Woodhead Publishing Ltd. Cambridge, England – 2008
3. S P Mishra – Fibre Science and Technology - New age International (p) LtdDaryaganj, New Delhi-110002, 2005
4. Wymne, A., The Motivate Textile Series, Macmillan Publishers Limited, 2005
5. P W Moncrief – Manmade fibre, Butterworth, London – 2006
6. Principles of weaving R Marks ATC Robinson The Textile Institute, Manchester, UK 2006
7. The Motivate Series Andrea Wynne MacMillan Education Ltd, London and Basingstoke. 2007
8. Cotton Yarn Weaving Kanungo R.N Textile Association India, Ahmedabad 2010

| GTH 302 | FASHION DESIGNING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

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

**Course Objectives**

The objective of this course is to enable the student to

1. Understand the elements and principles of fashion design
2. Study the tools & equipment used in sketching.
3. Learn about the colour theory.
4. Learn about the colour scheme.
5. Understand the procedure for making proper color schemes.
6. Know how to prepare different kinds of board preparation.
7. Study about various patterns and to develop designs.
8. Analyze wardrobe planning & lifestyle.
9. Develop designs for various seasons.
10. Understand the systems of fashion industry.
11. Learn steps involved in fashion forecasting.

**Course Outcomes**

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

CO1 :Apply fashion terminology and analyze fashion trends and forecasting to evaluate the impact of cultural and seasonal changes on fashion cycles.

CO2 :Analyze and apply the elements and principles of design to create aesthetically balanced and functional fashion compositions.

CO3 : Evaluate and implement appropriate colour schemes and psychological aspects of colour to design season-specific fashion collections.

CO4: Create innovative fabric patterns and motif-based designs by synthesizing inspirations from natural, abstract, and geometric sources for targeted wardrobe planning

| GTH 302 | FASHION DESIGNING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Mapping of COs to POs:**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 3 | - | - | - | | | |
| CO4 | - | - | 3 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | 3 | - | 1 | 1 | | | |

*Legend:3-HighCorrelation,2-MediumCorrelation,1-LowCorrelation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability-based.

| GTH 302 | FASHION DESIGNING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

| Unit I | INTRODUCTION TO FASHION INDUSTRY | |
|---|---|---|
| Terms related to the fashion industry – fashion, style, fad, classic, fashion cycle, chic, Custom made, mannequin, fashion show, trend, forecasting, high fashion, fashion cycle, haute couture, fashion director, fashion designer, fashion capital and fashion magazine. | | 9 |
| **Unit II** | **ELEMENTS AND PRINCIPLE OF FASHION DESIGN** | |
| Design - definition and types – structural and decorative design - Characteristics of good decorative design - Application of trimmings and decorations. Elements of design – line, shape or form, colour, size and texture. Principles of design - balance – formal and informal, rhythm-through repetition, radiation and gradation, emphasis, harmony and proportion. | | 9 |
| **Unit III** | **COLOUR ASPECTS** | |
| Colour - definition, colour theories - Prang colour chart and Munsell colour system, Dimensions of colour hue, value, and intensity – Tint & Shade – Warm & cool colours. Study of Colour Scheme - Related colour scheme - Mono chromatic, Neutral, Analogous. Contrast colour scheme - Simple contrast, Double contrast, Split, Triad - Psychology of colour on dress – color harmony - Application of colour on different seasons. | | 9 |
| **Unit IV** | **DESIGN DEVELOPMENT** | |
| Design development – Motif – Definition – Types of motifs – Development of motifs – Motifs on the fabrics – Steps in design development – Sources of Inspirations – Design development through natural sources. Study of Pattern in fabrics - Naturalistic abstract - Conventional – Geometric - Animate - Abstract - floral design – Half drop design & Reverse half drop design. | | 9 |
| **Unit V** | **WARDROBE PLANNING** | |
| Wardrobe planning for different age groups, factors influencing wardrobe selection, Fashion and season, Designing dresses for different occasions – business meetings, parties/ dinners, evenings/leisure hours, marriage functions, sports, uniforms for civil service, airhostess, hoteliers, schools – girls and boys. | | 9 |
| **TOTAL HOURS** | | **45** |

| GTH 302 | FASHION DESIGNING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Reference**


1. Illustrating Fashion Kathryn McKelvey& Janine Munslow Blackwell Publishing 2005
2. Fashion Design Process, Innovation & Practice Kathryn McKelvey& Janine Munslow Blackwell Publishing 2005
3. The Psychology of dress Frank Alvah Double day Page & Co. 2005
4. The arts of costume & Personal appearance Grace Margarit Morton John wiley&Sons London. 2006
5. Fabrics and dress Ruthtone and Tarplay Houghton Mifflin London 2007
6. Elementry Costume design Harisonfeather John Wiley and Sons Stone Dorothy 2010
7. Dress Designing H.F.Kepworth The English Univ. Press Ltd., London 2008
8. Individuality and Cloths Margaret story Funle&WsanallsLippioncott. 2007
9. Essential of Design Degrmo Winslow Macillion Co. New York. 1986 Men's wardrobe Thames and Hudson London 2011
10. Art & Fashion Dr.AliceMackrellBatsford Publication 2008

| GTH 303 | APPAREL DESIGNING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

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

**Course Objectives**

The objective of this course is to enable the student to

1. Understand the importance of Human Anatomy.
2. Understand the types of figures.
3. Learn the basics of Measurements and Garment construction.
4. Learn the types of fabric
5. Understand the grain line
6. Learn different types of layout, Marker and Marker efficiency.
7. Learn different types of Seams.
8. Understand the types of Plackets.
9. Understand the types of Yokes.
10. Study the selection of Collars and Neckline finishes.
11. Know about Sleeves and its types.
12. Understand the types of Darts, Pleats and Tucks.
13. Understand the types of Gathers Shirrs, Flares and Frills.

**Course Outcomes**

On successful completion of this course, the student will be able to apply the principles

CO1: Apply the principles of apparel design and pattern layout techniques to prepare accurate and efficient garment patterns.

CO2: Analyze various garment components like seams, plackets, collars, yokes, sleeves, and fullness techniques to select appropriate construction methods for different garment types and body profiles.

CO3: Evaluate fabric grain, layout methods, and marker efficiency to optimize material usage in garment manufacturing.

| GTH 303 | APPAREL DESIGNING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

CO4: Create original garment designs by integrating construction elements such as yokes, collars, sleeves, darts, pleats, and fullness to meet aesthetic and functional needs.

**Mapping of COs to POs:**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 3 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 3 | - | - | - | | | |
| CO4 | - | - | 3 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | 3 | - | 1 | 1 | | | |

*Legend:3-HighCorrelation,2-MediumCorrelation,1-LowCorrelation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

| GTH 303 | APPAREL DESIGNING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

| Unit I | BASICS OF APPAREL DESIGN | |
|---|---|---|
| Eight head theory and its importance in apparel manufacturing – Garment Construction Tools & Equipment – Measuring, Marking, Cutting, Pressing and General tools. Measurements – Importance - Procedure for taking measurements and Various body measurements. Pattern – Definition and importance - Types - merits and demerits of patterns. Types of Figure – Proportionate, Corpulent figure, Semi corpulent figure, Stooping figure – Erect figure. | | 9 |
| **Unit II** | **PATTERN LAYOUT** | |
| Types of fabric used for Garment manufacturing - Fabric grains – types of grain and its importance. Principles in pattern making – Pattern layout and its importance – Principles in pattern layout – Different types fabric folding for layout – Special types of Layout – Procedure for economical layout- Insufficient fabric layout – Marshden layout for bulk production and its importance –Type of Lays – Lay length and marker – Marker efficacy – Lay efficiency. | | 9 |
| **Unit III** | **SEAMS & PLACKET** | |
| Seams – Definition - Different types of seams- Plain, French, Welt seam, Top stitch seam - Seam finishes and Neck line finishes. Hems – definition – Types of hems – Slip, Catch stitch, Invisible, Herring bone. Plackets & Openings – definition - characteristics of good plackets – One piece, Two pieces and Tailored plackets. | | 9 |
| **Unit IV** | **YOKE, COLLAR & SLEEVES** | |
| Yoke – definition - selection of yoke design. Different types of yokes (Partial, Midriff, and Yoke with fullness). Collars – Types of collar like Shirt, Stand, Shawl and Peter pan. Sleeves – Types of sleeves such as Plain, Puff, Bell and Circular. | | 9 |
| **Unit V** | **FULLNESS** | |
| Fullness – definition - Single and double pointed darts - Relocation of dart by slash and spread method - Types of tucks like pin tuck, cross tuck, piped tuck, shell tuck and its importance - Types of pleats like Knife pleat, Box pleat, Kick pleat, Cartridge pleat, Pinch pleat and its importance - Gathers and Frills. | | 9 |
| **TOTAL HOURS** | | **45** |

| GTH 303 | APPAREL DESIGNING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Reference**


1. Practical clothing construction Part I& II Mary Mathews Bhattarans Reprographics (P) Ltd., Chennai. 2012
2. The Art of Sewing Anna Jacob Thomas UBS Publisher,Delhi 2008
3. Practical dress Design Enwin, M.D. The MacMillan Comp., New York. 2010
4. Complete guide to sewing Reader's digest sewing guide The reader's digest Association, Inc. New York. 2005

| GTH 371 | SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Introduction**

Surface ornamentation refers to the process of adorning a fabric's surface after it has been formed using a variety of techniques like tie-dye, block printing, batik, embroidery, etc. It currently plays a huge part in fashion design. In order to draw in and keep clients, surface decoration is preferred.

**Course Objectives**

The objective of this course is to enable the student to

1. To teach the students techniques of hand embroidery stitches.
2. To make students aware of the basic fabric ornamentation techniques like tie and dye, fabric painting and block printing.
3. To introduce the students to various traditional embroideries of India

**Course Outcomes**

On successful completion of this course, the student will be able to apply and create

CO1: Apply diverse hand stitching and decorative techniques to create surface ornamentation on fabric.

CO2: Analyze the characteristics and aesthetic impact of traditional Indian embroidery styles

CO3: Evaluate and implement appropriate surface embellishment techniques to enhance the aesthetic appeal and functionality of textile products.

CO4: Design original surface ornamentation patterns using a combination of stitches, embroidery, and fabric painting techniques for innovative textile applications.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 2 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | 3 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | 2 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 371 | SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 371 | SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

| Unit I | HAND STITCHES – 1 | |
|---|---|---|
| **Experiments:**<br>1. Prepare a sample using running stitch and Back stitch.<br>2. Prepare a sample using stem stitch and Chain stitch.<br>3. Prepare a sample using Lazy daisy stitch. | | 35 |
| **Unit II** | **HAND STITCHES 2** | |
| **Experiments:**<br>4. Prepare a sample using buttonhole stitch and Feather stitch.<br>5. Prepare a sample using herringbone stitch and Braid stitch.<br>6. Prepare a sample using knot stitch.<br>7. Prepare a sample using satin stitch.<br>8. Prepare a sample using Tatting.<br>9. Prepare a sample using Crochet. | | 35 |
| **Unit III** | **TRADITIONAL INDIAN EMBROIDERY** | |
| **Experiments:**<br>10. Prepare a sample using Kutch embroidery technique.<br>11. Prepare a sample using Mirror embroidery technique<br>12. Prepare a sample using bead work. | | 15 |
| **Unit IV** | **FABRIC PAINTING** | |
| **Experiments:**<br>13. Prepare a sample using fabric painting technique. | | 5 |
| **TOTAL HOURS** | | **90** |

| GTH 371 | SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety.

**List of Equipment**

1. Hand / Machine embroidery tools & machineries:-
    - Embroidery frame- 30 Nos.
    - Hand needles- 30 Nos.
    - Tracing wheel- 30 Nos.
    - Thimbles- 30 Nos.

| GTH 371 | SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

2. Materials required:

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

**END SEMESTER EXAMINATION – PRACTICAL EXAMINATION**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. Vaine. J (2011) – The Art of Elegant Hand Embroidery, Embellishment and Applique – Landauer Publishing – Urbandale, Iowa, USA
2. Elliot. M – Painting Fabric – Henry Holt and Company – New York - 2012
3. Shrijee – Indian Ethnic Textile Design – Shrijee's Book International – New Delhi - 2007

| GTH 372 | FASHION ILLUSTRATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Introduction**

Fashion illustration is the art of communicating fashion ideas in a visual form through the use of drawing tools.

**Course Objectives**

The objective of this course is to enable the student to

1. To introduce students to elements and principles of design
2. To impart knowledge on fashion art and its importance
3. Understand the colour concepts

**Course Outcomes**

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

CO1 : Apply fashion figure proportion theories (8-head, 10-head, 12-head) to create accurate male and female fashion illustrations.

CO2 : Analyze garment components and create colour-illustrated charts of various collars, sleeves, and necklines with attention to design accuracy and aesthetics.

CO3: Evaluate and apply colour theories and schemes to develop visually appealing and contextually appropriate colour illustrations.

CO4 : Create original high-fashion dress designs by synthesizing design elements and principles to achieve aesthetic balance and visual harmony.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | 3 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 3 | 2 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 372 | FASHION ILLUSTRATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 372 | FASHION ILLUSTRATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

| Unit I | FASHION ART | |
|---|---|---|
| Introduction to Fashion Art, Proportion and the Fashion Figure- 8 head, 10 head, 12 head theory of fashion drawing<br>**Experiments:**<br>1. Prepare a chart of Male figure using 8 head theory.<br>2. Prepare a chart of Female figure using 8 head theory. | | 10 |
| **Unit II** | **DARWING OF GARMENT COMPONENTS** | |
| Different types of collar, Sleeve, Neck line.<br>**Experiments:**<br>3. Prepare a colour chart of different types of collar.<br>4. Prepare a colour chart of different types of sleeve.<br>5. Prepare a colour chart of different types of Neck line. | | 15 |
| **Unit III** | **COLOUR ASPECTS** | |
| Colour - definition, colour theories - Prang colour chart, Dimensions of colour hue, value, and intensity – Tint & Shade – Warm & cool colours. Study of Colour Scheme - Related colour scheme - Mono chromatic, Neutral, Analogous. Contrast colour scheme - Simple contrast, Double contrast, Split, Triad.<br>**Experiments:**<br>6. Prepare 12 colours wheel chart.<br>7. Prepare chart of tint and shade<br>8. Prepare a chart using monochromatic colour scheme.<br>9. Prepare a chart using simple contrast colour scheme.<br>10. Prepare a chart of Warm and cool colours. | | 25 |
| **Unit IV** | **ELEMENTS OF DESIGN** | |
| Elements of design: Point, Line, Shape, Space, Color and texture. Principles of design proportion, balance, rhythm, Emphasis and harmony.<br>**Experiments:**<br>11. Draw a design of hi-fashion dress using the elements of design.<br>12. Draw a design of hi-fashion dress using the principles of design | | 10 |
| **TOTAL HOURS** | | **60** |

| GTH 372 | FASHION ILLUSTRATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety.

**List of Equipments**

- Drawing table - 30 nos.

**Materials required**

- Chart paper- A4/ A3 size- 30 nos.
- Experiment / batch of 30 students.
- Drawing tools &colouring tools - 30nos.
- Experiment. / batch of 30 students.

| GTH 372 | FASHION ILLUSTRATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**END SEMESTER EXAMINATION – PRACTICAL EXAMINATION**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. Advanced Fashion Sketch Book, BinaAbling, OM Book Service,India (2007)
2. Fashion Illustration Flat drawing
3. PratapMulick "Sketching"
4. Fashion Drawing – The Basic Principles, Anne Allen and Julian Seaman, Anova Books.- 2012
5. Fashion illustration and Presentation, ManmeetSodhia, Kalyani Publishers. - 2012
6. Fashion Source Book, Kathryn Mckelvey, Blackwell Science - 2010
7. Fashion Illustration, Colin Barnes, Little Brown and Co. (UK) (April 2005).
8. Snap Fashion Sketch Book, Bill Glazer , Prentice Hall; 2 edition (2007).
9. Figure Drawing for Fashion, Isao Yajima, Graphic-Sha; First Edition (2007)
10. Fashion Art for the Fashion Industry, Rita Gersten, Fairchild Books (2009)

| GTH 373 | BASIC GARMENT CONSTRUCTION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Introduction**

By learning this paper the students will gain knowledge in taking measurements. This paper will give way to understand parts and functions of a basic sewing machine and they will be able to know the mechanism and how to take care of a sewing machine. The students will also know to stitch starting from a simple seam to complex collars and yokes.

**Course Objectives**

The objective of this course is to enable the student to

1. Learn different types of Seams.
2. Understand the types of Plackets.
3. Understand the types of Yokes.
4. Study the selection of Collars and Neckline finishes.
5. Know about Sleeves and its types.
6. Understand the concept of

**Course Outcomes**

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

CO1: Apply machine and hand sewing techniques to construct and finish garment components with precision and adherence to industrial standards.

CO2: Analyze garment features such as fullness, collars, sleeves, and plackets to select appropriate construction methods for various designs.

CO3: Evaluate dart manipulations and pattern adaptations for accuracy and suitability in garment design.

CO4: Create basic block patterns and garment components by integrating knowledge of construction techniques and pattern making principles.

| GTH 373 | BASIC GARMENT CONSTRUCTION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Mapping of COs to POs:**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | 2 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 2 | 2 | - | 1 | 1 | | | |

*Legend:3-HighCorrelation,2-MediumCorrelation,1-LowCorrelation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 373 | BASIC GARMENT CONSTRUCTION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

| Unit I | SEWING MACHINE AND ACCESSORIES OF SEWING MACHINE | |
|---|---|---|
| Parts and functions of sewing machine – Care and maintenance of sewing machine – Accessories of sewing machine (Bobbin, Bobbin case, Needle and its types) | | 15 |
| **Unit II** | **BASIC SEWING TECHNIQUES** | |
| Basic hand stitches – Basting, running, tacking, hand overcast, buttonhole, Hemming stitches – plain and blind hemming and slip stitch.<br>Machine Stitching – plain seam, edge, single top, double top, shirring and gathering.<br>Seam & seam finishes – Flat fell, French seam, lapped, piped, slot, pinked, overcast, pinked & stitched<br>**Experiments:**<br>1. Construct any three types of seam.<br>2. Construct any three types of seam finish.<br>3. Construct any three types of Hems. | | 15 |
| **Unit III** | **DECORATIVE SEWING TECHNIQUES** | |
| Fullness – Darts, tucks, pleats, gathers and style line. Yokes – with and without Fullness.<br>Sleeves – plain, puffed, circular and bell sleeves.<br>Collars – Peterpan, shawl and shirt collar.<br>Fasteners – Press button, hook & eye, shirt button, button hole and zips.<br>Finishes – Neckline finishes – Facing, shaped, piping / binding, placket finishing – continuous one piece, two piece bound placket.<br>**Experiments:**<br>4. Construct different types of dart.<br>5. Construct different types of pleats.<br>6. Construct different types of tucks.<br>7. Construct any three types of sleeve.<br>8. Construct any three types of collars.<br>9. Construct any three types of plackets. | | 30 |
| **Unit IV** | **FLAT PATTERN TECHNIQUES AND ITS APPLICATION** | |
| Relocation of dart using pivot, slash & spread - single dart series, double dart series, radiating, graduating, parallel darts, conversion of darts to tucks, pleats, gathers and seams.<br>**Experiments:**<br>10. Relocate the dart by slash & spread method.<br>11. Convert the dart into tuck. | | 15 |

| | | |
|---|---|---|
| 12. Construct radiating and graduating samples. | | |
| **Unit V** | **BASIC PATTERN MAKING** | |
| Preparing basic block – Front, Back and sleeve<br>**Experiments:**<br>13. Prepare a basic block paper pattern of front.<br>14. Prepare a basic block paper pattern of back.<br>15. Prepare a basic block paper pattern of sleeve. | | 15 |
| **TOTAL HOURS** | | **90** |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
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- Students have to develop the good relationship with Core Company
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**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.

| GTH 373 | BASIC GARMENT CONSTRUCTION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

- Measuring tools
- Pattern making tools
- Construction tools
- General tools
- Sewing machines: - Lock stitch- 15 m/cs. Optional - (Over lock- 1 m/c. Flat lock- 1 m/c Buttonhole- 1 m/c Button stitch- 1 m/c)

Materials required:

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

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. Practical clothing construction Part I& II Mary Mathews Bhattarans Reprographics (P) Ltd., Chennai. 1974
2. The Art of Sewing Anna Jacob Thomas UBS Publisher,Delhi 2001
3. Practical dress Design Enwin, M.D. The MacMillan Comp., New York. 1982
4. Complete guide to sewing Reader's digest sewing guide The reader's digest Association, Inc. New York. 1976

# IV SEMESTER

| GTH 401 | APPAREL QUALITY CONTROL | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

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

**Course Objectives**

The objective of this course is to enable the student to

1. Understand the inspection methods.
2. Understand the testing procedures to produce quality woven garments.
3. Learn the various testing procedures to produce quality knitted garments.
4. Learn the different types of care labeling systems.
5. Learn the various defects in garments and analyzing the reasons for them.
6. Understand the concept of Garment Industry certification

**Course Outcomes**

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

CO1: Apply standard inspection methods and acceptance criteria to assess fabric and raw material quality for apparel production.

CO2: Analyze various testing methods used in the textile industry to evaluate fabric and garment performance characteristics.

CO3: Evaluate garment defects and test reports to identify quality issues and recommend corrective actions.

CO4: Assess care labeling systems and global certification standards to ensure regulatory compliance and sustainability in garment manufacturing.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 1 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | 1 | - | - | - | - | | | |
| CO4 | - | - | - | 1 | - | 1 | 1 | | | |
| CAM | 3 | 2 | 1 | 1 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 401 | APPAREL QUALITY CONTROL | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

| GTH 401 | APPAREL QUALITY CONTROL | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

| Unit I | INSPECTION METHODS | |
|---|---|---|
| Introduction to quality control – Definition – Quality assurance – Definition and importance – Fabric inspection (4 point & 10 point system) – Working procedure – Acceptance criteria - Raw material inspection and its importance – IPQC – AQL – MIS Standards. | | 9 |
| **Unit II** | **TESTING OF FABRICS** | |
| Different types of Garment testing provider (AATCC, ASTM, BS, ISO, JIS,US CPSC) - Testing of Fabric Stretch properties - Dimensional changes due to Laundering, Dry cleaning and Steaming & Pressing - Durable Press Evaluation of Fabrics - Needle cutting / yarn severance - Sew ability of fabrics - Bow and Skewness in Woven and Knitted fabrics - Distortion of yarn in Woven Fabrics. | | 9 |
| **Unit III** | **TESTING OF GARMENTS** | |
| Seam strength Testing - Testing of Water Resistance and Water Repellency – Testing for Soil / Stain releasing - Testing of Fusible Interlinings and Elastic Waist Band - Pantyhose Testing - Wear Testing - Flammability - Degree Flammability.<br>Defects in garments – Classification of major, minor and critical defects, pattern defects, spreading defects, cutting defects, stitching defects and seam defects. | | 9 |
| **Unit IV** | **CARE LABELING** | |
| Introduction to Care labels - its importance - Different systems of Care labeling - American - British - Canadian - Japanese - and International labeling.<br>Shade sorting - Introduction - importance Instrumental shade sorting. | | 9 |
| **Unit V** | **GARMENT INDUSTRY CERTIFICATIONS** | |
| Importance of Garment Industry certification – GOTS - Eco Passport by OEKO TEX - Worldwide Responsible Apparel Production (WRAP) - Zero Discharge of Hazardous Chemicals (ZDHC) – REACH – LEED - Organic Content Standard (OCS) - Responsible Wool Standard (RWS) - Recycled Claim Standard (RCS 100) - Sustainable Fibre Alliance (SFA) - Cradle to Cradle certification. | | 9 |
| **TOTAL HOURS** | | **45** |

| GTH 401 | APPAREL QUALITY CONTROL | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Test Books and Reference books**


1. An Introduction to Quality control for The Apparel Industry Pradip V Mehta ASQC Quality press. New York. 2005
2. Managing Quality in the Apparel Industry Pradip V Mehta Satish k Bhardwaj New Age International Publishers 2008


**Web – based / Online Resources**

1. https://www.ecocert.com/en-IN/certification
2. https://textilefocus.com/brief-certifications-required-textile-industry/
3. https://www.fibre2fashion.com/industry-article/3746/iso-certification-for-textile-and-apparel-industries
4. https://www.manufacturingmanagement.co.uk/features/what-certifications-are-important-for-the-garment-industry
5. https://certifications.controlunion.com/en/industries/textiles
6. https://sa-intl.org/programs/sa8000/

| GTH 402 | CLOTHING MACHINERY AND EQUIPMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

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

**Course Objectives**

The objective of this course is to enable the student to

1. Understand the functions of lock stitch, over lock and zigzag sewing machines.
2. Learn the various defects in sewing.
3. Learn about the Threading procedure of special machines.
4. Understand the functions of special sewing machines.
5. Learn the functions of guides and attachments.
6. Understand the functions of finishing machines.
7. Learn the maintenance of sewing and other machines.

**Course Outcomes**

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

CO1: Apply knowledge of garment machinery to select and operate appropriate cutting and sewing equipment based on fabric type and production requirements.

CO2: Analyze the functions and mechanical operations of basic and special-purpose sewing machines to troubleshoot faults and enhance productivity.

CO3: Evaluate the performance and suitability of stitching, fusing, and finishing machines for various garment construction and finishing processes.

CO4: Design a machine layout and maintenance plan for a garment production unit ensuring efficiency, safety, and cost-effectiveness.

| GTH 402 | CLOTHING MACHINERY AND EQUIPMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 1 | - |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 1 | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 1 | 1 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

| GTH 402 | CLOTHING MACHINERY AND EQUIPMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

| Unit I | SPREADING AND CUTTING MACHINES | |
|---|---|---|
| Objectives of Spreading – Spreading types - Study of automatic spreading machine. Types of Cutting machines – Straight Knife, Band Knife, Round knife, Die Cutting and Laser Cutting - Brief study about computerized cutting machine. | | 9 |
| **Unit II** | **BASIC SEWING MACHINES** | |
| Single needle Lock stitch machines - Parts and Functions - Timed sequence in stitch formation in single needle lock stitch machine - Needle bar mechanism with diagram -Study of thread tension variation and its adjustment in needle and Bobbin - Different types of needles and Needle Number - Selection of needle and thread. | | 9 |
| **Unit III** | **TYPES OF STITCHING MACHINE** | |
| Different types of sewing machine bed and its features – Different types of stitches and its importance - Chain Stitch Machine - ZigZag sewing machine - Different types of Feed mechanism in sewing machine - 3 threads over lock - Flat lock Machine (5 Thread) - Threading Procedures of 3 thread over lock - Threading Procedures of 5 thread flat lock. | | 9 |
| **Unit IV** | **SPECIAL MACHINES** | |
| Button hole & Button Stitch Machines – Elastic tape Stitch Machine – Collar turner - Feed-Off-Arm machine – Bar Tacking machine – Blind stitch Machine - Merits of Computerized sewing machine - Computerized embroidery machine – Thread sucking machine and its importance - Needle detector and its importance.Special attachments - Types of foots, Types of folders, Types of Guides.Unconventional fabric joining techniques- Ultrasonic welding,seam sealing, Thermal seams – Definition only. | | 9 |
| **Unit V** | **FINISHING MACHINES & MAINTENANCE** | |
| Fusing – Elements of fusing - Types of Fusing machine and working of continuous fusing machine with diagram. Garment finishing – Process flow of finishing - Objective of pressing – Equipments for pressing - Universal finishers - Tunnel finishers - Garment folding machine. Maintenance of sewing machines – Maintenance Schedule in Garment Units. | | 9 |
| **TOTAL HOURS** | | **45** |

| GTH 402 | GLOTHNG MACHINERY AND EQUIPMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Text Books and Reference Books**


1. Technology of Clothing Manufacture Carr &Lathem Blackwell Sci.Pub New 2014
2. Introduction to Clothing Manufacture Gerry Cooklin Blackwell Sci.Pub New 2015
3. Theory of Machines P L BallaneyKanna Pub., Delhi. 2010
4. Complete Guide to Sewing Readers Digest. 2009
5. The complete book of sewing Dorling Kindersley London 2009
6. A Text book of Machine Design R S Khurmi J K Gupta Eurasia Pub., New Delhi 2008

| GTH 471 | GARMENT CONSTRUCTION - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Introduction**

Garment construction is a technical accomplishment that requires the knowledge and skills of basic sewing techniques application of stitches, seams, darts, gathers, pleats and edge finishing, etc. It's appropriate application in garment construction is necessary for a good quality product.

**Course Objectives**

The objective of this course is to enable the student to

1. Understand about the suitable fabric for children's wear construction.
2. Learn about the consumption of fabric for different children's wear style.
3. Learn the layout and construction procedure of infants' style.
4. Learn the layout and construction procedure of Children's frock style.

**Course Outcomes**

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

CO1:Apply garment construction tools, sewing machines, and types of stitches effectively for infant and children's wear.

CO2:Analyze fabric types, layouts, and consumption for various garment types to ensure efficient material utilization.

CO3: Evaluate and troubleshoot construction methods used for boys' and girls' wear to improve garment quality.

CO4: Design and develop customized children's garments through integrated cutting, stitching, and finishing techniques.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 2 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 1 | - | - | - | | | |
| CO4 | - | - | 3 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | 1 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 471 | GARMENT CONSTRUCTION - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Examination**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 471 | GARMENT CONSTRUCTION –I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

| Unit I | GARMENT CONSTRUCTION TOOLS AND EQUIPMENT | |
|---|---|---|
| Garment Construction Tools & Equipment – Measuring, Marking, Cutting, Pressing and General tools.<br>Different types of sewing machines and its applications – Types of stitches and its applications. | | 2 |
| **Unit II** | **INFANT WEAR** | |
| Suitable fabrics, Layout, fabric consumption calculation and construction procedure - PilchKnicker, Zabla, Bib and Napkin.<br>**Experiments:**<br>1. Using given paper pattern cut, stitch and finish the garment – PilchKnicker<br>2. Using given paper pattern cut, stitch and finish the garment – Zabla.<br>3. Using given paper pattern cut, stitch and finish the garment –Bib &Napkin. | | 30 |
| **Unit III** | **CHILDREN'S FROCK** | |
| Suitable fabrics, Layout, fabric consumption calculation and construction procedure –A Line frock, Yoke frock, Umbrella frock.<br>4. Using given paper pattern cut, stitch and finish the garment – A Line frock.<br>5. Using given paper pattern cut, stitch and finish the garment – Yoke frock.<br>6. Using given paper pattern cut, stitch and finish the garment – Umbrella frock.<br>. | | 30 |
| **Unit IV** | **BOY S' WEAR** | |
| Suitable fabrics, Layout, fabric consumption calculation and construction procedure –Sun suit, T-Shirt and Boy's Shorts.<br>**Experiments:**<br>7. Using given paper pattern cut, stitch and finish the garment – Sun suit.<br>8. Using given paper pattern cut, stitch and finish the garment – T-Shirt.<br>9. Using given paper pattern cut, stitch and finish the garment – Boy's shorts. | | 8 |
| **Unit V** | **GIRL'S WEAR** | |
| Suitable fabrics, Layout, fabric consumption calculation and construction<br>procedure – Pinafore, Peddle pusher and Nightwear.<br>**Experiments:**<br>10. Using given paper pattern cut, stitch and finish the garment – Pinafore.<br>11. Using given paper pattern cut, stitch and finish the garment – Peddle pusher<br>12. Using given paper pattern cut, stitch and finish the garment –Nightwear. | | 20 |
| **TOTAL HOURS** | | **90** |

| GTH 471 | GARMENT CONSTRUCTION - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

- Measuring tools
- Pattern making tools
- Construction tools
- General tools

| GTH 471 | GARMENT CONSTRUCTION - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

- Sewing machines: - Lock stitch- 15 m/cs. Optional - (Over lock- 1 m/c. Flat lock- 1 m/c Buttonhole- 1 m/c Button stitch- 1 m/c)

Materials required:

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

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. The Art of Sewing Anna Jacob Thomas. Ubs Publishers, Delhi. 2010
2. Practical Clothing Constructions Part I & II Mary Mathews PaprinpackPrinters,Chennai. 2005
3. Zarapkar System of Cutting. K.R.ZarapkarNavneet Publications (I) Ltd.,Dantali. Gujarat. 2015
4. Sew It Yourself. Lippman (Gidon) Prentice Hall Inc New Jersey 2012

| GTH 472 | HOME TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Introduction**

This subject deals with the variety of Home Textile items like wall covering, floor covering, furniture linen, kitchen linen, bath linen and its production process. Students can able to handle the production and export of these items in a better manner.

**Course Objectives**

The objective of this course is to enable the student to

1. Study about domestic and International needs.
2. Understand the Various types of Floor & Wall coverings.
3. Know about the Furniture coverings.
4. Understand the quality parameters of the products.
5. Know the types of Kitchen & bath articles.
6. Have knowledge of decorating things.

**Course Outcomes**

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

CO1: Apply appropriate stitching and finishing techniques to construct functional and aesthetic home textile products for various settings.

CO2: Analyze the suitability of different textile materials and construction techniques for specific home furnishing applications.

CO3: Evaluate the quality and usability of finished home textile items based on functional and design requirements.

CO4: Create a coordinated range of home textile products with innovative design solutions tailored for living, bath, and kitchen spaces.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | - |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 1 | - | - | - | | | |
| CO4 | - | - | 2 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 2 | 1 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 472 | HOME TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 472 | HOME TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

| Unit I | WALL COVERING | |
|---|---|---|
| Wall coverings: - Draperies & Curtains - Plain, with Loop, Loop with Button, Tier curtain, valance, window panel, Tab top curtain, Eyelid, Rod Pocket Panel (RPP).<br>**Experiments:**<br>1. Cut, stitch and finish any two types of Window curtain. | | 5 |
| **Unit II** | **LIVING ROOM FURNISHING – I** | |
| Chair Linen: - Chair Pad, Chair Cushion, Chair cover, Seat pad (Sutton), Arm cap. Cushions: - Sofa cover,<br>**Experiments:**<br>2. Cut, stitch and finish any two types of pillow covers.<br>3. Cut, stitch and finish round cushion cover.<br>4. Cut, stitch and finish square cushion covers with frills.<br>5. Cut, stitch and finish Sofa cover. | | 20 |
| **Unit III** | **LIVING ROOM FURNISHING – II** | |
| Bed Linen: - Bed Spread, Duvet, Flat sheet, Fitted sheet, Pillow Shan, Quilt, Bed ruffle. Classification of Mattresses and pillows, Comforters and Blankets<br>**Experiments:**<br>6. Cut, stitch and finish Quilt cover.<br>7. Cut, stitch and finish Bed sheet. | | 10 |
| **Unit IV** | **BATH LINEN** | |
| Bath Linen: - Shower curtains, Bath rope, Bath Towel, Pool / Beach Towel, Bath Mat, Bath Sheet – Shower curtain – Day night curtain.<br>**Experiments:**<br>8. Cut, stitch and finish Bath rope. | | 5 |
| **Unit V** | **KITCHEN LINEN** | |
| Kitchen articles: - Apron, Mitten, Pot Holders, Kitchen Towel, Bread basket, Tea cozy - Table cloth, Napkin, Mat, Runner – Covers for Fridge, Mixi and Grinder.<br>**Experiments:**<br>9. Cut, stitch and finish Apron.<br>10.Cut, stitch and finish Mitten.<br>11.Cut, stitch and finish Table cover.<br>12.Cut, stitch and finish Tea cozy. | | 20 |
| **TOTAL HOURS** | | **60** |

| GTH 472 | HOME TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Equipment required:**

- Measuring tools
- Pattern making tools
- Construction tools
- General tools
- Sewing machines: -
    i. Lock stitch- 15 m/cs.
    ii. Over lock- 1 m/c. (optional)
    iii. Flat lock- 1 m/c (optional)
    iv. Button hole- 1 m/c (optional)
    v. Button stitch- 1 m/c (optional)

**Materials required:**

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

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

| GTH 472 | HOME TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Reference**


1. Textiles – Fibre to Fabric P.Corbaman TATA Mcgraw Hill Textile fabrics and their selection Isabel.B.Wingate Prentice Hall – Englewood Cliffs, New Jersey
2. Easy bazaar crafts Gerald.M.Knox Meredith Corporation
3. Furniture Upholstery Michal ScofieldSudha Irwin Holly Lyman Antolini Lane Publishing Co. Monlo Park, California The Complete Home Decorator Conran's habitat Caroline Clifton – Mogg Portland House, New York
4. Fashion Apparel Accessories & Home Furnishing Jay Diamond & Ellen Diamond Dorling Kindrsley Ind. Pvt. Ltd., New Delhi110092 - 2008

| GTH 473 | CHEMICAL PROCESSING AND TESTING OF TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Introduction**

The introduction to chemical Processing includes the de-sizing, scouring, bleaching is the Preparatory process to any kind of Textiles. The Dyeing of different fabrics with the suitable dyes and dyeing techniques are included to understand the wet processing treatment carried out for Textiles coloration. The Printing of Textiles covers various printing method to produce various surface effects on fabric. The finishing is to produce required properties and end usage. The Testing part of this section provides a basic knowledge on the Testing methods of different types of yarn and fabric.

**Course Objectives**

The objective of this course is to enable the student to

1. To understand and analyze basic fabric structure.
2. To understand the basics of wet processing sequence.
3. To study the singeing, scouring, de-sizing & bleaching processes.
4. To learn the classifications of dyes.
5. To understand the various dyeing techniques.
6. To understand the methods of printing.
7. To study the various printing techniques.
8. To know about finishing processes.
9. To learn different types of finishing methods in detail.
10. To understand the basics of numbering systems.
11. To learn yarn and fabric testing procedures.

**Course Outcomes**

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

CO1: Apply appropriate preparatory and dyeing techniques to achieve desired fabric quality for different fibre types and fabric structures.

CO2: Analyze textile printing and finishing processes to determine optimal methods and chemicals for specific functional and aesthetic outcomes.

CO3: Evaluate textile samples using standardized physical testing methods and interpret results to assess performance and quality compliance.

CO4: Design an integrated textile processing workflow combining preparatory, dyeing, printing, finishing, and testing stages for a given textile product.

| GTH 473 | CHEMICAL PROCESSING AND TESTING OF TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 3 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | 3 | - | 1 | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | 2 | 1 | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 473 | CHEMICAL PROCESSING AND TESTING OF TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

| Unit I | PREPARATORY PROCESS IN TEXTILE PROCESSING | |
|---|---|---|
| Sequence of process used in wet processing – Object of Singeing – Objects of de-sizing – Enzyme De-sizing - Scouring – objects - Merits of Continuous desizing and Scouring - Bleaching – objects of bleaching – Conventional bleaching process (using hypo chloride) - bleaching using Hydrogen peroxide – Comparison of woven and knitted cloth processing.<br>**Experiments:**<br>1. De-size and scour the given woven fabric.<br>2. Bleach the given woven fabric with Hydrogen peroxide. | | 15 |

| Unit II | DYEING OF TEXTILES | |
|---|---|---|
| Dyes used for natural, Manmade and synthetic fibres – Dyeing of cellulosic fibre with Vat, Reactive dyes – Dyeing method of protein fibre with acid dyes – Dyeing of polyester with disperse dyes – HTHP Beam dyeing machine - Garment Dyeing – Denim Processing.<br>**Experiments:**<br>3. Dye the given Cellulosic fabric with Reactive dyes.<br>4. Dye the given protein fiber with acid dyes. | | 15 |

| Unit III | PRINTING OF TEXTILES | |
|---|---|---|
| Comparison between dyeing and printing - Styles and methods of printing - Direct style of printing with pigments on cotton - Direct style of Printing with reactive dyes on cotton - Direct style of printing with Disperse dyes on polyester - Curing machine – steamer.<br>**Experiments:**<br>5. Print the cotton fabric with reactive dye in direct style.<br>6. Print the given cotton fabrics with reactive dyes.<br>7. Print the cotton fabric using Pigment by direct style. | | 15 |

| Unit IV | FINISHING OF TEXTILES | |
|---|---|---|
| Mercerization – Objects of mercerization – Sanforisation process – Objects of Compacting and Calendaring - Finishing – Type of finishes - Finishing procedure and Chemicals - Silicone finish, Marble (Acid) finish, Stone wash, Water repellent and Water resistance finish, Flame retardant and Anti-microbial finish. | | 15 |

| | |
|---|---|
| **Experiments:**<br>8. Mercerize the given cotton fabric. | |
| **Unit V** | **PHYSICAL TESTING OF TEXTILES** |
| Definition of yarn count – Definition of English and Tex system of yarn numbering – Method of count determination by Beesley balance – Yarn strength by Lea tester – Yarn Twist – Double yarn twist Estimation – Fabric Tensile, Fabric Tear & fabric bursting strength.<br>**Experiments:**<br>9. Determine the Lea strength of yarn using Lea tester.<br>10. Determine the double yarn twist tester<br>11. Determine the Bursting strength of the fabric using Bursting tester<br>12. Determine the tearing strength of the fabric using tear tester | 15 |
| **TOTAL HOURS** | **75** |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60

| GTH 473 | CHEMICAL PROCESSING AND TESTING OF TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)

- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

**(* Optional)**

Equipment / Machines / Instruments required:

- Beaker- 30 N0s.
- Glass rod- 30 N0s.
- Steel tumbler- 30 N0s.
- Dye bath (6 tumbler/ Bath) - 30 N0s.
- Physical balance- 1 No
- Electronic balance*- 1 No
- Burners 5 Nos.
- HTHP dyeing machine- 1 No o
- Screens- 5 Nos.
- Squeezer 5 Nos.
- Printing table 1 No
- Padding mangles* 1 No
- Crock meter 1 No
- Tensile strength tester- fabric 1 No
- Tearing strength tester 1 No
- Bursting strength tester 1 No
- Yarn Lea strength tester 1 No
- Beesley balance 1 No
- Wrap reel 1 No
- Counting glass 30 No
- Material required: 2-3 meters of fabric/ experiment / batch of 30 students.

| GTH 473 | CHEMICAL PROCESSING AND TESTING OF TEXTILES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper. Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. The Bleaching Dying of Cotton material. Prayog R S Weaver's service centre, Mumbai 2010
2. Technology of Textile Printing Prayog R S -do- 2008
3. Principles of Textile Testing J.E. BOOTH Butterworth Scientific, London
4. Tech. of Textile Processing all series SHENAI.V.A. Shevak Publications Bombay
5. Mercerising MARSH.J.T. BT Publications, Mumbai An Introduction to Textile finishing MARSH.J.T. – BT Publications, Mumbai
6. Textile Printing Miller.W.C Society of Dyers

| GTH 474 | GARMENT PATTERN DRAFTING - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Introduction**

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

**Course Objectives**

The objective of this course is to enable the student to

1. Understand the drafting procedure for infants' style.
2. Understand the drafting procedure for frock styles.
3. Understand the drafting procedure for girls' style.
4. Understand the drafting procedure for boys' style.
5. Understand the drafting procedure for ladies style.

**Course Outcomes**

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

CO1:Apply knowledge of pattern drafting tools and techniques to prepare patterns for various garments.

CO2:Analyze garment styles and measurements to determine appropriate drafting methods for different types of wear.

CO3: Design and develop accurate paper patterns for garments using standard drafting principles and construction requirements.

CO4: Create complete pattern sets for a range of children's garments incorporating design principles and garment construction standards.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | 2 | - | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | - | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 474 | GARMENT PATTERN DRAFTING - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 474 | GARMENT PATTERN DRAFTING - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

| Unit I | PATTERN DRAFTING OF INFANT WEAR | |
|---|---|---|
| Pattern making of PilchKnicker, Zabla, Bib, Body suit (Napkin) – with styles description.<br>1. Prepare the paper pattern for PilchKnicker.<br>2. Prepare the paper pattern for Zabla.<br>3. Prepare the paper pattern for Bib. | | 15 |
| **Unit II** | **PATTERN DRAFTING OF FROCKS** | |
| Introduction to frocks - Pattern making of A line Frock, Yoke Frock, Umbrella Frock, - with style description<br>**Experiments:**<br>4. Prepare the paper pattern for A Line frock.<br>5. Prepare the paper pattern for Yoke frock.<br>6. Prepare the paper pattern for Umbrella frock. | | 15 |
| **Unit III** | **PATTERN DRAFTING OF GIRL'S WEAR** | |
| Pattern making of Pinafore, Peddle Pusher - with style description.<br>**Experiments:**<br>7. Prepare the paper pattern for Pinafore.<br>8. Prepare the paper pattern for Nightwear | | 15 |
| **Unit IV** | **PATTERN DRAFTING OF BOY'S WEAR-I** | |
| Pattern making for Sun suit, T-Shirt - with style description.<br>**Experiments:**<br>9. Prepare the paper pattern for Sun suit.<br>10. Prepare the paper pattern for T-shirt. | | 15 |
| **Unit V** | **PATTERN DRAFTING OF BOY'S WEAR-II** | |
| Pattern making for, Boys shorts - with style description.<br>**Experiments:**<br>11. Prepare the paper pattern for Boys shorts.<br>12. Prepare the paper pattern for Peddle Pusher. | | 15 |
| **TOTAL HOURS** | | **75** |

| GTH 474 | GARMENT PATTERN DRAFTING - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

Pattern table- 8’x4’ table- 4 nos.

Materials required:

Pattern paper-30 nos /experiment /batch of 30 student’s o

Measuring, drafting & general tools-30/ batch of 30 students

| GTH 474 | GARMENT PATTERN DRAFTING - I | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper. Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. The Art of Sewing Anna Jacob Thomas. Ubs Publishers, Delhi. 2001
2. Practical Clothing Constructions Part I& II Mary Mathews PaprinpackPrinters,Chennai.
3. Zarapkar System of Cutting. K.R.ZarapkarNavneet Publications (I) Ltd.,Dantali. Gujarat. 2015
4. Sew It Yourself. Lippman (Gidon) Prentice Hall Inc New Jersey 2005
5. Metric Pattern Cutting For Children‘s Wear Winfred Aldrich Blackwell science
6. Pattern Design For Children’s Clothes Gloria MortimerDunn BT BatsfordLtd,London Clothing For Moderns Erwine Macmillan Pub.Co., New York.
7. Comparative Clothing Construction Techniques VirginnStolpe Lewis Surjeetpublications Delhi. 2015
8. Scientific Garments Cutting K.M.HegdeK.M.Hegde& Sons, Poona
9. Art In Everyday Life Harriet Goldstein Vetta Goldstein Oxford & IBH Publishing

# V SEMESTER

| GTH 501 | APPAREL MERCHANDISING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Introduction**

Apparel merchandising is the common word prevailing in the Garment Industry. Every export unit is having merchandising wing. The officials in this wing are responsible for the execution of orders right from receiving orders to dispatching of goods. This subject gives an in-depth knowledge on various type of merchandising, the planning, the nature of work of a merchandiser along with the marketing techniques and sale promotion activities.

**Course Objectives**

The objective of this course is to enable the student to

1. Understand the merchandising procedures.
2. Learn the functions of merchandiser.
3. Understand the retail merchandising procedures.
4. Learn the pricing procedures.
5. Understand the visual merchandising procedures.
6. Understand the merchandising plan and merchandising calendar.
7. Understand the advertising techniques.
8. Learn the sales promotion techniques.

**Course Outcomes**

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

CO1: Apply merchandising concepts, sampling types, and seasonal strategies to effectively support apparel marketing and production workflows.

CO2: Analyze merchandising plans and calendars to optimize buying strategies, assortment planning, and production timelines.

CO3: Evaluate pricing strategies and sales promotion techniques for diverse market scenarios in the apparel industry.

CO4: Create comprehensive visual and retail merchandising displays incorporating design principles and consumer behavior analysis.

| GTH 501 | APPAREL MERCHANDISING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | 2 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 2 | 2 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset. Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

| GTH 501 | APPAREL MERCHANDISING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

| Unit I | INTRODUCTION TO MERCHANDISING | |
|---|---|---|
| Terminology in merchandising - Customer, Consumer, Buyer, Importer, Retailer, Exporter and Trader.<br>Season of export – Spring, Summer, Winter and Autumn.<br>Types of Buyer and buying offices.<br>Merchandising – Definition – Process flow of merchandising – Role of merchandiser – Skills of Merchandiser.<br>Sampling – Types of samples - Development sample, Salesman sample, Approval sample, Preproduction sample, Production sample, Shipment sample. | | 12 |
| **Unit II** | **MERCHANDISING PLANNING** | |
| Merchandising plan – Planning sales goals – Buying plan – Assortment Planning – Open to buy – Purpose of a six months plan, Elements of a six-month plan – Analysis of previous merchandising plan and developing a new plan - Planning components - Merchandising calendar and scheduling - TNA (Time and Action) calendar. | | 12 |
| **Unit III** | **PRICING AND SALES PROMOTION** | |
| Pricing considerations and various types of pricing - Cost plus pricing, Marginal cost pricing, Discriminatory pricing and effects of Price changes. Factors to be considered for calculation of fabric cost.<br>Advertising- AIDA & DAGMAR objectives, Copy writing - Print, radio, television, outdoor, transit advertising.<br>Sales Promotion - Definition and various types of sales promotion - Personal Selling, Public Relations and propaganda's. | | 12 |
| **Unit IV** | **RETAIL MERCHANDISING** | |
| Introduction to Retail Merchandising – Types of retail merchandising - Department stores – Discounters – Off-price retailers – Outlet source – Close out - Warehouse clubs – Non-store retailing – Mail order Merchants – E Tailing. | | 12 |
| **Unit V** | **VISUAL MERCHANDISING** | |
| Definition of Visual Merchandising – Elements of Visual Merchandising - Signage, Marquee, Entries, Window display, Lighting & Awnings – Brief study of boutique. Principles of Displays – Responsibility in visual merchandiser – Methods of display – Problems in display. | | 12 |
| **TOTAL HOURS** | | **60** |

| GTH 501 | APPAREL MERCHANDISING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative Management theories.

**Reference**


1. Philip Kotler / Kevin Lane / Abraham Koshu / MithileshwarJha – Marketing ManagementPearson prentice Hall Twelfth Edition 2007
2. Cundiff& Still - Fundamentals of Modern Marketing - McGraw Hill Twelfth Edition 2007
3. Sherlekar – Marketing Management - Himalaya Publishing House 6th Edition 2007
4. Stanton - Marketing Management - Pearson Prentice Hall 2nd Edition 2007
5. Keegan WJ and Green MS - Global Marketing - Pearson Prentice Hall 2nd Edition 2008
6. Plamer A – Principles of Marketing – Oxford University Press 2nd Edition 2008

| GTH 502 | APPAREL INDUSTRIAL ENGINEERING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Introduction**

The garment manufacturing and exporting industry is facing heavy challenges due to various factors including global competition, production costs increase, less productivity/efficiency, labor attrition, etc. The industrial engineering concept needs to be imparted to the facilities to increase productivity.

**Course Objectives**

The objective of this course is to enable the student to

1. Learn about Production & Productivity
2. Learn about apparel production system and layout
3. Know the calculation of SAM
4. Learn about Ergonomics
5. Learn about SMT
6. Know the concepts of Production planning

**Course Outcomes**

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

CO1:Apply concepts of productivity and apparel engineering to evaluate performance metrics in garment production.

CO2:Analyze various apparel production systems and layouts to determine the most efficient setup for specific operational needs.

CO3: Evaluate work measurement techniques, line balancing, and ergonomics to enhance operator performance and process efficiency.

CO4: Create comprehensive production plans by integrating capacity assessment, inventory control, and scientific training methodologies.

| GTH 502 | APPAREL INDUSTRIAL ENGINEERING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Mapping of COs to POs:**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 1 | - | - | - | | | |
| CO4 | - | - | 2 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 2 | 1 | - | 1 | 1 | | | |

*Legend:3-HighCorrelation,2-MediumCorrelation,1-LowCorrelation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset. Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

| GTH 502 | APPAREL INDUSTRIAL ENGINEERING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

| Unit I | INTRODUCTION TO APPAREL ENGINEERING | |
|---|---|---|
| Tailoring versus Garment units – Production and productivity – Benefits of increasing productivity – Factors affecting productivity – Labour productivity - Machine productivity – Material productivity – Overall productivity - Activity of apparel engineer – Benefits of Apparel engineering. | | 12 |
| **Unit II** | **APPAREL PRODUCTION SYSTEMAND LAYOUT** | |
| Objective, Merits & Demerits: Whole garment production system –Group system – Progressive bundle system – Unit production system – Quick response sewing system.<br>Objective of Layout – flow forward layout – side to side flow – Linear – U Shaped – Comb shaped – Block | | 12 |
| **Unit III** | **WORK MEASUREMENT** | |
| Definition & Uses of SAM – Rating factor – Allowance –Types of allowance (Machine, Relaxation, Interference, Process, Contingency & Special) –Procedure for calculating SAM - Capacity study – Benefits of capacity study – Operator performance –WIP – Activity to manage WIP – Operation bulletin – Line balancing.Motion study – Definition and Uses. | | 12 |
| **Unit IV** | **ERGONOMICS & SCIENTIFIC METHOD OF TRAINING (SMT)** | |
| Ergonomics - importance, division; ergonomic principles - designing of workplace, working processes, handling material, tools and environment; ergonomic conditions related to garment industry.<br>Aim of SMT – Methodology behind SMT – Selection test – Basic exercise – Paper exercise – Fabric exercise. | | 12 |
| **Unit V** | **PRODUCTION PLANNING** | |
| Production planning- Plant capacity- Committed Capacity- Available capacity- Potential capacity- Required capacity- Individual operation capacity- Excess capacity- Relationship of production Standards to capacity - Inventory control – Economic order quantity. | | 12 |
| **TOTAL HOURS** | | **60** |

| GTH 502 | APPAREL INDUSTRIAL ENGINEERING | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 4 | 0 | 0 | 4 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative Management theories.

**Reference**


1. Introduction to Clothing Production Management Chuter AJ Blackwell Science Materials Management In Clothing Production David J Taylor BSP Professional Books London 2010
2. Apparel manufacturing Ruth E Glock Grace I Kunz Prentice hall New Jersy
3. Industrial Engineering in Apparel Production Ramesh Babu V Woodhead Publishing India 2012
4. Industrial Engineering and Management N V S RajuCengage Learning 2013

| GTH 571 | GARMENT PATTERN DRAFTING - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Introduction**

Pattern drafting is the nerve centre of garment making. Every garment parts are draft to its size for lateral assembling into a garment. This procedure helps to make perfect garment to various sizes. Any alteration is also made within the pattern. The patterns can also be stored for ever and repeated orders are carried out at ease. From the pattern's layout is made simple and better marker efficiency is achieved for minimum consumption of fabrics.

**Course Objectives**

The objective of this course is to enable the student to

1. Understand the drafting procedure for Ladies' style.
2. Understand the drafting procedure for Men's styles.
3. Understand the Fitting problems.
4. Understand the concept of CAD pattern making.
5. Understand the principles of pattern alteration.

**Course Outcomes**

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

CO1:Apply advanced pattern drafting techniques to create patterns for men's and women's garments with accurate fabric consumption calculations.

CO2: Analyze garment styles and their design features to determine appropriate pattern construction approaches for both traditional and modern wear.

CO3: Evaluate fit, functionality, and fabric efficiency of drafted patterns for a variety of men's and women's garments.

CO4: Design and develop customized garment patterns by integrating body measurements, style elements, and tailoring standards.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 1 | - | - | - | | | |
| CO4 | - | - | 3 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | 1 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 571 | GARMENT PATTERN DRAFTING - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 571 | GARMENT PATTERN DRAFTING - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

| Unit I | MEN'S WEAR – I | |
|---|---|---|
| Pattern making of Men's full sleeve shirt, Pleated trouser, Nehru kurtha – styles description – Calculation fabric consumption.<br>**Experiments:**<br>1. Prepare the paper pattern for Men's full sleeve shirt.<br>2. Prepare the paper pattern for Pleated trouser.<br>3. Prepare the paper pattern for Nehru Kurtha. | | 15 |
| **Unit II** | **MEN'S WEAR – II** | |
| Pattern making of SB Waist coat, Blazzer – styles description – Calculation fabric consumption.<br>**Experiments:**<br>4. Prepare the paper pattern for SB Waist coat.<br>5. Prepare the paper pattern for Blazzer.<br>6. Prepare the paper pattern for Sharwani. | | 15 |
| **Unit III** | **LADIE'S WEAR – I** | |
| Pattern making of Saree petticoat, Flared pant - styles description – Calculation fabric consumption.<br>7. Prepare the paper pattern for 6 goredSaree petticoats.<br>8. Prepare the paper pattern for flared pant. | | 10 |
| **Unit IV** | **LADIE'S WEAR – II** | |
| Pattern making for Cut choli, KatoriCholi, Princess Blouse - styles description – Calculation fabric consumption.<br>9. Prepare the paper pattern for Cut choli<br>10. Prepare the paper pattern for Princess Blouse. | | 10 |
| **Unit V** | **LADIE'S WEAR – II** | |
| Pattern making for Cut choli, Full Maxi - styles description – Calculation fabric consumption.<br>11. Prepare the paper pattern for Cut choli.<br>12. Prepare the paper pattern forAnarkali gown. | | 10 |
| **TOTAL HOURS** | | **60** |

| GTH 571 | GARMENT PATTERN DRAFTING - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

Pattern table- 8’x4’ table- 4 no’s

Materials required:

Pattern paper-30 nos /experiment /batch of 30 students o

Measuring, drafting & general tools-30/ batch of 30 students

| GTH 571 | GARMENT PATTERN DRAFTING - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 4 | 2 |

**Reference**


1. The Art of Sewing Anna Jacob Thomas. Ubs Publishers, Delhi. 2010
2. Zarapkar System Of Cutting. K.R.ZarapkarNavneet Publications (I) Ltd.,Dantali. Gujarat. 2015
3. Sew It Yourself. Lippman (Gidon) Prentice Hall Inc New Jersey 2012
4. Comparative Clothing Construction Techniques VirginnStolpe Lewis Surjeet Publications, Delhi 1985
5. Scientific Garments Cutting K.M. Hedge K.M. Hedge & Sons., Poona
6. Pattern Cutting For Women's Outer Wear Gerry Cooklin Blackwell Science Publication, London 2010
7. Metric Pattern Cutting Winfred Aldrich Blackwell Science Publication, London 2003
8. Pattern grading for Mens' Clothes Gerry Cooklin Blackwell Science Publication, London 2009
9. Pattern grading for Children's Clothes Gerry Cooklin Blackwell Science Publication, London
10. Pattern Grading for womens' Clothiing Gerry Cooklin Blackwell Science Publication, London 2014
11. Step by Step Dress Making course Leela Aitken BBC Books, London


**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper. Record of work done in the course of study should be submitted for the End Semester Examinations

| GTH 581 | GARMENT CONSTRUCTION - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Introduction**

Garment construction has both technical and design issues, the designer can choose where to construct lines and how to finish edges and how to produce volume and structure in order to create a good look and experience for the wearer.

**Course Objectives**

The objective of this course is to enable the student to

1. Understand about the suitable fabric for Men's wear construction.
2. Understand about the suitable fabric for Ladies' wear construction.
3. Learn about pattern grading.

**Course Outcomes**

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

CO1: Apply garment construction techniques to accurately cut, stitch, and finish men's and women's garments using graded patterns.

CO2: Analyze fit, structure, and construction challenges in various garment styles to ensure functional and aesthetic quality.

CO3: Evaluate completed garments for construction accuracy, finishing quality, and suitability of techniques used.

CO4: Create complete garments from graded patterns, integrating innovative approaches in handling diverse garment styles and fabrics.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 3 | - | - | - | | | |
| CO4 | - | - | 2 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 2 | 3 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 581 | GARMENT CONSTRUCTION - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 581 | GARMENT CONSTRUCTION -II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

| | | |
|---|---|---|
| **Unit I** | **PATTERN GRADING** | |
| Define pattern grading - Pattern grading procedure for bodice front, back & sleeve.<br>1. Prepare the graded pattern of Men's full sleeve shirt of front, back and sleeve. | | 6 |
| **Unit II** | **MEN'S STYLE – I** | |
| Garment construction procedure – Men's full sleeve shirt, Pleated trouser.<br>**Experiments:**<br>2. Using given paper pattern cut, stitch and finish the garment – Men's full sleeve shirt.<br>3. Using given paper pattern cut, stitch and finish the garment – Pleated trouser. | | 15 |
| **Unit III** | **MEN'S STYLE – II** | |
| Garment construction procedure – Blazzer, SB Waist coat.<br>4. Using given paper pattern cut, stitch and finish the garment – Blazzer.<br>5. Using given paper pattern cut, stitch and finish the garment – SB Waist coat. | | 15 |
| **Unit IV** | **LADIES STYLE – I** | |
| Garment construction procedure – 6 Panel petticoats, Flared pants and Cut choli.<br>6. Using given paper pattern cut, stitch and finish the garment – 6 gored sareepetticoats.<br>7. Using given paper pattern cut, stitch and finish the garment – Flared pants.<br>8. Using given paper pattern cut, stitch and finish the garment – Cut choli. | | 24 |
| **Unit V** | **LADIES STYLE – II** | |
| Garment construction procedure – Divided Skirt, Kameez, salwar, Full Maxi.<br>9. Using given paper pattern cut, stitch and finish the garment – Divided Skirt.<br>10. Using given paper pattern cut, stitch and finish the garment – Kameez.<br>11. Using given paper pattern cut, stitch and finish the garment –salwar.<br>12. Using given paper pattern cut, stitch and finish the garment – Anarkali gown. | | 30 |
| **TOTAL HOURS** | | **90** |

| GTH 581 | GARMENT CONSTRUCTION - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

- Measuring tools
- Pattern making tools
- Construction tools
- General tools

| GTH 581 | GARMENT CONSTRUCTION - II | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

- Sewing machines: - Lock stitch- 15 m/cs. Optional - (Over lock- 1 m/c. Flat lock- 1 m/c Buttonhole- 1 m/c Button stitch- 1 m/c)

Materials required:

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

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper. Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. The Art of Sewing Anna Jacob Thomas. Ubs Publishers, Delhi. 2001
2. Practical Clothing Constructions Part I & II Mary Mathews PaprinpackPrinters,Chennai. 1985
3. Zarapkar System of Cutting. K.R.ZarapkarNavneet Publications (I) Ltd.,Dantali. Gujarat. 2015
4. Sew It Yourself. Lippman (Gidon) Prentice Hall Inc New Jersey 2002

| GTH 582 | HANDICRAFTS | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Introduction:**

This subject will enable students to explore the creative activities of paper Mache and fashion jewellery as part of diploma education. Indian is home to many handicrafts that can be produced with limited tools, space and materials.

**Course Objectives**

The objective of this course is to enable the student to

1. Appreciate the history and evaluation of paper Mache.
2. Learn how to make and prepare material for making.
3. Learn how to finish the final product.
4. Lear to prepare fashion jewellery.

**Course Outcomes**

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

CO1: Apply appropriate materials and tools to create paper mach crafts and fashion jewellery.

CO2: Analyze the process of preparing paper pulp and glue and assess their role in craft durability and finish.

CO3: Design and construct innovative three-dimensional products using paper mache techniques.

CO4: Create aesthetically finished handicraft items and fashion jewellery by combining functional and decorative elements.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | 2 | - | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 3 | - | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 582 | HANDICRAFTS | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 582 | HANDICRAFTS | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

| | | |
|---|---|---|
| **Unit I** | **INTRODUCTION TO PAPER MACHE** | |
| History of paper Mache – Paper Mache in different states – Tools and materials | | 6 |
| **Unit II** | **MAKING OF PAPER MACHE CRAFTS** | |
| **Experiments:**<br>1. Prepare paper pulp.<br>2. Prepare rice glue. | | 14 |
| **Unit III** | **PREAPRE PAPER MACHE WITH INNOVATION** | |
| **Experiments:**<br>3. Make a hanging ball using paper pulp.<br>4. Make a cylindrical pen holder using paper pulp.<br>5. Make a cylindrical 3D Turtle using paper pulp | | 21 |
| **Unit IV** | **FINISHING THE PAPER MACHE** | |
| **Experiments:**<br>6. Finish the hanging ball with proper colouring.<br>7. Finish the pen holder with proper colouring.<br>8. Finish the 3D turtle with proper colouring. | | 21 |
| **Unit V** | **FASHION JEWELLERY** | |
| **Experiments:**<br>9. Make a neck ornament by stringing beads.<br>10. Make a bracelet by German silver wire.<br>11. Make an ear stud by quailing paper.<br>12. Make a bangle by silk thread. | | |
| **TOTAL HOURS** | | **90** |

| GTH 582 | HANDICRAFTS | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

- Mould
- Gas stove
- Plastic tub
- Apron
- Gloves

Materials required:

- Chalk powder.
- Rice flour
- Adhesive

| GTH 582 | HANDICRAFTS | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

- Sand paper
- Brush
- Acrylic colour
- Egg tray
- Quailing paper
- Silk thread

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. https://handicrafts.nic.in
2. All India Handicrafts Board (AIHB)
3. https://texmin.nic.in
4. https://nationalcraftsmuseum.nic.in
5. https://www.hhecworld.com
6. https://indian.handicrafts.gov.in

| GTH 583 | GARMENT LAUNDERING AND MAINTENANCE | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Introduction**

The technology which is used to modify the outlook, appearance, fashion, and comfort-ability of garments is called garment laundering. Garments laundering are the aesthetic finish given to the denim fabric to enhance the appeal and to provide strength. Garments laundering process is deeply discussed in this course.

**Course objectives**

The objective of this course is to enable the student to

1. State the need for taking care of clothes and meaning of laundering and dry cleaning;
2. Explain the basic steps of laundering;
3. Describe the soaps and detergents;
4. List various auxiliaries and state their use;
5. Describe the procedure of removing different stains from different fabrics;
6. Elaborate different methods of washing and state their suitability to fabrics;
7. List the precautions to be taken while storing clothes;
8. Explain the process of dry cleaning.

**Course Outcomes**

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

CO1: Apply appropriate laundering techniques and washing equipment for different fabric types and stains.

CO2: Analyze the chemical composition and performance of soaps, detergents, and auxiliary agents in laundering processes.

CO3: Evaluate the effectiveness of stain removal methods and fabric care procedures for various textile materials.

CO4: Create comprehensive laundering plans and care guidelines tailored to fabric types, user needs, and sustainability practices.

| GTH 583 | GARMENT LAUNDERING AND MAINTENANCE | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Mapping of COs to POs:**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 1 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 1 | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 1 | 1 | - | 1 | 1 | | | |

*Legend:3-HighCorrelation,2-MediumCorrelation,1-LowCorrelation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 583 | GARMENT LAUNDERING AND | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | MAINTENANCE | 1 | 0 | 4 | 3 |

| Unit I | WASHING AND DRYING EQUIPMENTS | |
|---|---|---|
| Water - hard and soft water - methods of softening water. Laundry soaps – Manufacture of soap (Hot process, cold process).<br>Laundry equipment – for storage, for steeping and Washing – Wash board, suction washer, wash boiler, washing machine<br>Drying equipments: Outdoor and indoor types - Irons and ironing board – types of iron (box, flat, automatic, steam iron) .Ironing board – different types<br>**Experiments:**<br>1. Analysis of the water.<br>2. Study on manufacturing of soap by hot process and cold process.<br>3. Analysis of the soap and detergent (Foam test).<br>4. Study on different types of laundry equipment. | | 15 |

| Unit II | LAUNDERING | |
|---|---|---|
| Meaning of laundering – steps in laundering – mending – stain removal –sorting – soaking – washing – starching / bluing – drying – pressing and finishing – Detergents – Composition of soap - types of soap - Auxiliaries - Blues - Optical brightening agents - Chemical bleaches - Stain removing agents - Stiffening agents.<br>**Experiments:**<br>5. Study the different types of laundry equipments.<br>6. Study the different types of drying equipments.<br>7. Study the effect of laundering of different types of fabrics.<br>8. Study the dry cleaning of garments. | | 15 |

| Unit III | STAIN REMOVAL | |
|---|---|---|
| Identification of stains - Vegetable stains - Animal stains - Grease stains - Mineral stains - Grass stain - Miscellaneous stains – Methods of stain removal - Precautions While Removing Stains.<br>**Experiments:**<br>9. Remove the below stain from White cotton, Coloured cotton, Silk & Wool and Synthetics<br>i. Tea / Coffee stain<br>ii. Blood / Egg / Meat stain<br>iii. Butter / Ghee / Oil stain<br>iv. Paint / Shoe polish / Lip stick / Ball pen stain / Grass stain | | 15 |

| Unit IV | WASHING | |
|---|---|---|
| Methods of washing - Friction washing - Suction - Kneading and squeezing - Washing by machines – Dry cleaning – Process of washing for different kinds of textile material. | | 15 |
| **Unit V** | **CARE AND MAINTENANCE** | |
| General care and maintenance – Cotton - Silk fabric – Woolen fabric - Synthetic fabrics – Care symbols and its importance –<br>**Experiments:**<br>10. Study the storing of different kinds of fabrics. | | 15 |
| **TOTAL HOURS** | | **75** |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.

| GTH 583 | GARMENT LAUNDERING AND MAINTENANCE | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

Washing machine- 1

Drying unit – 1

TDS Meter – 1

Electronic balance – 1

Test tubes – 10

Beaker (100 ml) - 10

Class rod – 10

Measuring cylinder – 1

Measuring scale - 1

Materials required:

Distilled water

Soap & Detergents

Dry cleaning solutions

Stain remover

Different kinds of fabric (Cotton, wool, acetate, silk, polyester ...)

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper. Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference:**


1. Wingate I B Textiles fabrics and their Selection Allied publishers Ltd, Chennai 85
2. Susheela Dantyagi Fundamentals of Textiles and their Care Orient Longmann Ltd 1980
3. DurgaDuelkar Household Textiles and Laundry Work Amla Ram & Sons, Delhi.
4. www.fabriclink.com/fabriccare.html

| GTH 584 | ADVANCED SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Introduction**

Advanced Surface ornamentation refers to the process of adorning a fabric's surface after it has been formed using a variety of techniques like, advanced embroidery stitches , Traditional Indian embroidery etc. It currently plays a huge part in fashion design. In order to draw in and keep clients, surface decoration is preferred.

**Course Objectives**

The objective of this course is to enable the student to

1. To teach the students techniques of Advanced hand embroidery stitches.
2. To introduce the students to various traditional embroideries of India**.**

**Course Outcomes**

On successful completion of this course, the student will be able to apply and create

CO1: Apply advanced hand embroidery techniques to develop creative surface designs.

CO2: Analyze and synthesize traditional Indian embroidery forms to produce culturally inspired ornamentation samples.

CO3: Evaluate the suitability of different embroidery techniques and materials for specific garment applications.

CO4: Create original embroidery compositions by integrating multiple surface ornamentation techniques for contemporary and traditional textile projects.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 1 | 2 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 584 | ADVANCED SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 584 | ADVANCED SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

| Unit I | ADVANCED HAND STITCHES - 1 | |
|---|---|---|
| Definition of given stitches, suitable materials, selection of designs, procedure (Sample size 8"x 8")**.**<br>**Experiments:**<br>1. Prepare Embroidery Design using Tambour Embroidery.<br>2. Prepare Embroidery Design using Crewel Embroidery.<br>3. Prepare Embroidery Design using Needle Weaving. | | 15 |
| **Unit II** | **ADVANCED HAND STITCHES 2** | |
| Definition of given stitches, suitable materials, selection of designs, procedure (Sample size 8"x 8")**.**<br>**Experiments:**<br>4. Prepare Embroidery Design using Cut work.<br>5. Prepare Embroidery Design using Renaissance work.<br>6. Prepare Embroidery Design using Tapestry Embroidery. | | 15 |
| **UNIT III** | **ADVANCED HAND STITCHES 3** | |
| Definition of given stitches, suitable materials, selection of designs, procedure (Sample size 8"x 8")(Sample size 8"x 8")**.**<br>**Experiments:**<br>7. Prepare Embroidery Design using Smocking work.<br>8. Prepare Embroidery Design using Patch work.<br>9. Prepare Embroidery Design using Shaded Embroidery. | | ` 15 |
| **UNIT IV** | **TRADITIONAL INDIAN EMBROIDERY** | |
| Definition of given stitches , suitable materials, selection of designs, procedure ,Kantha of West Bengal, Chikankari of Uttar Pradesh, Kasuti of Karnataka. (Sample size 8"x 8")<br>**Experiments:**<br>10. Prepare a sample using Kantha embroidery technique.<br>11.Prepare a sample using Kasuti embroidery technique<br>12. Prepare a sample using Chikankari work. | | 15 |
| **UNIT V** | **ADVANCED MACHINE STITCHES** | |
| Definition of given stitches, suitable materials, selection of designs, procedure (Sample size 8"x 8")(Sample size 8"x 8")**.**<br>13.Prepare Embroidery Design using Filled Running.<br>14. Prepare Embroidery Design using Satin Work.<br>15. Prepare Embroidery Design using Shaded Embroidery. | | 15 |
| **TOTAL HOURS** | | **75** |

| GTH 584 | ADVANCED SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety.

**List of Equipment**

1. Hand / Machine embroidery tools & machineries:-
    - Embroidery frame- 30 Nos.
    - Hand needles- 30 Nos.
    - Tracing wheel- 30 Nos.
    - Thimbles- 30 Nos.

| GTH 584 | ADVANCED SURFACE ORNAMENTATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

2. Materials required:

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

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

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- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


4. Vaine. J (2011) – The Art of Elegant Hand Embroidery, Embellishment and Applique – Landauer Publishing – Urbandale, Iowa, USA
5. Elliot. M – Painting Fabric – Henry Holt and Company – New York - 2012
6. Shrijee – Indian Ethnic Textile Design – Shrijee's Book International – New Delhi - 2007

| GTH 585 | GARMENT CAD | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Introduction**

CAD pattern refers to the creation of patterns using computer-aided design (CAD) software. This process involves using specialized software to create digital patterns for clothing, textiles, and other items that can be produced through manufacturing or sewing.

**Course Objectives**

The objective of this course is to enable the student to

1. Associate computer application and fashion software.
2. Practice Photoshop / Corel draw / Open source techniques.
3. Construction of basic designs in Textile and fashion.
4. Tabulate pattern making and grading techniques
5. Designing of Garments

**Course Outcomes**

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

CO1: Apply CAD software tools to create and modify garment designs with professional accuracy.

CO2: Analyze digital pattern drafting processes to ensure correctness and suitability for different garment styles.

CO3: Evaluate grading and marker planning techniques to optimize material usage and size adaptation in production.

CO4: Create complete digital garment patterns, grading, and markers for industrial applications using appropriate CAD software.

**Mapping of COs to POs:**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 2 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 3 | - | - | - | | | |
| CO4 | - | - | 2 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 2 | 3 | - | 1 | 1 | | | |

*Legend:3-HighCorrelation,2-MediumCorrelation,1-LowCorrelation*

| GTH 585 | GARMENT CAD | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 585 | GARMENT CAD | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

| Unit I | SOFTWARE APPLICATION IN DESIGNING | |
|---|---|---|
| Introduction to various fashions designing software - Application of Software – Auto CAD or Adobe Photoshop or Corel draw or Open Source - Practicing Designs using the above software tools - Creating basic designs using geometrical patterns.<br>**Experiments:**<br>1. Design a Yoke Frock using suitable software.<br>2. Design a Salwar shirt using suitable software.<br>3. Design a T-Shirt using suitable software.<br>4. Design a Full sleeve shirt using suitable software. | | 30 |

| Unit II | PATTERN DRAFTING - I | |
|---|---|---|
| Standard tool bar, Pencil tool, Point tool, Modify Menu, Option Menu - Tool Bar, File Tool Bar, Piece Tool Bar, File Menu, Piece Menu.<br>Prepare the mini pattern and print the same for the following Garments.<br>**Experiments:**<br>5. Draft a pattern for A line frock using suitable software.<br>6. Draft a pattern for Ladies skirt using suitable software. | | 15 |

| Unit III | PATTERN DRAFTING - II | |
|---|---|---|
| Standard tool bar, Pencil tool, Point tool, Modify Menu, Option Menu - Tool Bar, File Tool Bar, Piece Tool Bar, File Menu, Piece Menu.<br>Prepare the mini pattern and print the same for the following Garments.<br>**Experiments:**<br>7. Draft a pattern for Full sleeve shirt using suitable software.<br>8. Draft a pattern for trouser using suitable software. | | 15 |

| Unit IV | GARMENT GRADING | |
|---|---|---|
| Standard tool bar, file Menu, Edit Menu, Pattern Menu, Modify Menu, Grading, Point Grading Menu, Option Menu - File Tool Bar, Piece Tool Bar, File Menu, Piece Menu.<br>Prepare the pattern for different sizes and print the same for the following Garments.<br>Experiments:<br>9. Grade Ladies skirt to its higher and lower grade using CAD software.<br>10. Grade trouser to its higher and lower grade using CAD software. | | 15 |

| Unit V | MARKER PLANNING | |
|---|---|---|
| Standard tool bar, file Menu, Edit Menu, Pattern Menu, Modify Menu, Option Menu - Marker Tool Bar, File Tool Bar, Piece Tool Bar, File Menu, Piece Menu, Marker Option, Nesting. Prepare the Mini marker and print the same for the following Garments with different fabric texture.<br>**Experiments:**<br>11. Prepare the Mini marker and print the same for the following Garment– Full sleeve shirt.<br>12. Prepare the Mini marker and print the same for the following Garments - Trouser. | | 15 |
| **TOTAL HOURS** | | **90** |

| GTH 585 | GARMENT CAD | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**List of Equipments:**

i) The above units to be practiced using any of the following Fashion Designing Software's or open sources

ii) Auto Cad, Corel Draw, Fashion CAD, Pattern and Garment CAD

iii) Printer

| GTH 585 | GARMENT CAD | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICAL | | 0 | 0 | 6 | 3 |

iv) Record / Folder Containing all the exercises of units I, II, III, VI and V to submit the same in the end examination

v) A batch of 30 students - 15 Nos. of Computer required.

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. Valentina: Best for beginners
2. Blender: Best for fashion design studios
3. Tailornova: Best online clothing design software
4. Browzwear: Best for creative developers in fashion designing
5. CLO 3D Software: Best garment design software
6. Digital Fashion Pro: Best fashion design software for beginners
7. Adobe Illustrator: Best for fashion designs illustrations
8. SnapFashun: Best fashion designing software for startups & SMEs
9. Edraw Max: Best for diagramming and graphics
10. Cameo v5: Best for apparel business owners
11. Designer Pro Apparel Edition: Best 3D clothing design online free software
12. Digital Fashion Pro 9: Best clothing design software free with clothing templates
13. DesignHill: Best for online customized t-shirt designing
14. Virtual Fashion Basic 1.0: Best 3D garments design software
15. WSGN: Best for staying updated with fashion design trends
16. Vogue Runway: Best for runway designs

| GTH 586 | INDIAN AND WESTERN COSTUMES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Introduction:**

Fashion begins with historic costumes. In other words it cycles around. All the designers still create designs through inspirations derived from historic costumes. Such a vast complex styles of garments exists in this field and one should know in details the costumes of India and Western part of the world to become master of fashion. This subject provides rich knowledge about various costumes of the world.

**Course Objectives:**

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

1. Study about the origin & need of clothing.
2. Study about the factors influence the costume changes in ancient period.
3. Study about the costumes of pre-historic period.
4. Study about the ancient western costumes.
5. Know about the history of Indian costumes.
6. Study about the traditional costumes & prints of India.
7. Study about the costume changes of modern world.

**Course Outcomes**

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

CO1: Analyze the historical evolution of costumes across different cultures to understand the socio-political and economic influences on fashion.

CO2: Apply design principles to recreate ancient and traditional costumes with appropriate color, textile, and accessory choices.

CO3: Evaluate the aesthetic and functional elements of traditional Indian and Western costume designs for their relevance in modern contexts.

CO4: Create contemporary costume designs inspired by historical and regional styles, incorporating modern trends, functionality, and cultural relevance.

| GTH 586 | INDIAN AND WESTERN COSTUMES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 3 | - | - | - | | | |
| CO4 | - | - | 2 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 2 | 3 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 586 | INDIAN AND WESTERN COSTUMES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

| Unit I | INTRODUCTION TO COSTUMES | |
|---|---|---|
| Origin of clothing – dress out of painting, cutting and other methods - Growth of dress, Need for clothing- factors influencing costume changes- role of costumes as a status symbol, sex appeal, fashion and seasons. | | 15 |
| **Unit II** | **COSTUMES OF ANCIENT WORLD** | |
| Pre-historic period- discussions on costumes- Sumerian costumes Cloak- Kaunakas- outer garments- Roman costumes- Tunic- Toga Stola- Palla- Byzantine costumes- Cloaks- Hose- Pallium- Brief study of costumes on Socio-political and economic point of view- study on colour combinations- view on society reflections.<br>**Experiments:**<br>1. Design a Sumerian outer garment style with suitable colours.<br>2. Design a Roman costume style with suitable colours.<br>3. Design a Byzantine costume style with suitable colours. | | 15 |
| **Unit III** | **COSTUMES OF WESTERN COUNTRIES** | |
| Costumes of Ancient Western Civilization – Egypt, Roman, English, French empires during Renaissance 1500 – 1600 A.D. Jewellery of the period – color combination- Materials – Accessories. Brief study of costumes on Socio-political and economic point of view.<br>**Experiments:**<br>4. Draw a jewellery design of Egypt with suitable colour combination.<br>5. Draw a jewellery design of Roman with suitable colour combination.<br>6. Draw a jewellery design of English with suitable colour combination.<br>7. Draw a jewellery design of French with suitable colour combination. | | 15 |
| **Unit IV** | **TRADITIONAL COSTUMES OF INDIA** | |
| Costumes of India, History of Indian Costumes upto Mughal Period, Traditional Costumes of different states in India. Accessories and Garments used in India. Study of Dacca Muslin,Jandhani, Himrus&Amrus Carpets, Kashmir Shawls, Kanchipuram &BaluchariSarees, Paithanisarees, Bandhani, Patola, Ikat, Kalamkari and other styles of Printing & Dyeing Textiles.<br>**Experiments:**<br>8. Draw a costume design of Mughal period.<br>9. Draw a design of kalamkari printing.<br>10. Draw a design of Ikat printing. | | 15 |

| Unit V | COSTUMES OF MODERN WORLD | |
|---|---|---|
| Costumes of 20th century-factors influencing on costume changes – Study on Business Wears- Evening dress- Sleep wear- Religious wear- Seasonal wear - Specialized wears- Bridal wear – Sportswear Industrial wear- Party wear –<br>Brief study of costumes on Socio-political and economic point of view- study oncolour combinations.<br>**Experiments:**<br>11. Design a modern Business wear.<br>12. Design a modern sleep wear. | | 15 |
| **TOTAL HOURS** | | **75** |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative ideas.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60
- Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

| GTH 586 | INDIAN AND WESTERN COSTUMES | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**List of Equipments**

- Drawing table - 30 nos.

**Materials required**

- Chart paper- A4/ A3 size- 30 nos.
- Experiment / batch of 30 students.
- Drawing tools &colouring tools - 30nos.
- Experiment. / batch of 30 students.

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference:**


1. Historic Costumes Lester K.I. Chas A Bennet& Co 1991
2. Costume & Fashion Laver J Thames & Hudson 1997
3. Costume & Fashion Jack Cassin - Scott Brockhampton press, London 1999
4. Costumes of India & Pakistan Das S N 1984
5. Indian Costume G.S Ghurye Popular Prakasham 1987
6. History of Fashion Garland 2001
7. The encyclopaedia of Fashion Georgina 'O' Hara 2002
8. Fashion in western world YarwoodDoreep 2002
9. Costume, Textiles and Jewellery of India Vandana Bhenderi Prakash Books, New Delhi, 2004.

| GTH 572 | INNOVATION & STARTUPS | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 2 | 2 |

**Introduction**

The integration of Innovation and Start-ups concept within the syllabus is testament to the forward thinking nature of educational institutions. By introducing this concept, students are provided with a solid foundation upon which they can build their skills in Innovation and Start-ups. This course can bridge the gap between theory and practice. It allows students to apply the knowledge they have acquired in a real world context, thereby enhancing their understanding and retention of the above concept. This experimental learning approach not only fosters a deeper level of engagement but also trains student with practical skills necessary to navigate the complexities of the business world. This also empowers students to become an Innovator or Entrepreneur. With necessary tools and knowledge, educational institutions are preparing the next generation of entrepreneurs to tackle the challenges and opportunities that lie ahead. This syllabus will explore the different facets of innovation, including its importance, types and strategies for fostering a culture of innovation within organizations

**Course Objectives**

The objective of this course is to enable the students

- To understand the concept of Innovation and Start-ups.
- To acquire knowledge of Prototype development, IPR, Patents and Copyrights.
- To have practical experience in preparing Business plan for Start-ups.
- To visit the existing nearby industry to prepare a project report about the present challenges of that industry.
- To know the different funding supports available from Government and Non-Government schemes for Start-ups.

**Course Outcomes**

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

CO 1: Apply innovation tools and design thinking methods to generate and develop novel ideas for real-world problems.

CO 2: Analyze the processes of innovation management, IPR creation, and prototype development in the context of Indian start-up ecosystems.

CO 3: Evaluate various government and private funding schemes, and assess their relevance and viability for different business models.

CO 4: Create and present a project report by synthesizing field data from industry/start-up visits and effectively communicate innovative business insights.

| GTH 572 | INNOVATION & STARTUPS | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 2 | 2 |

**Mapping of Cos/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| **CO2** | - | 2 | - | - | - | - | - | | | |
| **CO3** | - | - | - | 2 | - | - | - | | | |
| **CO4** | - | - | 2 | - | - | 1 | 1 | | | |
| **CAM** | 3 | 2 | 2 | 2 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Continuous Assessment - 40 marks**

| S. No | Description | Marks |
|---|---|---|
| CA 1 | **Class Assessment (50 marks) - Unit – I,II & III**<br>Written Examination - Theory Questions<br>10 questions out of 15 questions (10 x 3 marks :30 marks)<br>4 questions out of 6 questions (4 x 5 marks : 20 marks) | 10 marks |
| CA 2 | **Seminar Presentations (10 marks) - Unit IV**<br>Students should present any one topic with PPTs | 10 marks |
| CA 3 | Submission of Industry Visit Project Report - **(20 marks) - Unit V** | 20 marks |
| | **Total** | **40 marks** |

| GTH 572 | INNOVATION & STARTUPS | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 2 | 2 |

| UNIT I | INTRODUCTION TO INNOVATION | |
|---|---|---|
| An Introduction to Innovation and Creativity- Innovation in current Environment - Types of Innovation - Challenges of Innovation - Steps of Innovation Management - Divergent v/s Convergent thinking - Design thinking and Entrepreneurship. | | 6 |
| **UNIT II** | **INCUBATION CLUBS, IPR, PATENTS AND COPYRIGHTS** | |
| Idea Generation - Incubation Clubs - Prototype Development - Marketing of Innovation - Management of Innovation - Creation of IPR -Types of IPR - Patents and Copyrights - Patents in India - Technological and Non-Technological Innovation Process. | | 6 |
| **UNIT III** | **GOVERNMENT AND NON-GOVERNMENT FUNDING SCHEMES FOR START-UPS** | |
| An introduction to Start-up - Start-ups in India - Procedure for registration of Start-ups - Business Model- Business Plan - Case Studies - Opportunities and Challenges - Funding supports from Government Schemes -MUDRA, TANSEED, NEEDS, PMEGP, UYEGP – Non-Government Schemes - CSR Fund - Angel Investors - Venture Capitalist. | | 6 |
| **UNIT IV** | | |
| All the students have to select a minimum of one topic from the list given below. They are expected to collect the resources with the help of faculty assigned to them to prepare PPTs for presentation<br>1. Idea Generation.<br>2. Innovation Management.<br>3. Product Development.<br>4. Business Model Innovation.<br>5. Organizational Culture and Change Management.<br>6. Leadership and Innovation.<br>7. Barriers to Innovation.<br>8. Innovation Marketing.<br>9. E-Commerce success stories (any one).<br>10. Role of Start-ups in Higher Education.<br>11. Professional Networking in Building Brands.<br>12. How to start a start-up in India. | | 9 |

| UNIT V | EXPOSURE TO INDUSTRY | |
|---|---|---|
| All the students should visit and study the nearby industries, incubation centres, start-ups etc., and select any one to prepare a project report which covers the Name of the Industry/Organization, Introduction of the Industry, Type of the Industry, Scope of the Industry, Plant Layout and Location, Details of Plant and Machineries, Process flow chart, Manufacturing Methods, Process of Manufacturing, Product Manufacturing, Quality Control, Marketing, Product selling - Conclusion. | | **18** |
| | **Total** | **45** |

**End Semester Examination - Project Exam**

Students should be assessed for 60 Marks both by the internal examiner and external examiner appointed by the Chairman Board of Examinations.

**Detailed Allocation of Marks**

| S. No | Description | Marks |
|---|---|---|
| Part A | Written Examination – Unit –I,II & III<br>Theory Questions | 25 |
| i) | 5 questions out of 10 questions (5 x 2 marks = 10 marks) | |
| ii) | 3 questions either or pattern (3 x 5 marks = 15 marks) | |
| Part B i) | Presentation of Industry Visit Project Report | 20 |
| ii) | Interaction and Evaluation | 15 |
| | **TOTAL** | **60** |

| GTH 573 | INDUSTRIAL TRAINING | SUMMER | C |
|---|---|---|---|
| PROJECT | | VACATION | 2 |

**Introduction**

Industrial training is a crucial component of the diploma engineering curriculum, designed to bridge the gap between theoretical knowledge and practical application. Typically conducted during vacation periods, this two-week training program provides students with hands-on experience in their respective engineering fields. The primary objectives are to enhance practical skills, familiarize students with industry standards, and prepare them for future employment.

Two-week industrial training during vacation periods is an invaluable part of diploma engineering education. It not only equips students with practical skills but also provides a comprehensive understanding of the industry, preparing them for successful engineering careers.

**Objectives**

1. Practical Exposure: Students gain direct exposure to real-world engineering practices, tools, and technologies.
2. Skill Enhancement: The training helps in developing technical and soft skills that are essential for professional growth.
3. Industry Insight: Students learn about the working environment, operational procedures, and challenges faced by industries.
4. Professional Networking: The training offers opportunities to interact with industry professionals, which can be beneficial for career prospects.
5. Application of Knowledge: It allows students to apply classroom knowledge to solve practical problems, enhancing their understanding and retention of engineering concepts.

**Structure of the Training Program**

- Orientation: Introduction to the company, its operations, and safety protocols.
- Project Assignment: Students are assigned specific projects or tasks relevant to their field of study.
- Supervision and Mentorship: Industry professionals guide and mentor students throughout the training.

| GTH 573 | INDUSTRIAL TRAINING | SUMMER | C |
|---|---|---|---|
| PROJECT | | VACATION | 2 |

- Skill Development Workshops: Sessions on technical skills, software tools, and industry best practices.
- Assessment and Feedback: Performance evaluations and constructive feedback to help students improve.

**Benefits for Students**

- Enhanced Employability: Practical experience makes students more attractive to potential employers.
- Confidence Building: Working in a real-world setting boosts confidence and professional demeanor.
- Clarified Career Goals: Exposure to various roles and responsibilities helps students define their career paths.

**Course Outcomes**

CO 1:Apply theoretical concepts learned in their coursework to practical engineering tasks and projects.

CO 2: Analyze industrial manufacturing processes, quality control systems, and safety practices.

CO 3: Develop enhanced communication, teamwork, and professional behavior in an industrial setting.

CO 4: Identify, analyze, and solve engineering problems using industry-standard methods and practices.

**Duties Responsibilities of the Faculty Mentor.**

One faculty mentor should be assigned for every 30 students by the HOD / Principal. Faculty mentors shall play a crucial role in overseeing and guiding students during their industrial training program in Diploma engineering.

**Pre-Training Responsibilities:**

1. Orientation and Preparation:
    - Conduct orientation sessions to familiarize students with the objectives, expectations, and guidelines of the industrial training program.

| GTH 573 | INDUSTRIAL TRAINING | SUMMER | C |
|---|---|---|---|
| PROJECT | | VACATION | 2 |

- Assist students in understanding the importance of industrial training in their academic and professional development.

2. Placement Coordination:
    - Collaborate with the placement cell or industry liaison office to secure suitable training placements for students that align with their academic specialization and career interests.
    - Facilitate communication between the institution and host organizations to ensure smooth coordination of training arrangements.
3. Training Plan Development:
    - Help students develop a detailed training plan outlining learning objectives, tasks, and expected outcomes for the training period.
    - Guide students in setting SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals for their training experience.

**During Training Responsibilities:**

4. Monitoring and Support:
    - Regularly monitor the progress of students during their industrial training. Maintain communication with both students and industry supervisors to track performance and address any issues that may arise.
    - Provide ongoing support and guidance to students, offering advice on technical challenges, professional conduct, and workplace etiquette.
5. Technical Guidance:
    - Offer technical guidance and mentorship related to the specific engineering discipline or specialization of the students. Help them apply theoretical knowledge to practical situations encountered in the industry.
6. Problem-Solving Assistance:
    - Assist students in overcoming obstacles or challenges encountered during their training. Encourage them to develop problem-solving skills and resilience in real-world engineering scenarios.

| GTH 573 | INDUSTRIAL TRAINING | SUMMER | C |
|---|---|---|---|
| PROJECT | | VACATION | 2 |

7. Feedback and Evaluation:
    - Provide constructive feedback on students' performance based on reports, assessments, and observations gathered from industry supervisors.
    - Evaluate students' achievements in relation to their training objectives and competencies developed during the program.

**Post-Training Responsibilities:**

8. Reflection and Debriefing:
    - Conduct debriefing sessions with students to reflect on their training experiences, discuss lessons learned, and identify areas for further improvement.
    - Help students articulate their learning outcomes and how these experiences contribute to their professional growth.
9. Documentation and Reporting:
    - Ensure comprehensive documentation of students' training activities, achievements, and feedback received from industry supervisors.
    - Prepare reports summarizing students' performance and submit these to relevant departments or committees for review and assessment.
10. Career Counseling:
    - Provide career guidance and counseling to students based on their industrial training experiences. Assist them in leveraging these experiences for future job applications or further academic pursuits.
11. Continuous Improvement:
    - Collaborate with industry partners to continuously improve the quality and relevance of the industrial training program.
    - Incorporate feedback from students and industry supervisors to enhance the effectiveness of future training placements.

By fulfilling these duties and responsibilities, faculty mentors contribute significantly to the overall educational experience and professional development of Diploma engineering students during their industrial training program.

| GTH 573 | INDUSTRIAL TRAINING | SUMMER | C |
|---|---|---|---|
| PROJECT | | VACATION | 2 |

**Instructions to the students**

**Before Starting Industrial Training:**

1. **Orientation and Preparation:**
    - Attend orientation sessions conducted by the institution or faculty mentors to understand the objectives, expectations, and guidelines of the industrial training program.
    - Familiarize yourself with the specific policies, procedures, and safety regulations of the host organization where you will be undergoing training.
2. Setting Goals:
    - Set clear and specific goals for your industrial training period. Define what skills, knowledge, and experiences you aim to gain during this time.
    - Discuss your goals with your faculty mentor and seek their guidance in developing a training plan that aligns with your career aspirations.
3. Professional Attire and Conduct:
    - Dress appropriately and professionally according to the standards of the industry and host organization.
    - Maintain a positive attitude, demonstrate punctuality, and adhere to workplace etiquette and norms.

**During Industrial Training:**

4. Learning and Engagement:
    - Actively engage in all assigned tasks and projects. Seek opportunities to learn new skills and technologies relevant to your field of study.
    - Take initiative in asking questions, seeking clarification, and participating in discussions with supervisors and colleagues.
5. Adaptability and Flexibility:
    - Adapt to the work environment and demonstrate flexibility in handling various responsibilities and challenges that arise during your training.
    - Be open to different roles and tasks assigned to you, as this will broaden your experience and skill set.

| GTH 573 | INDUSTRIAL TRAINING | SUMMER | C |
|---|---|---|---|
| PROJECT | | VACATION | 2 |

6. Professionalism and Communication:
    - Communicate effectively with supervisors, colleagues, and clients as required. Practice clear and concise verbal and written communication.
    - Demonstrate professionalism in all interactions, respecting confidentiality, and adhering to company policies and procedures.
7. Safety and Compliance:
    - Prioritize safety at all times. Familiarize yourself with safety protocols, procedures, and emergency exits in the workplace.
    - Follow all safety guidelines and regulations to ensure your well-being and that of others around you.

**After Completing Industrial Training:**

8. Reflection and Documentation:
    - Reflect on your training experience. Evaluate what you have learned, the challenges you faced, and how you have grown professionally.
    - Maintain a journal or log documenting your daily activities, achievements, and lessons learned during the training period.
9. Feedback and Evaluation:
    - Seek feedback from your industry supervisor and faculty mentor on your performance and areas for improvement.
    - Use constructive feedback to enhance your skills and competencies for future career opportunities.
10. Career Planning:
    - Use your industrial training experience to inform your career planning and decision-making process.
    - Discuss your career goals and aspirations with your faculty mentor or career counselor for guidance on next steps after completing your diploma.

By following these instructions, Diploma engineering students can make the most of their industrial training experience, gain valuable insights into their chosen field, and prepare themselves effectively for future professional endeavors.

| GTH 573 | INDUSTRIAL TRAINING | SUMMER VACATION | C |
|---|---|---|---|
| PROJECT | | | 2 |

**Attendance Certification**

Every student has to get their attendance certified by the industrial supervisor in the prescribed form supplied to them. Students have also to put their signature on the form and submit it to the institution faculty mentor.

**Training Reports**

The students have to prepare reports: The report in the form of a diary to be submitted to the concerned faculty mentor of the institution. This will be reviewed while awarding Internal assessment.

**Industrial Training Diary**

Students are required to maintain the record of day-to-day work done. Such a record is called Industrial training Diary. Students have to write this report regularly. All days for the week should be accounted for clearly giving attendance particulars (Presence, absence, Leave, Holidays etc.). The concern of the Industrial supervisor is to periodically check these progress reports.

In addition to the diary, students are required to submit a comprehensive report on training with details of the organisation where the training was undergone after attestation by the supervisors. The comprehensive report should incorporate study of plant / product / process / construction along with intensive in-depth study on any one of the topics such as processes, methods, tooling, construction and equipment, highlighting aspects of quality, productivity and system. The comprehensive report should be completed in the last week of Industrial training. Any data, drawings etc. should be incorporated with the consent of the Organisation.

| | | | |
|---|---|---|---|
| **GTH 573** | **INDUSTRIAL TRAINING** | SUMMER | C |
| **PROJECT** | | VACATION | 2 |

**Scheme of Evaluation**

**Internal Assessment**

Students should be assessed for 40 Marks by industry supervisor and polytechnic faculty mentor for the Internal Assessment.

# VI SEMESTER

| GTH 681 | ADVANCED ENGINEERING MATHEMATICS | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

Mathematics is essential for engineering students to understand core engineering subjects. It provides the framework for engineers to solve problems in engineering domains. This course is designed to bridge the gap between diploma mathematics and B.E/B.Tech mathematics in matrix algebra, differential calculus, vector calculus, differential equations, and Laplace transforms.

**Course Objectives**

The objective of this course is to enable the students to

1. Understand the concepts of eigen-values and eigen-vectors of matrices.
2. Learn the notation of partial differentiation and determine the extremities of functions of two variables.
3. Acquire knowledge in vector calculus which is significantly used to solve engineering problems.
4. Formulate and solve differential equations.
5. Understand Laplace transformation and its engineering applications.

**Course Outcomes**

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

CO1**:** Apply eigenvalue and eigenvector concepts to solve systems of linear equations and analyze matrix behavior.

CO2**:** Analyze functions of several variables using partial derivatives, Jacobians, and optimization techniques for engineering applications.

CO3**:** Evaluate scalar and vector fields using vector calculus techniques to interpret physical phenomena like fluid flow and electromagnetism.

CO4**:** Solve and construct mathematical models using differential equations and Laplace transforms for dynamic systems in engineering contexts

**Pre-requisites**

Matrices, Determinants, Differentiation, Integration and Vector Algebra

| GTH 681 | ADVANCED ENGINEERING MATHEMATICS | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 2 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | 2 | | - | 1 | 1 | | | |
| CAM | 3 | 2 | 2 | 2 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- A theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome-based.
- All demonstrations/Hands-on practices might be under a simulated environment.
- Use an inducto-deductive approach to achieve the desired learning objectives.
- Use open-ended questions to nurture the problem-solving and reasoning skills among students.
- Support and guide the students for self-study.
- State the need for mathematics with engineering studies and provide real-life examples.

| GTH 681 | ADVANCED ENGINEERING MATHEMATICS | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

| | |
|---|---|
| **Unit I - EIGENVALUES AND EIGENVECTORS** | |
| Characteristic equation – Eigen-values of 22 and 33 real matrices – Eigen-vectors of 22 real matrices – Properties of eigen-values (excluding proof) – Cayley-Hamilton theorem (excluding proof) – Simple problems. | 7 |
| **Unit II - FUNCTIONS OF SEVERAL VARIABLES** | |
| Partial derivatives of two variable and three variable functions (up to second order) – Homogeneous functions and Euler's theorem (excluding proof) – Jacobian matrix and determinant – Maxima and minima of functions of two variables – Simple problems. | 7 |
| **Unit III - VECTOR CALCULUS** | |
| Scalar field and Vector field – Vector differential operator – Gradient of a scalar field – Directional derivative – Divergence and curl of a vector field (excluding properties) – Solenoidal and irrotational vector fields – Simple problems. | 7 |
| **Unit IV - DIFFERENTIAL EQUATIONS** | |
| Differential equation – Formation – Order and degree – Solution of a differential equation – Equations of first order and first degree – Variable separable method – Leibnitz's Linear equations – Second order equations of the form aD2+bD+cy=enx where a,b,c and n are constants and the auxiliary equation am2+bm+c=0 has only real roots) – Complementary function – Particular integral – General solution – Simple problems. | 7 |
| **Unit V - LAPLACE TRANSFORMS** | |
| Definition of Laplace transform – Laplace transforms of standard functions - Linearity and change of scale property (excluding proofs) – First shifting property – Laplace transforms of derivatives – Properties (excluding proofs) – Inverse Laplace transforms – Properties (excluding proofs) – Solving first order ordinary differential equation using Laplace transforms – Simple problems. | 7 |
| **Revision + Test** | **10** |
| **TOTAL HOURS** | **45** |

| GTH 681 | ADVANCED ENGINEERING MATHEMATICS | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Suggested list of Students Activity,**

- Demonstrate the applications of eigen-values in stability analysis, decouple of three-phase systems and vibration analysis.
- Demonstrate maxima and minima of two variable functions using GeoGebra graphing calculator.
- Demonstrate solenoidal vector field and irrotational vector field using engineering applications.
- Demonstrate the applications of differential equations in solving engineering problems.
- Presentation /Seminars by students.
- Quizzes.

**Reference Books:**


1. John Bird, Higher Engineering Mathematics, Routledge, 9th Edition, 2021.
2. Grewal, B.S., Higher Engineering Mathematics, Khanna Publishers, 42nd Edition, 2012.
3. Arumugam, S., Thangapandi Isaac, A., &Somasundaram, A., Differential Equations and Applications, Yes Dee Publishing Pvt. Ltd., 2020.
4. Duraipandian, P., &KayalalPachaiyappa, Vector Analysis, S Chand and Company Limited, 2014.
5. Narayanan, S., &ManicavachagomPillai T.K., Calculus Volume I and II, .Viswanathan Publishers Pvt. Ltd., 2007.


**Web Reference**

1. https://www.khanacademy.org/math/
2. https://www.mathportal.org/
3. https://openstax.org/subjects/math/
4. https://www.mathhelp.com/
5. https://www.geogebra.org/
6. https://www.desmos.com/
7. https://phet.colorado.edu/

| GTH 682 | ENTREPRENEURSHIP | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

Development of a diploma curriculum is a dynamic process responsive to the society and reflecting the needs and aspirations of its learners. Fast changing society deserves changes in educational curriculum particularly to establish relevance to emerging socio-economic environments; to ensure equity of opportunity and participation and finally promote concern for excellence. In this context the course on entrepreneurship and start ups aims at instilling and stimulating human urge for excellence by realizing individual potential for generating and putting to use the inputs relevant to social prosperity and thereby ensuring good means of living for every individual, providing jobs and developing the Indian economy.

**Course Objectives**

After completing this subject, the student will be able to

- Acquire entrepreneurial spirit and resourcefulness
- Familiarize Acquire knowledge about the business idea and product selection
- Analyze the banking and financial institutions
- Understand the pricing policy and cost analysis
- Get knowledge about the business plan preparation

**Course Outcomes**

- CO1: Apply entrepreneurial principles and ethical practices to identify viable business opportunities and assess risks in starting a venture.
- CO2: Analyze business ideas using tools like SWOT, break-even analysis, and cash flow projections to evaluate financial and operational feasibility.
- CO3: Evaluate pricing strategies, market potential, and funding options, considering government policies and incentives for entrepreneurship.
- CO4: Create a comprehensive business plan incorporating technical, financial, and marketing strategies for a proposed product or service.

**Pre-requisites**

Knowledge of basics of Engineering and Industrial engineering

| GTH 682 | ENTREPRENEURSHIP | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Instructional Strategy**

- Engage and Motivate: Instructors should actively engage students to boost their learning confidence.
- Real-World Relevance: Incorporate relatable, real-life examples and applications to help students understand and appreciate course concepts.
- Interactive Learning: Utilize demonstrations and plan interactive student activities for an engaging learning experience.
- Application-Based Learning: Employ a theory-demonstrate-practice- activity strategy throughout the course to ensure outcome-driven learning and employability.
- Simulation and Real-World Practice: Conduct demonstrations and hands-on activities in a simulated environment, transitioning to real- world scenarios when possible.

| GTH 682 | ENTREPRENEURSHIP | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Syllabus Contents**

| | |
|---|---|
| **Unit I - Entrepreneurship – Introduction and Process** | |
| Concept of entrepreneurship - Importance, Myths about Entrepreneurship, Pros and Cons of Entrepreneurship, Process of Entrepreneurship, Competencies and characteristics of an entrepreneur -, Ethical Entrepreneurship, Entrepreneurial Values and Attitudes, Creativity, Innovation and entrepreneurship- Entrepreneurs - as problem solvers, Mindset of an employee and an entrepreneur, - Risk Taking-Concepts | 7 |
| **Unit II - Business Idea** | |
| Types of Business: Manufacturing, Trading and Services, Stakeholders: sellers, vendors and consumers and Competitors, E- commerce Business Models, business idea generation - Types of Resources - Human, Capital and Entrepreneurial tools and resources, etc.,- setting business goals- Patent, copyright and Intellectual property rights, Customer Relations and Vendor Management, -Business Ideas vs. Business Opportunities, Opportunity – SWOT ANALYSIS of a business idea - Business Failure – causes and remedies.- Types of business risks, | 7 |
| **Unit III–Banking** | |
| Size and capital based classification of business enterprises- Role of financial institutions, Role of Government policy, Entrepreneurial support systems, Incentive schemes for state government, and Incentive schemes for Central governments. | 7 |
| **Unit IV - Pricing and Cost Analysis** | |
| Types of Costs - Variable - Fixed- Operational Costs - Break Even Analysis - for single product or service, -financial Business Case Study, Understand the meaning and concept of the term Cash Inflow and Cash Outflow- Pricing- Calculate Per Unit Cost of a single product, , Understand the importance and preparation of Income Statement, Prepare a Cash Flow Projection- Factors affecting pricing.- GST. | 7 |
| **Unit V - Business Plan Preparation** | |
| Feasibility Report – Technical analysis, financial analysis- Market Research - Concept, Importance and Process- tools for market research- Market Sensing and Testing, Marketing | 7 |

| | |
|---|---|
| and Sales strategy, Digital marketing, Branding - Business name, logo, tag line, Promotion strategy, Business Plan Preparation, -Concept and Importance, , Execution of Business Plan. | |
| Revision + Test | 10 |
| TOTAL HOURS | 45 |

**Suggested list of Students Activity**

1. Students can explore app development or web design. They'll learn about technology, user experience, and marketing.
2. Hosting events, workshops, or conferences allows students to practice project management, networking, and marketing skills.
3. Encourage students to address social or environmental issues through innovative business solutions. This fosters empathy and creativity.
4. Part of entrepreneurship clubs or organizations provides networking opportunities, mentorship, and exposure to real-world challenges.
5. Competitions like business plan contests or pitch events allow students to showcase their ideas and receive feedback.
6. Students can create and sell handmade crafts, artwork, or other products. This teaches them about production, pricing, and customer relations.
7. Students can provide consulting services in areas they're knowledgeable about, such as social media marketing or financial planning.
8. Encourage students to create and manage their own small business or offer freelance services. This hands-on experience helps them understand various aspects of entrepreneurship.

**Text and Reference Books:**


1. G.K. Varshney, Fundamentals of Entrepreneurship, SahityaBhawan Publications, Agra., 2019.
2. H.Nandan, Fundamentals of Entrepreneurship, Prentice Hall India Learning Private Limited, Third Edition, 2013.
3. R.K. Singal, Entrepreneurship Development & Management, S K Kataria and Sons, 2013.


**Web Reference:**

- https://ocw.mit.edu/courses/15-390-new-enterprises-spring-2013/resources/lecture-1/
- https://onlinecourses.nptel.ac.in/noc20_ge08/preview

| GTH 683 | PROJECT MANAGEMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

Project management is the systematic application of knowledge, skills, tools, and techniques to project activities to meet specific project requirements. It involves planning, organizing, and managing resources to achieve project goals within defined scope, time, and budget constraints. Project management encompasses several key processes and phases, including initiation, planning, execution, monitoring and controlling, and closing. It is essential across various industries to ensure projects are completed successfully, efficiently, and effectively, aligning with organizational objectives and stakeholder expectations. Project managers play a crucial role in leading teams, managing risks, ensuring quality, and communicating with stakeholders to drive project success.

**Course Objectives**

After completing this subject, the student will be able,

- To understand the concept, characteristics and elements of projects.
- To understand the stages in Project Life Cycle.
- To appreciate the need for Project Portfolio Management System.
- To know the considerations in choosing appropriate project management structure.
- To understand the components of techno-economic feasibility studies.
- To know about the detailed project report
- To learn about project constraints.
- To understand the techniques of evaluation.
- To get insight into the Social Cost Benefit Analysis Method.
- To know how to construct project networks using PERT and CPM.
- To learn how to crash project networks
- To understand the meaning of project appraisal.
- To understand the meaning of project audits.
- To know the qualities of an effective project manager.
- To understand the stages in the Team Development model.

| GTH 683 | PROJECT MANAGEMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

Course Outcomes

CO1: Apply project planning tools such as PERT and CPM to schedule, control, and appraise projects.

CO2: Analyze the feasibility of projects through systematic opportunity studies and life cycle phases.

CO3: Evaluate projects under conditions of certainty and uncertainty using various financial appraisal techniques and social cost-benefit analysis.

CO4: Assess the role of leadership and teamwork in successful project execution and team performance management.

**Pre-requisites**

Basic Knowledge.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 2 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | - | 1 | - | 1 | 1 | | | |
| CAM | 3 | 2 | - | 3 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their curiosity to learn.
- Implement task-based learning activities where students work on specific tasks or projects.
- Incorporate technology tools and resources, such as online platforms, interactive multimedia, and virtual communication tools, to enhance engagement and provide additional practice opportunities.
- All demonstrations/Hand-on practices may be followed in the real environment as far as possible.

| GTH 683 | PROJECT MANAGEMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

| | |
|---|---|
| **Unit I - Project Management – An Overview, Project Portfolio Management System and Structure, Steps in Defining Project and Project Delays** | |
| Project – Classification – Importance of Project Management – An Integrated Approach – Project Portfolio Management System – The Need – Choosing the appropriate Project Management Structure: Organizational considerations and project considerations – steps in defining the project – project Rollup – Process breakdown structure – Responsibility Matrices – External causes of delay and internal constraints. | 7 |
| **Unit II - Various Stages and Components of Project Feasibility Studies, Phases of a Project, Stages in Project Life Cycle and Project Constraints** | |
| Project feasibility studies - Opportunity studies, General opportunity studies, specific opportunity studies, pre-feasibility studies, functional studies or support studies, feasibility study – components of project feasibility studies – Managing Project resources flow – project planning to project completion: Pre-investment phase, Investment Phase and operational phase – Project Life Cycle – Project constraints. | 7 |
| **Unit III - Project Evaluation under Certainty and Uncertainty, Project Evaluation, Commercial and Social Cost Benefit Analysis** | |
| Project Evaluation under certainty - Net Present Value (Problems - Case Study), Benefit Cost Ratio, Internal Rate of Return, Urgency, Payback Period, ARR – Project Evaluation under uncertainty – Methodology for project evaluation – Commercial vs. National Profitability – Social Cost Benefit Analysis, Commercial or National Profitability, social or national profitability. | 7 |
| **Unit IV - Developing Project Network using PERT and CPM, Project Appraisal and Control Process.** | |
| Developing a Project Plan - Developing the Project Network – Constructing a Project Network (Problems) – PERT – CPM – Crashing of Project Network (Problems - Case Study) – Resource Leveling and Resource Allocation – how to avoid cost and time overruns – Steps in Project Appraisal Process – Project Control Process – Control Issues – Project Audits – the Project Audit Process – project closure – team, team member and | 7 |

| | |
|---|---|
| project manager evaluations. | |
| **Unit V- Project Managing Versus Leading of Project, Qualities of Project Manager and Managing Project Teams, Team Building Models and Performance Teams and Team Pitfalls.** | |
| Managing versus leading a project - managing project stakeholders – social network building (Including management by wandering around) – qualities of an effective project manager – managing project teams – Five Stage Team Development Model – Situational factors affecting team development – project team pitfalls. | 7 |
| **Revision + Test** | **10** |
| **TOTAL HOURS** | **45** |

**Suggested list of Students Activity,**

**Project Simulation and Role-Playing:**

- Activity: Participate in simulated project scenarios where students take on different roles within a project team (e.g., project manager, team member, stakeholder).
- Purpose: This helps students understand the dynamics of project management, including leadership, communication, and team collaboration.

**Case Study Analysis:**

- Activity: Analyze real-world case studies of successful and failed projects.
- Purpose: This activity enables students to apply theoretical knowledge to practical situations, identify best practices, and learn from the challenges and solutions implemented in real projects.

**project Plan Development:**

- Activity: Develop a comprehensive project plan for a hypothetical or real project, including scope, schedule, budget, risk management, and quality management plans.
- Purpose: This allows students to practice creating detailed and structured project plans, honing their skills in planning and organizing project activities.

| GTH 683 | PROJECT MANAGEMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Group Project:**

- Activity: Work in teams to manage a project from initiation to closure, simulating a real project environment.
- Purpose: Group projects help students learn how to work collaboratively, manage group dynamics, and apply project management tools and techniques in a team setting.

**Project Management Software Training:**

- Activity: Gain hands-on experience with project management software such as Microsoft Project, Asana, or Trello.
- Purpose: This activity equips students with practical skills in using technology to plan, track, and manage project tasks and resources efficiently.

**Reference Books:**


1. Clifford F. Gray And Erik W. Larson, Project Management – The Managerial Process, Tata Mcgraw Hill.
2. Dragan Z. Milosevic, Project Management Toolbox: Tools And Techniques For The Practicing Project Manager,
3. Gopalakrishnan, P/ Ramamoorthy, V E, Textbook Of Project Management, Macmillan India. Ltd.
4. Harold Kerzner, Project Management: A Systems Approach To Planning, Scheduling, And Controlling, Eighth Edition, John Wiley & Sons
5. Jason Charvat, Project Management Methodologies: Selecting, Implementing, And Supporting Methodologies And Processes For Projects, John Wiley & Sons
6. Kevin Forsberg, Ph.D, Hal Mooz, Visualizing Project Management: A Model For Business And Technical Success, Second Edition, Pmp And Howard Cotterman, John Wiley & Sons.


**Web Reference**

1. https://youtu.be/pc9nvBsXsuM
2. NPTEL Courses
3. https://youtu.be/PqQqTAu_FiM

| GTH 684 | FINANCE FUNDAMENTALS | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

This course gives a deep insight into the finance fundamentals such as money management and the process of acquiring needed funds. It also encompasses the oversight, creation, and study of money, banking, credit, investments, assets, liabilities that make up financial systems and improves overall financial literacy.

**Course Objectives**

The objective of this course is to

1. Identify different ways to save money for future
2. Understand various techniques to raise capital
3. Get acquainted with the essential terminologies used in finance language
4. Get exposed to different types of budgeting
5. Instill the concept of costing and its impact on profitability

**Course Outcomes**

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

CO1: Apply personal finance concepts, including time value of money and investment options, to make informed financial decisions.

CO2: Analyze various business funding sources and evaluate their suitability for different business scenarios.

CO3: Evaluate and interpret fundamental financial terminology and statements to understand organizational financial health.

CO4: Create and analyze budgets and apply marginal costing techniques for effective financial planning and decision-making.

**Pre-requisites**

Knowledge of basic mathematics

| GTH 684 | FINANCE FUNDAMENTALS | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 2 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 3 | - | - | - | | | |
| CO4 | - | - | 3 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | 3 | - | 1 | 1 | | | |

Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation

**Instructional Strategy**

- Engage and Motivate: Instructors should actively engage students to boost their learning confidence.
- Real-World Relevance: Incorporate relatable, real-life examples and applications to help students understand and appreciate course concepts.
- Interactive Learning: Utilize demonstrations and plan interactive student activities for an engaging learning experience.
- Application-Based Learning: Employ a theory-demonstrate-practice- activity strategy throughout the course to ensure outcome-driven learning and employability.
- Simulation and Real-World Practice: Conduct demonstrations and hands-on activities in a simulated environment, transitioning to real- world scenarios when possible.

| GTH 684 | FINANCE FUNDAMENTALS | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

| | |
|---|---|
| **UNIT I - PERSONAL FINANCE** | |
| Personal Finance – Meaning, Objectives and advantages – Individual Perspective – Family Perspective – Time Value of Money – Personal Savings: Meaning, Different modes of Saving – Bank Deposit, Online Investments, Insurance, Stocks, Gold, Real Estate – Returns Vs Risk – Financial Discipline – Setting Alerts for commitments (With Real time Examples). | 7 |
| **UNIT II - BUSINESS FUNDING** | |
| Sources: Personal Savings – Borrowings - Venture Capital – Venture Capital Process – Commercial Banks – Government Grants and Scheme. | 7 |
| **UNIT III - FINANCE LANGUAGE** | |
| Capital – Drawing – Income – Expenditure – Revenue Vs Capital Items – Assets – Fixed Assets – Current Assets – Fictitious Assets – Liabilities – Long-term Liabilities – Current Liabilities – Internal Liabilities – External Liabilities – Shareholders fund: Equity Share capital, Preference Share Capital, Reserve & Surplus – Borrowings: Debentures, Bank Loan, Other Loan – Depreciation – Reserve Vs Provision. | 7 |
| **UNIT IV–BUDGETING** | |
| Budgetary Control – Meaning – Preparation of various budgets – Purchase budget – Sales Budget – Production budget – Cash Budget – Flexible budgets.<br>(With Problems) | 7 |
| **UNIT V - MARGINAL COSTING** | |
| Marginal Costing – Meaning – Marginal Costing Vs Absorption Costing – Concepts of Variable Cost, Fixed Cost and Contribution – PV Ratio – Break Even Point – Margin of Safety – Key Factor – Application of Marginal Costing in decision making – Make or Buy – Shutdown or Continue – Exploring New Markets (With Problems) | 7 |
| Revision + Test | 10 |

| GTH 684 | FINANCE FUNDAMENTALS | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Suggested list of Students Activity,**

**Financial Statement Analysis:**

- Activity: Analyze and interpret financial statements, including balance sheets, income statements, and cash flow statements of different companies.
- Purpose: This activity helps students understand the financial health and performance of organizations, developing skills in financial analysis and critical thinking.

**Investment Portfolio Management:**

- Activity: Create and manage a simulated investment portfolio, making decisions on asset allocation, stock selection, and diversification.
- Purpose: This allows students to apply theoretical concepts in a practical setting, learning how to evaluate investment opportunities and manage financial risk.

**Case Study Analysis:**

- Activity: Examine real-world case studies involving financial decisions made by companies, such as capital budgeting, mergers and acquisitions, and financial restructuring.
- Purpose: Case studies provide insights into the application of finance principles in business scenarios, enhancing problem-solving and decision-making skills.

**Classroom Discussions and Debates:**

- Activity: Participate in discussions and debates on current financial issues, market trends, and economic policies.
- Purpose: Engaging in discussions helps students stay informed about the latest developments in finance, develop their communication skills, and form well-rounded opinions on financial matters.

**Reference Books:**


1. Banking Theory, Law & Practice - Dr.L.Natarajan, Margham Publications.
2. Corporate Accounting by T.S.Reddy and Dr.A.Murthy, Margham Publications.
3. Management Accounting by T.S.Reddy and Dr.Y.Hariprasd Reddy, Margham Publications.
4. Cost Accounting by T.S.Reddy and Dr.Y.Hariprasd Reddy, Margham Publications

| GTH 685 | GARMENT INDUSTRY MANAGEMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Introduction**

Industrial management also involves studying the performance of machines as well as people. Specialists are employed to keep machines in good working condition and to ensure the quality of their production. The flow of materials through the plant is supervised to ensure that neither workers nor machines are idle.

**Course Objectives**

The objective of this course is to enable the student to

1. Learn about Management & Ownership
2. Learn about Joint stock company
3. Know the Training, Recruitment & HRM
4. Learn about Plant layout
5. Learn about Safety Management
6. Know the concepts of Garment Export management
7. Study about Quality management

**Course Outcomes**

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

CO1: Apply the principles and functions of management in evaluating organizational structures and ownership models relevant to garment industries.

CO2: Analyze human resource management strategies including recruitment, training, and labor welfare practices to improve workforce efficiency in garment industries.

CO3: Evaluate plant layout models and safety systems to enhance productivity and ensure worker safety in garment manufacturing units.

CO4: Create quality and export management frameworks using international standards (ISO, SA 8000, 5S, TQM) and government export promotion policies.

| GTH 685 | GARMENT INDUSTRY MANAGEMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | - | 1 | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 1 | 1 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset. Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

| GTH 685 | GARMENT INDUSTRY MANAGEMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

| Unit I | MANAGEMENT AND OWNERSHIP | |
|---|---|---|
| Management: Definitions of management - administration and organization Principles of management - Functions of management (Forecasting, Planning, Organizing, Staffing, Directing, Coordinating, Controlling and Decision Making).<br>Concept and Advantages of Ownership – Concept of partnership – Join stock company (Private limited & Public limited) | | 7 |
| **Unit II** | **HUMAN RESOURCE MANAGEMENT** | |
| HRM – Importance - Man Power Planning, Job Analysis and Job Evaluation<br>Recruitment – Sources, Selection Process in Recruitment. Training – Importance and types of Training Process. Wages – Its Components - Method of Wage Payment - Incentives – Types, Merits and Demerits. Labour Welfare Activities – Role of Labour Welfare Officer - Labour grievances - Causes of Grievance - Redressal procedures. | | 7 |
| **Unit III** | **PLANT LAYOUT & SAFETY MANAGEMENT** | |
| Selection of site - Various factors of site selection for various textile industries. Industrial Buildings – Types. Plant layout - Process, Product, Combination - their merits and demerits. Suitable Layout for Garment industries. Industrial safety - Causes of accidents, preventive measures - Gnuards and safety devices in Garment industry - Types of fire and fire prevention. | | 7 |
| **Unit IV** | **EXPORT MANAGEMENT** | |
| Various export promotion measures by government of India. Functions of TEXPROCIL, AEPC, PEDEXIL, HEPC and Textile committee - Export procedure - Export incentives. Importance of Shipping bill and bill of lading. Export finance – pre shipment finance and post shipment finance. Letter of Credit. Export pricing-Ex factory, Free On Truck (FOT), Free On Board (FOB), Cost & Freight(C&F), Cost Insurance Freight (CIF) & Franco pricing. | | 7 |
| **Unit V** | **QUALITY MANAGEMENT** | |
| Various elements (clauses) of ISO 9000 Standards - Advantages of ISO 9000 certification – ISO 140000 - Principle and advantages of SA 8000 - Basic elements of TQM - Quality improvement program by kaizen - Define the terms in 5 S - quality principles of 5 S system - concept of quality circles | | 7 |
| **TEST & REVISON** | | **10** |
| **TOTAL HOURS** | | **45** |

| GTH 685 | GARMENT INDUSTRY MANAGEMENT | L | T | P | C |
|---|---|---|---|---|---|
| THEORY | | 3 | 0 | 0 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative Management theories.

**Reference**


1. O P Khanna – Industrial Engineering and Management, DhanpaRai Pub (P)Ltd., New Delhi
2. M M Sheriff – Industrial Management & Entrepreneurship, M/S Premier Publication House, Hyderabad
3. M ZakriaBaig Industrial Management and Entrepreneurship, First Edition, 1995, Hyderabad.
4. K Babu Rao Industrial Management and EntrepreneurshipFalcon publishers
5. V Ramesh BabuIndustrial Engineering in Apparel Production Wood Head publishing
6. Principles Of Management P.C.Tripathi Tata Mcgrow Publishing Company Ltd, New Delhi 2001
7. Management Of Textiles DudegA.V.D Trade Press, Textile Indistry ,Ahemadabad 1981
8. Industrial Eng. And Management Balasundaram.K Sri. Ramalingasowdeswari Publications, Coimbature. 2005

| GTH 687 | FASHION DRAPING | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Introduction**

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

**Course objectives**

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

1. Understand the Draping tools & Procedure.
2. Learn about draping of basic bodice & sleeves
3. Understand the draping of Bodice blocks & its variations.
4. Learn about introduction of varies fullness.
5. Understand the draping of Skirts.
6. Understand the draping of Slacks.
7. Learn the draping of Yokes & collars.
8. Understand the draping of sleeves.
9. Understand the draping of advanced design variations.
10. Learn the draping of knit garments.

**Course outcome**

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

CO1: Apply the principles and techniques of draping to develop basic bodice, skirt, and sleeve patterns using muslin and dress form.

CO2: Analyze dart manipulations and neckline/waistline variations to achieve complex design features through draping.

CO3: Design and construct patterns for various garment components such as skirts, slacks, yokes, sleeves, and collars using draping techniques.

CO4: Create advanced fashion garments (e.g., jackets, flounces, ruffles, knitwear) through innovative draping techniques.

| GTH 687 | FASHION DRAPING | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 2 | - | - | - | - | - | | | |
| CO3 | - | - | 1 | - | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 2 | 2 | - | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset. Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 687 | FASHION DRAPING | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

| Unit I | INTRODUCTION TO DRAPING | |
|---|---|---|
| Definition of Draping – Draping Tools &Equipments – Draping principles – Preparation of muslin for Draping – Seam allowance – Preparation of Dress form for Draping - Draping of Basic Bodice front – Preparation of muslin – Draping steps – Marking – Truing - Draping of Basic Bodice Back – Draping of Basic Sleeve – Draping of Basic Skirt.<br>**Experiments**<br>1. Prepare basic bodies' pattern for Front & Back by Draping Technique.<br>2. By draping technique Prepare patterns for Basic Skirt. | | 15 |
| **Unit II** | **DRAPING OF BODICE BLOCKS & VARIATIONS** | |
| Front Bodice with under arm Dart – Back Bodice with Neckline Dart – Dart manipulation – Waist line Dart – Dart at waistline and centre front – French Dart – Double French Dart – Flange Dart – Neckline Dart – Neckline variations – Front & Back Armhole variations – Typical sleeveless – Squared – Cutaway Waist line variation – lowered – Empire – Shortened – Scalloped – Pointed. The Princes Bodice – Cowls – front– Under arm cowl – Wrapped neckline cowl. Twists – Butterfly Twist — Neck yoke twist – Bust twist.<br>**Experiments:**<br>3. Using draping technique Prepare pattern for Lowered Waistline.<br>4. Using draping technique Prepare pattern for Pointed Waistline.<br>5. Using draping technique Prepare pattern for Empire Waistline.<br>6. Using draping technique Prepare pattern for Princess Bodies. | | 15 |
| **Unit III** | **DRAPING OF SKIRTS & SLACKS** | |
| Draping of one piece basic skirt – Gored skirt – Flared skirt – Pleats in the flared skirt – Gathers in the flared skirt – Pleated skirt – Side & Box pleated skirt – Kick pleated and inverted pleated skirt. Draping of basic straight slacks – Fitted slacks – Tapered slacks – Pegged slacks – Divided skirt.<br>**Experiments:**<br>7. Using draping technique Prepare pattern for Skirt with Hip Yoke.<br>8. Using draping technique Prepare pattern for Tapered Slacks.<br>9. Using draping technique Prepare pattern for Pleated Skirt. | | 15 |
| **Unit IV** | **DRAPING OF YOKES, SLEEVES & COLLARS** | |
| Draping of fitted midriff Yoke — Shirt yoke – Hip Yoke. Draping of – Mandarin Collar – Convertible collar – Peter-pan collar. Draping of Basic Dolman sleeve – Long fitted Dolman | | 15 |

| | | |
|---|---|---|
| sleeve — Raglan sleeve – Kimono sleeve with a gusset.<br>**Experiments:**<br>10. By draping technique Prepare patterns for Basic Sleeve.<br>11. Using draping technique Prepare pattern for Reglan Sleeve. | | |
| **Unit V** | **DRAPING OF ADVANCED DESIGN VARIATIONS & KNIT GARMENTS** | |
| Draping of bias – Cut slip Dress – Bustier Designs – basic Knit Bodice Dress – Knit Halter - Knit Leotard - Knit Panties. Draping of Flounces – Circular flounce – Shirred Flounce – Draping of Ruffles – Variable Ruffle finishes – Draping of peplums. Draping of 'A'line shift – Draping of Princess Dress – Draping of Basic Jacket.<br>**Experiments:**<br>12. Using draping technique Prepare pattern for Basic Jacket. | | 15 |
| **TOTAL HOURS** | | **75** |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative Management theories.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

| GTH 687 | FASHION DRAPING | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**List of Equipment (*Optional)**

Equipment / Machines / Instruments required:

- Dress forms Mannequin
- Pattern/ Cutting table
- Measuring tools
- Drafting tools
- Construction tools
- General tool

Sewing machines

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

Material required:

10 meters of fabric/ expt./ batch of 30 students.

Sewing threads- white, assorted & Decorative materials

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

**Reference**


1. The Art of Fashion Draping Connie Amaden Crawford Fair Child Publication, New York Om Books International, New Delhi 2005
2. Draping for Fashion Design Hilde Jaffe &NurieRelis Prentice Hall career & Technology, Engle wood Cliffs, USA 2007
3. Draping for Fashion Design Hilde Jaffe &NurieRelis Dorling Kindersley India Pvt Ltd., New Delhi110092 2009

| GTH 688 | KNIT WEAR TECHNOLOGY | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Introduction**

The treatments of fabric to produce various garments produced have a great deal in common. This common theme is connected with the knitted fabric property of extensibility. This is in contrast to the general rigidity of most woven fabrics. The industries dealing with production of knitted garments remain separate from those dealing with woven garments. Hence hands on experience will help the students to acquire the skill, knowledge in pattern preparation and construction of garments.

**Course objectives**

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

1. To prepare Men's T-Shirt pattern
2. To prepare T-Shirt sleeve pattern
3. To prepare pattern for Men's Track suit
4. To prepare pattern for women's Tops
5. To prepare pattern for men's & women's singlet
6. To prepare pattern for men's vest

**Course outcome**

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

CO1: Apply drafting techniques to develop accurate patterns for various knitwear garments using standard body measurements.

CO2: Analyze the suitability of knit fabric structures and pattern features for different garment types to ensure comfort and performance.

CO3: Evaluate the quality and finish of constructed knitwear garments with respect to fit, appearance, and function.

CO4: Create complete knitwear garments (e.g., T-shirts, track suits, vests, singlets) integrating advanced construction and finishing methods for commercial production.

| GTH 688 | KNIT WEAR TECHNOLOGY | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 1 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 2 | - | - | - | | | |
| CO4 | - | - | 1 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 1 | 2 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset. Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 688 | KNIT WEAR TECHNOLOGY | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

| Unit I | MEN'S T-SHIRT | |
|---|---|---|
| Prepare pattern for Men's T-shirt, using the given measurement with half sleeve, full sleeve and Raglan sleeve.<br>**Experiments:**<br>1. Using the given measurement, prepare a pattern for Knitted Men's T-shirt with half sleeve.<br>2. Using the given measurement, prepare a pattern for Knitted Men's T-shirt with Full sleeve.<br>3. Using the given measurement, prepare a pattern for Knitted Men's T-shirt with Raglan sleeve.<br>4. Using the given paper pattern, construct , finish and press Men's T-shirt with half sleeve<br>5. Using the given paper pattern, construct, finish and press Men's T-shirt with Full sleeve.<br>6. Using the given paper pattern, construct, finish and press Men's T-shirt with Raglan sleeve. | | 15 |
| **Unit II** | **MEN'S TRACK SUIT** | |
| Prepare pattern for Men's Track suit, using the given measurement and construct Men's Track suit, using the given paper pattern.<br>**Experiments:**<br>7. Using the given measurement, prepare a pattern for Knitted Men's Track suit.<br>8. Using the given paper pattern, construct, finish and press Men's Track suit. | | 15 |
| **Unit III** | **WOMEN'S TOPS** | |
| Prepare pattern for Women's Tops, using the given measurement for different types of neck and sleeve arrangement - Construct women's Tops, using the given paper pattern<br>**Experiments:**<br>9. Using the given measurement prepare a pattern for Knitted Women's Tops with different types of neck and sleeve arrangement.<br>10. Using the given paper pattern, construct, finish and press Women's Tops with different types of neck and sleeve arrangement. | | 15 |
| **Unit IV** | **MEN'S AND WOMEN'S SINGLETS** | |
| Prepare pattern for Men's and Women's Singlet, using the given measurement - Construct Men's and Women's Singlet, using the given paper pattern.<br>**Experiments:**<br>11. Using the given measurement, prepare a pattern for Knitted Men's and Women's | | 15 |

| | |
|---|---|
| Singlet.<br>12. Using the given paper pattern, construct, finish and press Men's and Women's Singlet. | |
| **Unit V** | **MEN'S VEST** |
| Prepare pattern for Men's Vest using the given measurement - Construct Men's Vest, using the given paper pattern.<br>**Experiments:**<br>13. Using the given measurement, prepare a pattern for Knitted Men's vest with and without sleeve.<br>14. Using the given paper pattern, construct, finish and press Men's vest with and without sleeve. | **15** |
| **TOTAL HOURS** | **75** |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
- The students should visit to the nearest industry, to acquire the practical knowledge in their interested area topics.
- Teacher / Lecturer should be motivated to their students to make small scale entrepreneur.
- Students have to develop the good relationship with Core Company
- The students have to read the latest research journal and upgrade their knowledge and to create the innovative Management theories.

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

| GTH 688 | KNIT WEAR TECHNOLOGY | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Guidelines to Design Practical Exercise / Experiment ***

- The experiment / exercise should be prepared in such a way that it should be completed within the prescribed duration.
- Total number of experiments / exercises should be based on the total periods allotted for the course. If 45 Periods is allotted 10 experiments / exercises, If 60 Periods is allotted 12 experiments / exercises, are recommended. (The Faculty Anchor has to finalize in consultation with the experts.)
- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

- Measuring tools
- Pattern making tools
- Construction tools
- General tools
- Sewing machines: - Lock stitch- 15 m/cs. Optional - (Over lock- 1 m/c. Flat lock- 1 m/c Buttonhole- 1 m/c Button stitch- 1 m/c)

Materials required:

- 3- 5 meters of fabric/ experiment / batch of 30 students.

Sewing threads: - white and assorted – 30 nos.

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

| GTH 688 | KNIT WEAR TECHNOLOGY | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Reference**


1. The Art of Sewing Anna Jacob Thomas. Ubs Publishers, Delhi. 2001
2. Practical Clothing Constructions Part I & II Mary Mathews PaprinpackPrinters,Chennai.
3. Zarapkar System of Cutting. K.R.ZarapkarNavneet Publications (I) Ltd.,Dantali. Gujarat. 2015
4. Sew It Yourself. Lippman (Gidon) Prentice Hall Inc New Jersey


**Web-link & Online sources**

1. A Complete Knitted Garment Manufacturing Process by Marc Berman https://programminginsider.com/a-complete-knitted-garment-manufacturing-process
2. knitting Textile, Written and fact-checked by The editors of Encyclopedia Britannica, https://www.britannica.com/technology/knitting
3. https://kanataknits.com/5-benefits-of-knitwear-for-travel
4. https://textilevaluechain.in/news-insights/fashion-in-knitting/
5. History of Knitting – A Resource Demystifying the Origins of Knitting, https://www.makersmercantile.com/history-of-knitting-a-resource-guide.htm

| GTH 689 | PATTERN GRADING AND ALTERATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Introduction:**

Manual pattern grading is an essential skill in the field of fashion design and garment production. This course will teach students how to transform a basic pattern into various sizes. Students will learn the techniques, tools, and principles required to create graded patterns, ensuring a perfect fit for your target audience. This course will enhance the students' skills and broaden understanding of pattern grading.

**Course Objectives**

The objective of this course is to enable the student to

1. To enable the students to develop the ability to create design through flat pattern technique.
2. To impart skills in dart manipulation.
3. To enable the students to learn the skills of standardizing body measurements

**Course Outcomes**

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

CO1: Apply grading techniques to systematically scale various garment components (sleeves, collars, yokes, bodice) for different sizes.

CO2: Analyze the structural changes and fit implications when grading different garment elements.

CO3: Evaluate garment fit and identify defects through fitting sessions to determine appropriate pattern alterations.

CO4: Create customized garment patterns by integrating grading and alteration principles to suit varied body types and sizes.

**Mapping of COs/POs**

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | - | - | - | - | - | - | 3 | 2 | 1 |
| CO2 | - | 3 | - | - | - | - | - | | | |
| CO3 | - | - | - | 3 | - | - | - | | | |
| CO4 | - | - | 3 | - | - | 1 | 1 | | | |
| CAM | 3 | 3 | 3 | 3 | - | 1 | 1 | | | |

*Legend: 3-High Correlation, 2-Medium Correlation, 1-Low Correlation*

| GTH 689 | PATTERN GRADING AND ALTERATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Instructional Strategy**

- It is advised that teachers take steps to pique pupils' attention and boost their learning confidence.
- To help students learn and appreciate numerous concepts and principles in each area, teachers should provide examples.
- The demonstration can make the subject exciting and foster in the students a scientific mindset.
- Student activities should be planned on all the topics.
- Throughout the course, a theory-demonstrate-practice-activity strategy may be used to ensure that learning is outcome and employability based.

**SCHEME OF EVALUATION**

**End Semester Examination- Practical Exam**

| PART | DESCRIPTION | MARKS |
|---|---|---|
| A | Procedure (Write-up) | 20 |
| B | Experiment | 35 |
| C | Viva voce | 05 |
| TOTAL | | 60 |

| GTH 689 | PATTERN GRADING AND ALTERATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

| | | |
|---|---|---|
| **Unit I** | **GRADING SLEEVE PATTERN** | |
| **Experiments:**<br>1. Grade the plain sleeve pattern.<br>2. Grade the puff sleeve pattern.<br>3. Grade the bell sleeve pattern. | | 15 |
| **Unit II** | **GRADING COLLAR PATTERN** | |
| **Experiments:**<br>4. Grade the shirt collar pattern.<br>5. Grade the peter-pan collar pattern.<br>6. Grade the mandarin collar pattern. | | 15 |
| **Unit III** | **GRADING YOKE PATTERN** | |
| **Experiments:**<br>7. Grade the plain yoke pattern.<br>8. Grade the partial yoke pattern.<br>9. Grade the midriff yoke pattern. | | 15 |
| **Unit IV** | **GRADING FRONT AND BACK PATTERN** | |
| **Experiments:**<br>10. Grade the front block pattern.<br>11. Grade the back block pattern. | | 15 |
| **Unit V** | **FITTING AND ALTERATION** | |
| Fitting- Definition, principles of a good fit. Causes for a poor fit. Checking the fit of a garment, fitting techniques. Pattern alteration- importance of pattern alternation. Principles of pattern alternation.<br>**Experiments:**<br>12. Study the principles of pattern alteration. | | 15 |
| **TOTAL HOURS** | | **75** |

| GTH 689 | PATTERN GRADING AND ALTERATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**Suggested to student activity**

- Presentation / Seminars by students on any successful Management
- Periodic class quizzes conducted on a weekly/ fortnightly basis to reinforce the basic of Management concepts
- Instructed to the students will be interacted with aluminous of the Department to know the current scenario of the textile market
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**Guidelines to Design Practical Exercise / Experiment ***

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- Uniform weight age should be given for each experiment / exercise, if it has the subdivision.
- Check the availability of equipment required / Possibility to complete the exercise / experiment by the student with safety

**List of Equipment**

Equipment required:

Pattern table- 8’x4’ table- 4 no’s

Materials required:

Pattern paper-30 nos /experiment /batch of 30 students

Measuring, drafting & general tools-30/ batch of 30 students

| GTH 689 | PATTERN GRADING AND ALTERATION | L | T | P | C |
|---|---|---|---|---|---|
| PRACTICUM | | 1 | 0 | 4 | 3 |

**END SEMESTER EXAMINATION – PRACTICAL EXAM.**

Note:

- All the exercises have to be completed; any one exercise will be given for board examination with appropriate action verb in the exercises for a single student.
- All the exercises should be covered and equally distributed in the board exam question paper.
- Record of work done in the course of study should be submitted for the End Semester Examinations

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2. Zarapkar System Of Cutting. K.R.ZarapkarNavneet Publications (I) Ltd.,Dantali. Gujarat. 2015
3. Sew It Yourself. Lippman (Gidon) Prentice Hall Inc New Jersey
4. Comparative Clothing Construction Techniques VirginnStolpe Lewis Surjeet Publications, Delhi 1985
5. Scientific Garments Cutting K.M. Hedge K.M. Hedge & Sons., Poona
6. Pattern Cutting For Women's Outer Wear Gerry Cooklin Blackwell Science Publication, London 2007
7. Metric Pattern Cutting Winfred Aldrich Blackwell Science Publication, London 2003
8. Pattern grading for Mens' Clothes Gerry Cooklin Blackwell Science Publication, London 2009
9. Pattern grading for Children's Clothes Gerry Cooklin Blackwell Science Publication, London
10. Pattern Grading for womens' Clothiing Gerry Cooklin Blackwell Science Publication, London 2014
11. Step by Step Dress Making course Leela Aitken BBC Books, London

| GTH 671 | INTERNSHIP | 540 PERIODS | C |
|---|---|---|---|
| PROJECT | | | 12 |

**Introduction**

Internships in educational institutions are designed to provide students with practical experience in their field of study and to bridge the gap between academic knowledge and professional practice.

**Objectives**

After completing Internship, Interns will be able to,

- Apply the theoretical knowledge and skill during performance of the tasks assigned in internship.
- Demonstrate soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in internship.
- Document the Use case on the assigned Task.
- Enable interns to apply theoretical knowledge gained in the classroom to real-world practical applications.
- Provide hands-on experience in the industrial practices.
- Develop essential skills such as communication, organization, teamwork, and problem-solving.
- Enhance specific skills related to the intern's area of focus.
- Offer a realistic understanding of the daily operations and responsibilities.
- Provide opportunities to work under the guidance of experienced supervisors and administrators.
- Allow interns to explore different career paths.
- Help interns make informed decisions about their future career goals based on firsthand experience.
- Facilitate the establishment of professional relationships with supervisor, administrators, and other professionals in the field.
- Provide access to a network of contacts that can be beneficial for future job opportunities and professional growth.

| GTH 671 | INTERNSHIP | 540 | C |
|---|---|---|---|
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- Foster personal growth by challenging interns to step out of their comfort zones and take on new responsibilities.
- Build confidence and self-efficacy through successful completion of internship tasks and projects.
- Give insight into the policies, regulations, and administrative practices.
- Allow interns to observe and understand the implementation of standards and policies in practice.
- Provide opportunities for constructive feedback from supervisors and mentors, aiding in the intern's professional development.
- Enable self-assessment and reflection on strengths, areas for improvement, and career aspirations.
- Encourage sensitivity to the needs and backgrounds of different groups, promoting inclusive and equitable industrial practices.

**Course Outcomes**

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

CO 1: Apply theoretical knowledge and principles in real-world practices.

CO 2: Analyze real-world challenges to develop innovative solutions using design thinking and entrepreneurial strategies.

CO 3: Develop and utilize assessment tools to evaluate the learning and practices.

CO 4: Evaluate personal learning and professional growth through reflective practices and feedback.

**Facilitating the Interns by an Internship Provider**

Orient intern in the new workplace. Give interns an overview of the organization, Explainthe intern's duties and introduce him or her to co-workers.

Develop an internship job description with clear deliverables and timeline.

Allow the interns in meetings and provide information, resources, and opportunities for professional development.

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The interns have never done this kind of work before, they want to know that their work is measuring up to organizational expectations, hence provide professional guidance and mentoring to the intern.

Daily progress report of Intern is to be evaluated by industry supervisor. examine what the intern has produced and make suggestions. Weekly supervision meetings can help to monitor the intern's work.

**Duties Responsibilities of the Faculty Mentor**

To facilitate the placement of students for the internship

To liaison between the college and the internship provider

To assist the Industrial Training Supervisor during assessment

**Instructions to the Interns**

- Students shall report to the internship provider on the 1st day as per the internship schedule.
- Intern is expected to learn about the organization, its structure, product range, market performance, working philosophy etc.
- The interns shall work on live projects assigned by the internship provider.
- The Intern shall record all the activities in the daily log book and get the signature of the concerned training supervisor.
- Intern shall have 100% attendance during internship programme. In case of unavoidable circumstances students may avail leave with prior permission from the concerned training supervisor of the respective internship provider. However, the maximum leave permitted during internship shall be as per company norms where they are working and intern shall report the leave sanctioned details to their college faculty mentor.
- The interns shall abide all the Rules and Regulations of internship provider
- Intern shall follow all the safety Regulations of internship provider.

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- On completion of the internship, the intern shall report to the college and submit the internship certificate mentioning duration of internship, evaluation of interns by internship provider, Student's Diary and Comprehensive Training Report.

**Attendance Certification**

Every month students have to get their attendance certified by the industrial supervisor in the prescribed form supplied to them. Students have also to put their signature on the form and submit it to the institution supervisor. Regularity in attendance and submission of report will be duly considered while awarding the Internal Assessment mark.

**Training Reports**

The students have to prepare two types of reports: Weekly reports in the form of a diary to be submitted to the concerned staff in-charge of the institution. This will be reviewed while awarding Internal

**Industrial Training Diary**

Students are required to maintain the record of day-to-day work done. Such a record is called Industrial training Diary. Students have to write this report regularly. All days for the week should be accounted for clearly giving attendance particulars (Presence, absence, Leave, Holidays etc.). The concern of the Industrial supervisor is to periodically check these progress reports.

**Comprehensive Training Report**

In addition to the diary, students are required to submit a comprehensive report on training with details of the organization where the training was undergone after attestation by the supervisors. The comprehensive report should incorporate study of plant/product/process/construction along with intensive in-depth study on any one of the topics such as processes, methods, tooling, construction and equipment,

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Highlighting aspects of quality, productivity and system. The comprehensive report should be completed in the last week of Industrial training.

Any data, drawings etc. should be incorporated with the consent of the Organisation.

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**Introduction**

The Fellowship in the Diploma in Engineering program is designed to provide aspiring engineers with a comprehensive educational experience that combines theoretical knowledge with practical skills. This fellowship aims to cultivate a new generation of proficient and innovative engineers who are equipped to meet the challenges of a rapidly evolving technological landscape.

Participants in this fellowship will benefit from a robust curriculum that covers core engineering principles, advanced technical training, and hands-on projects. The program emphasizes interdisciplinary learning, encouraging fellows to explore various branches of engineering, from mechanical and civil to electrical, electronics & communication and computer engineering. This approach ensures that graduates possess a versatile skill set, ready to adapt to diverse career opportunities in the engineering sector.

In addition to academics, the fellowship offers numerous opportunities for professional development. Fellows will engage with industry experts through seminars, workshops, and internships, gaining valuable insights into real-world applications of their studies. Collaborative projects and research initiatives foster a culture of innovation, critical thinking, and problem-solving, essential attributes for any successful engineer.

By offering this fellowship, participants become part of a vibrant community of learners and professionals dedicated to advancing the field of engineering. The program is committed to supporting the growth and development of each fellow, providing them with the tools and resources needed to excel both academically and professionally.

The Fellowship in the Diploma in Engineering is more than just an educational endeavor; it is a transformative journey that equips aspiring engineers with the knowledge, skills, and experiences necessary to make significant contributions to society and the engineering profession.

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**Objectives**

After completing students will be able to,

- Provide fellows with a solid foundation in core engineering principles and advanced technical knowledge across various engineering disciplines.
- Equip fellows with hands-on experience through laboratory work, projects, and internships, ensuring they can apply theoretical knowledge to real-world scenarios.
- Promote interdisciplinary understanding by encouraging exploration and integration of different engineering fields, fostering versatility and adaptability in fellows.
- Encourage innovation and creativity through research projects and collaborative initiatives, enabling fellows to develop new solutions to engineering challenges.
- Facilitate professional growth through workshops, seminars, and interactions with industry experts, preparing fellows for successful careers in engineering.
- Develop critical thinking and problem-solving skills, essential for tackling complex engineering problems and making informed decisions.
- Strengthen connections between academia and industry by providing opportunities for internships, industry visits, and guest lectures from professionals.
- Foster leadership qualities and teamwork skills through group projects and collaborative activities, preparing fellows for leadership roles in their future careers.
- Instill a sense of ethical responsibility and awareness of the social impact of engineering practices, encouraging fellows to contribute positively to society.
- Promote a culture of lifelong learning, encouraging fellows to continually update their knowledge and skills in response to technological advancements and industry trends.
- Prepare fellows to work in a global engineering environment by exposing them to international best practices, standards, and cross-cultural experiences.

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**Course Outcomes**

CO 1: Apply theoretical knowledge to practical scenarios, effectively solving engineering problems through hands-on projects, laboratory work, and internships.

CO 2: Analyze core engineering principles and technical skills to design and implement effective solutions across various disciplines.

CO 3: Develop research-based and innovative solutions to complex engineering challenges through critical and creative thinking.

CO 4: Develop strong communication skills, both written and verbal, and be capable of working effectively in teams, demonstrating leadership and collaborative abilities in diverse and multidisciplinary environments.

**Important points to consider selecting the fellowship project.**

Selecting the right fellowship project is crucial for maximizing the educational and professional benefits of a Diploma in engineering program.

- **Relevance to Future Plans**: Choose a project that aligns with your long-term career aspirations and interests. This alignment will ensure that the skills and knowledge you gain will be directly applicable to your desired career path.
- **Industry Relevance**: Consider the current and future relevance of the project within the industry. Opt for projects that address contemporary challenges or emerging trends in engineering.
- **Access to Facilities**: Ensure that the necessary facilities, equipment, and materials are available to successfully complete the project. Lack of resources can hinder the progress and quality of your work.

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- **Mentorship and Guidance**: Select a project that offers strong mentorship and support from experienced faculty members or industry professionals. Effective guidance is crucial for navigating complex problems and achieving project objectives.
- **Project Scope**: Assess the scope of the project to ensure it is neither too broad nor too narrow. A well-defined project scope helps in setting clear objectives and achievable milestones.
- **Feasibility**: Evaluate the feasibility of completing the project within the given timeframe and with the available resources. Consider potential challenges and ensure you have a realistic plan to address them.
- **Technical Skills**: Choose a project that allows you to develop and enhance important technical skills relevant to your field of study. Practical experience in using specific tools, technologies, or methodologies can be highly beneficial.
- **Soft Skills**: Consider projects that also offer opportunities to develop soft skills such as teamwork, communication, problem-solving, and project management.
- **Innovative Thinking**: Select a project that encourages creativity and innovative problem-solving. Projects that push the boundaries of traditional engineering approaches can be particularly rewarding.
- **Societal Impact**: Consider the potential impact of your project on society or the engineering community. Projects that address significant challenges or contribute to social good can be highly fulfilling and make a meaningful difference.

**Guidelines to select Fellowship**

- Ensure the program is accredited by a recognized accrediting body and has a strong reputation for quality education in engineering.
- Ensure it covers core engineering principles that align with your interests and career goals.
- Investigate the qualifications and experience of the faculty mentor. Look for programs with faculty who have strong academic backgrounds, industry experience, and active involvement in research.

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- Check if the program provides adequate hands-on training opportunities, such as laboratory work, workshops, and access to modern engineering facilities and equipment.
- Assess the program's connections with industry. Strong partnerships with companies can lead to valuable internship opportunities, industry projects, and exposure to real-world engineering challenges.
- Explore the availability of research opportunities. Participation in research projects can enhance your learning experience and open doors to innovative career paths.
- Look for programs that offer professional development resources, such as workshops, seminars, and networking events with industry professionals and alumni.
- Ensure the program provides robust support services, including academic advising, career counseling, mentorship programs, and assistance with job placement after graduation.
- Consider the cost of the program and available financial aid options, such as scholarships, grants, and fellowships. Evaluate the return on investment in terms of career prospects and potential earnings.
- Research the success of the program's alumni. High employment rates and successful careers of past graduates can indicate the program's effectiveness in preparing students for the engineering field.

**Duties Responsibilities of the Faculty Mentor**

Each student should have a faculty mentor for the Institute.

- Get the approval from the Chairman Board of Examinations with the recommendations of the HOD/Principal for the topics.
- Provide comprehensive academic advising to help fellows select appropriate specializations, and research projects that align with their interests and career goals.
- Guide fellows through their research projects, offering expertise and feedback to ensure rigorous methodology, innovative approaches, and meaningful contributions to the field.
- Assist fellows in developing technical and professional skills through hands-on projects, laboratory work, and practical applications of theoretical knowledge.

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- Offer career advice and support, helping fellows explore potential career paths, prepare for job searches, and connect with industry professionals and opportunities.
- Provide personal mentorship, fostering a supportive relationship that encourages growth, resilience, and a positive academic experience.
- Facilitate connections between fellows and industry professionals, alumni, and other relevant networks to enhance their professional opportunities and industry exposure.
- Ensure fellows have access to necessary resources, including research materials, lab equipment, software, and academic literature.
- Regularly monitor and evaluate the progress of fellows, providing constructive feedback and guidance to help them stay on track and achieve their goals.
- Instill and uphold high ethical and professional standards, encouraging fellows to practice integrity and responsibility in their work.
- Assist with administrative tasks related to the fellowship program, such as preparing progress reports, writing recommendation letters, and facilitating grant applications.
- Organize and participate in workshops, seminars, and other educational events that enhance the learning experience and professional development of fellows.
- Address any issues or conflicts that arise, providing mediation and support to ensure a positive and productive academic environment.

**Instructions to the Fellowship Scholar**

- Regularly meet with your faculty mentor for guidance on academic progress, research projects, and career planning. Be proactive in seeking advice and support from your mentor.
- Develop strong organizational skills. Use planners, calendars, and task management tools to keep track of assignments, project deadlines, and study schedules. Prioritize tasks to manage your time efficiently.
- Take advantage of opportunities to participate in research projects and hands-on activities. These experiences are crucial for applying your theoretical knowledge and gaining practical skills.

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- Focus on improving essential professional skills such as communication, teamwork, problem-solving, and leadership. Participate in workshops and seminars that enhance these competencies.
- Actively seek networking opportunities through industry events, seminars, and meetings. Establish connections with peers, alumni, and professionals in your field to build a strong professional network.
- Seek internships, co-op programs, or part-time jobs related to your field of study. Real-world experience is invaluable for understanding industry practices and enhancing your employability.
- Uphold high ethical standards in all your academic and professional activities. Practice integrity, honesty, and responsibility. Adhere to the ethical guidelines and standards set by your institution and the engineering profession.
- Adopt a mindset of lifelong learning. Stay updated with the latest developments and trends in engineering by reading industry journals, attending conferences, and taking additional courses.

**Documents to be submitted by the student to offer fellowship**

- **Completed Application Form**: This is typically the standard form provided by the institution or fellowship program that includes personal information, educational background, and other relevant details.
- **Detailed CV/Resume**: A comprehensive document outlining your educational background, knowledge experience, interest in research experience, publications, presentations, awards, and other relevant achievements if any.
- **Personal Statement**: A document explaining your motivation for applying to the fellowship, your career goals, how the fellowship aligns with those goals, and what you intend to achieve through the program.
- **Recommendation Letters**: Letters from faculty mentor, employer, or professionals who can attest to your academic abilities, professional skills, and suitability for the fellowship.

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- **Proposal/Description**: A detailed proposal or description of the fellowship project or study you plan to undertake during the fellowship. This should include objectives, methodology, expected outcomes, and significance of the project.
- **Enrollment Verification**: Documentation verifying your current acceptance status in the academic institution or industry where the fellowship will be conducted.
- **Funding Information**: Details about any other sources of funding or financial aid you are receiving, if applicable. Some fellowships may also require a budget proposal for the intended use of the fellowship funds.
- **Samples of Work**: Copies of the relevant work that demonstrates your capabilities and accomplishments in your field.
- **Endorsement Letter**: A letter from your current academic institution endorsing your application for the fellowship, if required.
- **Ethical Approval Documents**: If your research involves human subjects or animals, you may need to submit proof of ethical approval from the relevant ethics committee.
- **Additional Documents**: Any other documents requested by the fellowship program required by the institution.

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**Attendance Certification**

Every month students have to get their attendance certified by the supervisor in the prescribed form supplied to them. Students have also to put their signature on the form and submit it to the faculty mentor. Regularity in attendance and submission of report will be duly considered while awarding the Internal Assessment mark.

**Rubrics for Fellowship**

**Review I & II.**

| Sl. No. | Topics | Description |
|---|---|---|
| 1 | Alignment with Objectives | Assess how well the project aligns with the stated objectives and requirements.<br>Determine if the student has addressed the key aspects outlined in the project guidelines. |
| 2 | Depth of Research: | Evaluate the depth and thoroughness of the literature review.<br>Assess the student's ability to identify and address gaps in existing research. |
| 3 | Clarity of Objectives: | Check if the student has clearly defined and articulated the objectives of the project.<br>Ensure that the objectives are specific, measurable, achievable, relevant, and time-bound (SMART). |
| 4 | Methodology and Data Collection: | Evaluate the appropriateness and justification of the research methodology.<br>Assess the methods used for data collection and their relevance to the research questions. |
| 5 | Analysis and Interpretation: | Examine the quality of data analysis techniques used.<br>Assess the student's ability to interpret results and draw meaningful conclusions. |
| 6 | Project Management: | Evaluate the project management aspects, including adherence to |

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| | | timelines and milestones.<br>Assess the student's ability to plan and execute the project effectively. |
| 7 | Documentation and Reporting: | Check the quality of documentation, including code, experimental details, and any other relevant materials.<br>Evaluate the clarity, structure, and coherence of the final report. |
| 8 | Originality and Creativity: | Assess the level of originality and creativity demonstrated in the project.<br>Determine if the student has brought a unique perspective or solution to the research problem. |
| 9 | Critical Thinking: | Evaluate the student's critical thinking skills in analyzing information and forming conclusions.<br>Assess the ability to evaluate alternative solutions and make informed decisions. |
| 10 | Problem-Solving Skills: | Evaluate the student's ability to identify and solve problems encountered during the project.<br>Assess adaptability and resilience in the face of challenges. |

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**INTERNAL MARKS - 40 Marks**

As per the rubrics each topic should be considered for the Review I and Review II. It should be assessed by a faculty mentor and the industrial professional or research guide.

Review 1 shall be conducted after 8th week and Review 2 shall be conducted after 14th week in the semester. Average marks scored in the reviews shall be considered for the internal assessment.

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**Introduction**

Every student must do one major project in the Final year of their program. Students can do their major project in Industry or R&D Lab or in-house or a combination of any two for the partial fulfillment for the award of Diploma in Engineering.

For the project works, the Department will constitute a three-member faculty committee to monitor the progress of the project and conduct reviews regularly.

If the projects are done in-house, the students must obtain the bonafide certificate for project work from the Project supervisor and Head of the Department, at the end of the semester. Students who have not obtained the bonafide certificate are not permitted to appear for the Project Viva Voce examination.

For the projects carried out in Industry, the students must submit a separate certificate from Industry apart from the regular bonafide certificate mentioned above. For Industry related projects there must be one internal faculty advisor / Supervisor from Industry (External), this is in addition to the regular faculty supervision.

The final examination for project work will be evaluated based on the final report submitted by the project group **of not exceeding four students**, and the viva voce by an external examiner.

**Objectives**

Academic project work plays a crucial role in the education of Diploma in Engineering students, as it helps them apply theoretical knowledge to practical situations and prepares them for real-world engineering challenges.

- **Integration of Knowledge**: Consolidate and integrate theoretical knowledge acquired in coursework to solve practical engineering problems.
- **Skill Development**: Enhance technical skills related to the specific field of engineering through hands-on experience and application.
- **Problem-Solving Abilities**: Develop critical thinking and problem-solving abilities by addressing complex engineering issues within a defined scope.
- **Project Management**: Gain experience in project planning, execution, and management, including setting objectives, timelines, and resource allocation.

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- **Teamwork and Collaboration**: Foster teamwork and collaboration by working in multidisciplinary teams to achieve project goals and objectives.
- **Research Skills**: Acquire research skills by conducting literature reviews, gathering relevant data, and applying research methodologies to investigate engineering problems.
- **Innovation and Creativity**: Encourage innovation and creativity in proposing and developing engineering solutions that may be novel or improve upon existing methods.
- **Communication Skills**: Improve communication skills, both oral and written, by presenting project findings, writing technical reports, and effectively conveying ideas to stakeholders.
- **Ethical Considerations**: Consider ethical implications related to engineering practices, including safety, environmental impact, and societal concerns.
- **Professional Development**: Prepare for future professional roles by demonstrating professionalism, initiative, and responsibility throughout the project lifecycle.

**Course Outcomes**

CO 1:Apply critical thinking and problem-solving skills to identify, analyze, and propose solutions to engineering challenges encountered throughout the project lifecycle.

CO 2:Develop and enhance technical skills specific to the field of engineering relevant to the project, such as design, analysis, simulation, construction, testing, and implementation.

CO 3:Develop project management skills by effectively planning, organizing, and executing project tasks within defined timelines and resource constraints.

CO 4:Improve communication skills through the preparation and delivery of project reports, presentations, and documentation that effectively convey technical information to stakeholders.

**Important points to consider to select the In-house project.**

- Selecting a project work in Diploma Engineering is a significant decision that can greatly influence your learning experience and future career prospects.
- Choose a project that aligns with your career aspirations and interests within the field of engineering. Consider how the project can contribute to your professional development and future opportunities.

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- Ensure the project aligns with your coursework and specialization within the Diploma program. It should complement and build upon the knowledge and skills you have acquired in your studies.
- Evaluate the scope of the project to ensure it is manageable within the given timeframe, resources, and constraints. Avoid projects that are overly ambitious or impractical to complete effectively.
- Assess the availability of resources needed to conduct the project, such as equipment, materials, laboratory facilities, and access to relevant software or tools. Lack of resources can hinder project progress.
- Select a project that genuinely interests and motivates you. A project that captures your curiosity and passion will keep you engaged and committed throughout the project duration.
- Consider the availability and expertise of faculty advisors or industry mentors who can provide guidance and support throughout the project. Effective mentorship is crucial for success.
- Clearly define the learning objectives and expected outcomes of the project. Ensure that the project will help you achieve specific learning goals related to technical skills, problem-solving, and professional development.
- Look for opportunities to propose innovative solutions or explore new methodologies within your project. Projects that encourage creativity can set you apart and enhance your learning experience.
- Consider ethical implications related to the project, such as safety protocols, environmental impact, and compliance with ethical guidelines in research and engineering practices.
- Evaluate whether the project offers opportunities for collaboration with peers, experts from other disciplines, or industry partners. Interdisciplinary projects can broaden your perspective and enhance your teamwork skills.
- Consider the potential impact of your project on society or the engineering community. Projects that address significant challenges or contribute to social good can be highly fulfilling and make a meaningful difference.

By carefully considering these points, Diploma Engineering students can make informed decisions when selecting project work that not only enhances their academic learning but also prepares them for successful careers in engineering.

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**Duties Responsibilities of the internal faculty advisor**

Each group should have an internal faculty advisor assigned by the HOD/Principal.

- The in-house project should be approved by the project monitoring committee constituted by the Chairman Board of Examinations.
- The in-house project should be selected in the fifth semester itself. Each in-house project shall have a maximum of four students in the project group.
- Provide comprehensive academic advising to help in the selection of appropriate in-house project that align with their interests and career goals.
- Offer expertise and feedback to ensure rigorous methodology, innovative approaches, and meaningful contributions to the field.
- Assist in developing technical and professional skills through hands-on projects, laboratory work, and practical applications of theoretical knowledge.
- Provide personal mentorship, fostering a supportive relationship that encourages growth, resilience, and a positive academic experience.
- Facilitate connections between students and industry professionals, alumni, and other relevant networks to enhance their professional opportunities and industry exposure.
- Ensure students have access to necessary resources, including research materials, lab equipment, software, and academic literature.
- Regularly monitor and evaluate the progress of the in-house project, providing constructive feedback and guidance to help them stay on track and achieve their goals.
- Instill and uphold high ethical and professional standards, encouraging students to practice integrity and responsibility in their work.
- Assist in preparing progress reports, writing recommendation letters, and facilitating grant applications.
- Organize and participate in workshops, seminars, and other educational events that enhance the learning experience and professional development.
- Address any issues or conflicts that arise, providing mediation and support to ensure a positive and productive academic environment.

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| PROJECT | | | 12 |

**Instructions to the students.**

- Regularly meet with your internal faculty advisor for guidance on academic progress, research projects, and career planning. Be proactive in seeking advice and support from your faculty advisor.
- Use planners, calendars, and task management tools to keep track of assignments, project deadlines, and study schedules. Prioritize tasks to manage your time efficiently.
- Take advantage of opportunities to participate in in-house projects and hands-on activities. These experiences are crucial for applying your theoretical knowledge and gaining practical skills.
- Focus on improving essential professional skills such as communication, teamwork, problem-solving, and leadership. Participate in workshops and seminars that enhance these competencies.
- Actively seek networking opportunities through industry events, seminars, and meetings. Establish connections with peers, alumni, and professionals in your field to build a strong professional network.
- Seek internships, co-op programs, or part-time jobs related to your field of study. Real-world experience is invaluable for understanding industry practices and enhancing your employability.
- Uphold high ethical standards in all your academic and professional activities. Practice integrity, honesty, and responsibility. Adhere to the ethical guidelines and standards set by your institution and the engineering profession.
- Adopt a mindset of lifelong learning. Stay updated with the latest developments and trends in engineering by reading industry journals, attending conferences, and taking additional courses.

**Documents to be submitted by the student for an in-house project**

Submit a printed report of your in-house project work along with the fabrication model / analysis report for the End Semester Examination.

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| PROJECT | | | 12 |

**Rubrics for In-House Project Work**

| Sl. No. | Topics | Description |
|---|---|---|
| 1 | Objectives | Clearly defined and specific objectives outlined.<br>Objectives align with the project's scope and purpose. |
| 2 | Literature Review | Thorough review of relevant literature.<br>Identification of gaps and justification for the project's contribution. |
| 3 | Research Design and Methodology | Clear explanation of the research design.<br>Appropriateness and justification of chosen research methods. |
| 4 | Project Management | Adherence to project timeline and milestones.<br>Effective organization and planning evident in the project execution. |
| 5 | Documentation | Comprehensive documentation of project details.<br>Clarity and completeness in recording methods, results, and challenges. |
| 6 | Presentation Skills | Clear and articulate communication of project findings.<br>Effective use of visuals, if applicable. |
| 7 | Analysis and Interpretation | In-depth analysis of data.<br>Clear interpretation of results in the context of research questions. |
| 8 | Problem-Solving | Demonstrated ability to identify and address challenges encountered during the project.<br>Innovative solutions considered where applicable. |
| 9 | Professionalism and | Adherence to ethical standards in research. |

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| | Compliance | Compliance with project guidelines and requirements. |
| 10 | Quality of Work | Overall quality and contribution of the project to the field.<br>Demonstrated effort to produce high-quality work. |

**Statement of Comparison between the syllabuses of Dr. DGPCW and DOTE in respect of the Department of Garment Technology**

| S.No | Dr. D.G.P.C.W | DOTE | Remarks |
|---|---|---|---|
| **III Semester** | | | |
| 1. | Yarn and Fabric Manufacture | Yarn and Fabric Manufacture | In III unit of H Scheme, ‘‘Braiding – Definition and Uses’’ is additionally added. |
| 2 | Fashion Designing | Fashion Designing | On par with DOTE syllabi |
| 3 | Apparel Designing | Apparel Designing | On par with DOTE syllabi |
| 4 | Surface ornamentation (P) | Surface ornamentation (P) | On par with DOTE syllabi |
| 5 | Fashion Illustration (P) | Fashion Illustration (P) | On par with DOTE syllabi |
| 6 | Basic Garment Construction (P) | Basic Garment Construction(P) | On par with DOTE syllabi |
| **IV Semester** | | | |
| 1 | Apparel Quality Control | Apparel Quality Control | On par with DOTE syllabi |
| 2 | Clothing Machinery and Equipment | Garment Machinery and Equipment | In IV Unit of H Scheme ‘’Unconventional fabric joining techniques- Ultrasonic welding, seam sealing, Thermal seams – Definition only’’ is additionally added. |
| 3 | Garment Construction– I(P) | • Garment Construction of boy’s and girl’s<br>• Children garment construction | The two subjects of DOTE Syllabus are combined.<br>Reason: In Children garment construction, V Unit is allotted for fabric consumption calculation.<br>In H scheme this calculation part is included in each unit.<br>In Garment Construction of boy’s and girl’s of DOTE Syllabus, II Unit is allotted for construction of girls style and III Unit is allotted for fabric consumption. These two Units are combined as a single unit (V) in H Scheme.<br>In the same way IV and V unit is combined as a single unit (IV) in H Scheme. |

| S.No | Dr. D.G.P.C.W | DOTE | Remarks |
|---|---|---|---|
| 4 | Home textiles (P) | Home textiles (P) | On par with DOTE syllabi |
| 5 | Chemical Processing and Testing of Textiles(Practicum) | Chemical Processing and Testing of Textiles (Practicum) | On par with DOTE syllabi |
| 6 | Garment Pattern Drafting I (Practicum) | Garment Pattern Drafting I (Practicum) | In DOTE Syllabus, Pattern drafting of ladies wear (V) unit is replaced with pattern drafting of boys wear II in H Scheme. The V unit of DOTE Syllabus is transferred to Garment Pattern Drafting II of H Scheme. |
| **V Semester** | | | |
| 1 | Apparel Merchandising | Apparel Merchandising | On par with DOTE syllabi |
| 2 | Apparel Industrial Engineering | Apparel Industrial Engineering | In III Unit of H Scheme, ''Motion study – Definition and Uses'' is additionally added. |
| 3 | **Elective I** Garment Construction – II (p) | **Elective I** Garment Construction – II (P) | On par with DOTE syllabi |
| 4 | **Elective I** Handicrafts (P) | **Elective I** Handicrafts (P) | On par with DOTE syllabi |
| 5 | **Elective I** Garment Laundering and Maintenance(Practicum) | **Elective II** Garment Laundering and Maintenance(Practicum) | On par with DOTE syllabi |
| 6 | **Elective II** Advanced Surface Ornamentation (Practicum) | - | On par with DOTE syllabi |
| 7 | **Elective II** Garment CAD (P) | **Elective I** Garment CAD (P) | On par with DOTE syllabi |
| 8 | **Elective II** Indian and Western Costume (Practicum) | **Elective II** Indian and Western Costume (Practicum) | On par with DOTE syllabi |
| 9 | Garment Pattern Drafting – II (P) | Garment Pattern Drafting – II(P) | On par with DOTE syllabi |
| 10 | Innovation & Startup (Practicum) | Innovation & Startup (Practicum) | On par with DOTE syllabi |

| S.No | Dr. D.G.P.C.W | DOTE | Remarks |
|---|---|---|---|
| 11 | Industrial Training* [Summer Vacation - 90 Hours] (Internship) | Industrial Training* [Summer Vacation - 90 Hours] (Internship) | On par with DOTE syllabi |
| | **VI Semester** | | |
| 1 | **Elective III** Advanced Engineering Mathematics | **Elective III** Advanced Engineering Mathematics | On par with DOTE syllabi |
| 2 | **Elective III** Entrepreneurship | **Elective III** Entrepreneurship | On par with DOTE syllabi |
| 3 | **Elective III** Project Management | **Elective III** Project Management | On par with DOTE syllabi |
| 4 | **Elective III** Finance Fundamentals | **Elective III** Finance Fundamentals | On par with DOTE syllabi |
| 5 | **Elective III** Garment Industry Management | **Elective III** Garment Industry Management | On par with DOTE syllabi |
| 6 | **Elective III** Online Elective course **$** | **Elective III** Online Elective course **$** | On par with DOTE syllabi |
| 7 | **Elective IV** Fashion Draping (Practicum) | **Elective IV** Fashion Draping (Practicum) | On par with DOTE syllabi |
| 8 | **Elective IV** Knitwear Technology (Practicum) | **Elective IV** Knitwear Technology (Practicum) | On par with DOTE syllabi |
| 9 | **Elective IV** Pattern Grading and Alteration (Practicum) | **Elective IV** Pattern Grading and Alteration(Practicum) | On par with DOTE syllabi |
| 10 | Internship | Internship | On par with DOTE syllabi |
| 11 | Fellowship | Fellowship | On par with DOTE syllabi |
| 12 | In-house Project | In-house Project | On par with DOTE syllabi |

**EQUIVALENT PAPERS**

| COURSE CODE | EXISITING SUBJECTS (2022 – 2023) | COURSE CODE | PROPOSED SUBJECTS |
|---|---|---|---|
| GTG 301 | Fibre Science and Yarn Production | - | No equivalent paper |
| | | GTH 301 | Yarn and Fabric Manufacture |
| GTG302 | Fashion Designing | GTH 302 | Fashion Designing |
| GTG303 | ApparelDesigning | GTH 303 | Apparel Designing |
| GTG371 | Fashion Designing(P) | GTH 372 | Fashion Illustration (Practical) |
| GTG372 | ApparelDesigning(P) | GTH 373 | Basic Garment Construction(Practical) |
| GTG373 | Fashion Accessories(P) | - | No equivalent paper |
| GTG374 | Embroidery–I (P) | GTH 371 | Surface ornamentation(Practical) |
| GTG401 | Fabric Manufacture | - | No equivalent paper |
| GTG402 | Home Textiles | - | No equivalent paper |
| GTG403 | Clothing Machinery and Equipment | GTH 402 | Clothing Machinery and Equipment |
| GTG404 | Pattern Drafting and Construction -I | - | No equivalent paper |
| - | - | GTH 474 | Garment Pattern Drafting I (Practicum) |
| GTG471 | Home Textiles (P) | GTH 472 | Home textiles (Practical) |
| GTG472 | Garment Construction- I (P) | GTH 471 | Garment Construction– I (Practical) |
| GTG473 | Embroidery-II (P) | GTH 584 | Advanced Surface Ornamentation (Practicum) |
| - | - | GTH 474 | Garment Pattern Drafting I (Practicum) |
| GTG501 | Chemical Processing and Testing of Textiles | - | No equivalent paper |
| GTG502 | Pattern Draftingand Construction-II | - | No equivalent paper |
| - | - | GTH 502 | Apparel Industrial Engineering |
| GTG503 | Sketching and Draping | - | - |
| GTG504 | Artificial Jewellery Making | - | No equivalent paper |
| GTG571 | Chemical Processing and Testing Of Textiles(P) | GTH 473 | Chemical Processing and Testing of Textiles (Practicum) |
| GTG572 | GarmentConstruction – II (P) | GTH 581 | Garment Construction – II (Practical) |

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|---|---|---|---|
| - | - | GTH 571 | Garment Pattern Drafting – II (Practical) |
| - | - | GTH 582 | Handicrafts (Practical) |
| - | - | GTH 583 | Garment Laundering and Maintenance (Practicum) |
| GTG573 | Sketching and Draping (P) | GTH 687 | Fashion Draping (Practicum) |
| GTG574 | Artificial Jewellery Making (P) | - | - |
| GTG575 | Entrepreneurship and Start-Ups (P) | - | - |
| GTG601 | Textile Management | GTH 685 | Garment Industry Management |
| | | - | - |
| GTG602 | Apparel Quality Control | GTH 401 | Apparel Quality Control |
| GTG603 | ApparelMerchandising | GTH 501 | Apparel Merchandising |
| GTG604 | Interior Décor Designing | - | - |
| GTG605 | Pattern DraftingandConstruction–III | - | - |
| GTG671 | Garment Construction –III (P) | - | - |
| GTG672 | Garment CAD (P) | GTH 585 | Garment CAD (Practical) |
| - | - | GTH 586 | Indian and Western Costume (Practicum) |
| GTG673 | Project Work andInternship (P) | - | - |
| - | - | GTH 681 | Advanced Engineering Mathematics |
| - | - | GTH 682 | Entrepreneurship |
| - | - | GTH 683 | Project Management |
| - | - | GTH 684 | Finance Fundamentals |
| - | - | GTH 686 | Online Elective course |
| - | - | GTH 688 | Knitwear Technology (Practicum) |
| - | - | GTH 689 | Pattern Grading and Alteration (Practicum) |

# Integrated Learning Experiences (ILE)

# Standard Operating Procedures(SOPs)

**Introduction:**

Today's world is rapidly changing and increasingly interconnected, and the future talent pipeline to be sourced from the campuses needs to adapt to changes that will keep accelerating in the future. This new curriculum revamping (R2023) focuses on equipping learners with skills that will enable them to cope with the foreseeable social and economic changes and manage often unpredictable realities. The various dimensions of transformation are designed to nurture skills towards holistic human development. Such skills are acquired not only on formal courses but in a variety of contexts throughout the academic curriculum.

Four broad dimensions of skills to ensure holistic human development: (1) Personal, (2) Professional, (3) Interpersonal and (4) Advanced Industrial Technologies skills and competencies. From this perspective, a new structure called "Integrated Learning Experiences(ILE)" is introduced in the regulation 2023. This ILE encompass activities that foster the acquisition of disciplinary knowledge, personal and interpersonal skills, and technological proficiency. These experiences promote active engagement in meaningful real-life situations and establish connections between different curricula, co-curricular activities, and extracurricular pursuits across diverse disciplines. Integrated learning experiences are concatenated in the academic curriculum for each semester enabling the students to learn, adapt and transform through experiential learning pedagogy. This approach enriches the curriculum by incorporating dynamic and up-to-date co-curricular courses and activities that may not be directly aligned with the students' program of study. It prioritizes the holistic development of students, fostering their growth and well-roundedness.

| - - - - 23 - 886* | | L | T | P | C** |
|---|---|---|---|---|---|
| **AUDIT** | **HEALTH & WELLNESS** | **0** | **0** | **2** | **1** |

*(First four digits in the subject code is branch code and Seventh digit is Semester)

** Health & Wellness has one credit for the third semester only and it has no credits for other semesters.

**Skill Areas:**

Physical Fitness, Nutrition, Mental Health, Awareness on Drug addiction and its effects

**Purpose:**

The Health & Wellness course focuses on teaching the elements of physical, mental, emotional, social, intellectual, environmental well-being which are essential for overall development of an individual. The course also addresses the dangers of substance abuse and online risks to promote emotional and mental health.

**Learning Outcomes:**

Upon completion of the Health & Wellness course, students will be able to:

1. Demonstrate proficiency in sports training and physical fitness practices.
2. Improve their mental and emotional well-being, fostering a positive outlook on health and life.
3. Develop competence and commitment as professionals in the field of health and wellness.
4. Awareness on drug addiction and its ill effects

**Focus:**

During the conduct of the Health & Wellness course, the students will benefit from the following focus areas:

1. Stress Management.
2. Breaking Bad Habits.
3. Improving Interpersonal Relationships.
4. Building Physical Strength & Inner Strength.

**Role of the Facilitator:**

The faculty plays a crucial role in effectively engaging with students and guiding them towards achieving learning outcomes. Faculty participation involves the following areas:

1. **Mentorship & Motivation:** The Facilitator mentors students in wellness and self-discipline while inspiring a positive outlook on health. Faculty teach stress management, fitness, and daily well-being.
2. **Promoting a Safe and Inclusive Environment:** The facilitator ensures a safe, inclusive, and respectful learning environment for active student participation and benefit.
3. **Individualised Support and Monitoring Progress:** The facilitator plays a crucial role in providing personalized support, monitoring and guidance to students.

**Guided Activities:**

In this course, several general guided activities have been suggested to facilitate the achievement of desired learning outcomes. They are as follows:

1. Introduction to Holistic Well-being.
2. Holistic Wellness Program- Nurturing Body and Mind
3. Breaking Bad Habits Workshop.
4. Improving the elements of physical, emotional, social, intellectual, environmental and mental well-being.
5. Creating situational awareness, digital awareness.
6. Understanding substance abuse, consequences and the way out.

**Period Distribution**

The following are the guided activities suggested for this Audit course.

The Physical Director should plan the activities by the students.

Arrange the suitable Mentor / Guide for the wellness activities.

Additional activities and programs can be planned for Health and Wellness.

| S.No | Guided Activities | Period |
|---|---|---|
| 1 | **Introduction to Holistic Well-being**<br>1. Introduce the core components of Health & Well-being namely Physical, mental and emotional well-being<br>2. Provide worksheets on all the four components individually and explain the interconnectedness to give an overall understanding. | |
| 2 | **Wellness Wheel Exercise (Overall Analysis)** | |

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| | • Guide students to assess their well-being in various life dimensions through exercises on various aspects of well – being, and explain the benefits of applying wellness wheel.<br>• Introduce Tech Tools:<br>• Explore the use of technology to support well-being.<br>• Introduce students to apps for meditation, sleep tracking, or healthy recipe inspiration. | |
| 3 | **Breaking Bad Habits (Overall Analysis)**<br>• Open a discussion on bad habits and their harmful effects.<br>• Provide a worksheet to the students to identify their personal bad habits.<br>• Discuss the trigger, cause, consequence and solution with examples.<br>• Guide them to replace the bad habits with good ones through worksheets. | |
| 4 | **Physical Well-being**<br>**1. Fitness**<br>Introduce the different types of fitness activities such as basic exercises, cardiovascular exercises, strength training exercises, flexibility exercises, so on and so forth.<br>(Include theoretical explanations and outdoor activity).<br>**2. Nutrition**<br>Facilitate students to reflect on their eating habits, their body type, and to test their knowledge on nutrition, its sources and the benefits.<br>**3. Yoga & Meditation**<br>Discuss the benefits of Yoga and Meditation for one's overall health.<br>Demonstrate different yoga postures and their benefits on the body through visuals (pictures or videos) | |

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| | **4. Brain Health**<br>Discuss the importance of brain health for daily life.<br>Habits that affect brain health (irregular sleep, eating, screen time).<br>Habits that help for healthy brains (reading, proper sleep, exercises).<br>Benefits of breathing exercises and meditation for healthy lungs.<br>**5. Healthy Lungs**<br>Discuss the importance of lung health for daily life.<br>Habits that affect lung health (smoking, lack of exercises).<br>Benefits of breathing exercises for healthy lungs.<br>**6. Hygiene and Grooming**<br>Discuss the importance of hygienic habits for good oral, vision, hearing and skin health.<br>Discuss the positive effects of grooming on one's confidence level and professional growth.<br>**<u>Suggested Activities (sample):</u>**<br>**Nutrition:**<br>Invite a nutritionist to talk among the students on the importance of nutrition to the body or show similar videos shared by experts on social media. Organize a 'Stove less/fireless cooking competition' for students where they are expected to prepare a nutritious dish and explain the nutritive values in parallel. | |
| 5 | **Emotional Well-being**<br>**1. Stress Management**<br>Trigger a conversation or provide self-reflective worksheets to identify the stress factors in daily life and their impact on students' performance.<br>Introduce different relaxation techniques like deep breathing, progressive muscle relaxation, or guided imagery.<br>(use audio recordings or visuals to guide them through these techniques).<br>After practicing the techniques, have them reflect on how these methods can help manage stress in daily life.<br>**2. Importance of saying 'NO'.** | |

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| | Explain the students that saying 'NO' is important for their Physical and mental well-being, Academic Performance, Growth and Future, Confidence, Self-respect, Strong and Healthy Relationships, building reputation for self and their family (avoid earning a bad name).<br>Factors that prevent them from saying 'NO'.<br>How to practice saying 'NO''.<br><br>**3. Body Positivity and self-acceptance**<br>Discuss the following with the students.<br>● What is body positivity and self-acceptance?<br>● Why is it important?<br>● Be kind to yourself.<br>● Understand that everyone's unique.<br><br>**<u>Suggested Activities(Sample):</u>**<br>(Importance of saying 'NO')<br>Provide worksheets to self-reflect on…<br>…how they feel when others say 'no' to them<br>…the situations where they should say 'no'<br><br>Challenge students to write a song or rap about the importance of saying no and how to do it effectively.<br>Students can perform their creations for the class. | |
| 6 | **Social Well-Being**<br>**1. Practicing Gratitude**<br>Discuss the importance of practicing gratitude for building relationships with family, friends, relatives, mentors and colleagues.<br>Discuss how one can show gratitude through words and deeds.<br>Explain how practicing gratitude can create 'ripple effect'.<br>**2. Cultivating Kindness and Compassion**<br>Define and differentiate between kindness and compassion.<br>Explore practices that cultivate these positive emotions.<br>Self-Compassion as the Foundation. | |

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| | The power of small gestures.<br>Understanding another's perspective.<br>The fruits of compassion.<br>**3. Practising Forgiveness**<br>Discuss the concept of forgiveness and its benefits.<br>Forgiveness: What is it? and What it isn't?<br>Benefits of forgiveness.<br>Finding forgiveness practices.<br>**4. Celebrating Differences**<br>Appreciate the value of individual differences and foster inclusivity.<br>The World: A Tapestry of Differences (cultures, backgrounds, beliefs, abilities, and appearances).<br>Finding strength in differences (diverse perspectives and experiences lead to better problem-solving and innovation).<br>Celebrating differences, not ignoring them (respecting and appreciating the unique qualities).<br>Activities for celebrating differences (share culture, learn about others, embrace new experiences).<br>**5. Digital Detox**<br>**Introduce the students to:**<br>The concept of a digital detox and its benefits for social well-being.<br>How to disconnect from devices more often to strengthen real-world connections.<br><br>**<u>Suggested Activities (sample)</u>**:<br>(Practicing Gratitude)<br>Provide worksheets to choose the right ways to express gratitude.<br>Celebrate 'gratitude day' in the college and encourage the students to honour the house keeping staff in some way to express gratitude for their service. | |
| 7. | **Intellectual Well-being**<br>**1. Being a lifelong Learner**<br>**Give students an understanding on:**<br>The relevance of intellectual well-being in this 21st century to meet | |

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| | the expectations in personal and professional well-being<br>The Importance of enhancing problem-solving skills<br>Cultivating habits to enhance the intellectual well-being (using the library extensively, participating in extra-curricular activities, reading newspaper etc.)<br>**2. Digital Literacy**<br>**Discuss:**<br>The key aspects of digital literacy and its importance in today's world.<br>It is more than just liking and sharing on social media.<br>The four major components of digital literacy (critical thinking, communication, problem-solving, digital citizenship).<br>Why is digital literacy important?<br>Boosting one's digital skills.<br>**3. Transfer of Learning**<br>Connections between different subjects – How knowledge gained in one area can be applied to others.<br>**Suggested Activities(sample):**<br>Intellectual Well-being.<br>Provide worksheets to students for teaching them how to boost intellectual well-being.<br>Ask the students to identify a long-standing problem in their locality, and come up with a solution and present it in the classroom. Also organize an event like 'Idea Expo' to display the designs, ideas, and suggestions, to motivate the students to improve their intellectual well-being. | |
| 8 | **Environmental Well-being**<br>1.The Importance of initiating a change in the environment.<br>**The session could be around:**<br>Defining Environmental well-being (physical, chemical, biological, social, and psychosocial factors) – People's behaviour, crime, pollution, political activities, infra-structure, family situation etc.<br>Suggesting different ways of initiating changes in the environment (taking responsibility, creating awareness, volunteering, | |

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| | approaching administration).<br>**<u>Suggested Activities (sample)</u>**:<br>Providing worksheets to self-reflect on how the environment affects their life, and the ways to initiate a change.<br>Dedicate a bulletin board or wall space (or chart work) in the classroom for students to share their ideas for improving environmental well-being.<br>Creating a volunteers' club in the college and carrying out monthly activities like campus cleaning, awareness campaigns against noise pollution, (loud speakers in public places), addressing anti-social behaviour on the campus or in their locality. | |
| 9 | **Mental Well-being**<br>**1. Importance of self-reflection**<br>**Discuss:**<br>Steps involved in achieving mental well-being (self-reflection, self-awareness, applying actions, achieving mental well-being).<br>Different ways to achieve mental well-being (finding purpose, coping with stress, moral compass, connecting for a common cause).<br>The role of journaling in mental well-being.<br>**2. Mindfulness and Meditation Practices**<br>Benefits of practicing mindful habits and meditation for overall well-being.<br>**1. Connecting with nature**<br>Practising to be in the present moment **–** Nature walk, feeling the sun, listening to the natural sounds.<br>Exploring with intention – Hiking, gardening to observe the nature.<br>Reflecting on the emotions, and feeling kindled by nature.<br>**2. Serving people**<br>Identifying the needs of others.<br>Helping others.<br>Volunteering your time, skills and listening ear.<br>Finding joy in giving.<br>**3. Creative Expressions** | |

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| | Indulging in writing poems, stories, music making/listening, creating visual arts to connect with inner selves.<br>**<u>Suggested Activities(Sample):</u>**<br>(Mindfulness and Meditation) – Conducting guided meditation every day for 10 minutes and directing the students to record the changes they observe. | |
| 10 | **Situational Awareness (Developing Life skills)**<br>**1. Being street smart**<br>**Discuss:**<br>Who are street smarts?<br>Why is it important to be street smart?<br>Characteristics of a street smart person: Importance of acquiring life skills to become street smart – (General First-aid procedure, CPR Procedure, Handling emergency situations like fire, flood etc).<br>**2. Digital Awareness**<br>**Discuss:**<br>Cyber Security<br>Information Literacy<br>Digital Privacy<br>Fraud Detection<br>**<u>Suggested Activities</u>** (sample):<br>(Street Smart) Inviting professionals to demonstrate the CPR Procedure<br>Conducting a quiz on Emergency Numbers | |
| 11 | **Understanding Addiction**<br>**Plan this session around:**<br>Identifying the environmental cues, triggers that lead to picking up this habit.<br>Knowing the impact of substance abuse – Adverse health conditions, social isolation, ruined future, hidden financial loss and damaging the family reputation.<br>Seeking help to get out of this addiction.<br>**<u>Suggested Activities</u>**: | |

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| | Provide Worksheets to check the students' level of understanding about substance addiction and their impacts.<br>Share case studies with students from real-life.<br>Play/share awareness videos on addiction/de-addiction, experts talk.<br>*Conduct awareness programmes on Drugs and its ill effects. (Arrange Experts from the concerned government departments and NGOs working in drug addiction issues) and maintain the documents of the program. | |

**Closure:**

Each student should submit a Handwritten Summary of their Learnings & Action Plan for the future.

**Assessments:**

- Use Self-reflective worksheets to assess their understanding.
- Submit the worksheets to internal audit/external audit.
- Every student's activities report should be documented and the same have to be assessed by the Physical Director with the mentor. The evaluation should be for 100 marks. No examination is required.

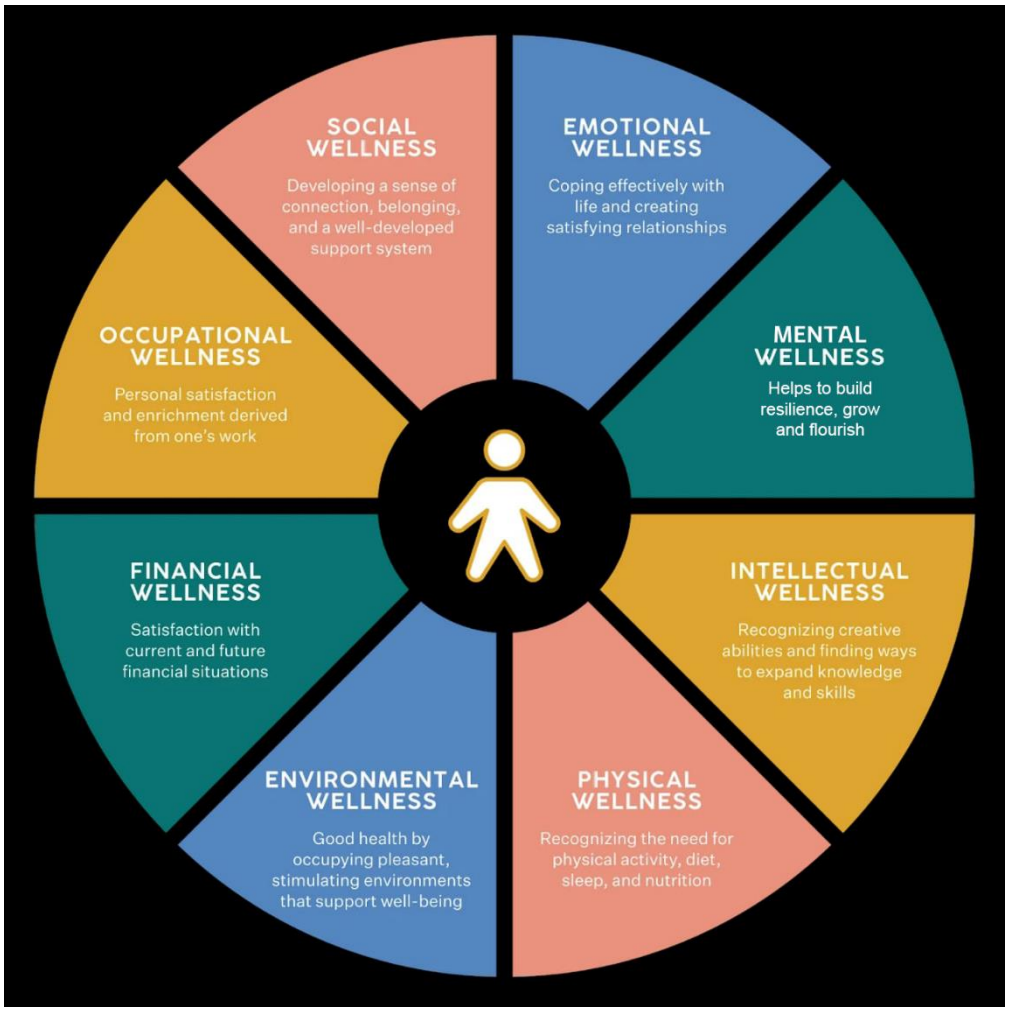
**Scheme of Evaluation**

| Part | Description | Marks |
|---|---|---|
| A | Report | 40 |
| B | Attendance | 20 |
| C | Activities (Observation During Practice) | 40 |
| Total | | 100 |

**References/Resource Materials:**

The course acknowledges that individual needs for references and resources may vary. However, here are some general reference materials and resources that may be helpful:

1. **The Well-Being Wheel:**




2. **Facilities & Spaces:** Some activities may require access to specific facilities, resources or spaces. Students may need to coordinate with the college administration to reserve these as required.
3. **Online Resources:**
    1. United Nations Sustainable Development Goals - Goal 3 - Good Health & Well-Being: https://www.un.org/sustainabledevelopment/health/
    2. Mindfulness and Meditation: Stanford Health Library offers mindfulness and meditation resources: https://healthlibrary.stanford.edu/books-resources/mindfulness-meditation.html

3. Breaking Bad Habits: James Clear provides a guide on how to build good habits and break bad ones: https://jamesclear.com/habits
4. 6 Ways to Keep Your Brain Sharp https://www.lorman.com/blog/post/how-to-keep-your-brain-sharp
5. What Is Social Wellbeing? 12+ Activities for Social Wellness https://positivepsychology.com/social-wellbeing/
6. How Does Your Environment Affect Your Mental Health? https://www.verywellmind.com/how-your-environment-affects-your-mental-health-5093687
7. How to say no to others (and why you shouldn't feel guilty) https://www.betterup.com/blog/how-to-say-no

| - - - - 23 - 880* | **Growth Lab** |
|---|---|
| **AUDIT** | |

*(First four digits in the subject code is branch code and Seventh digit is Semester)

**Skill Areas**:

Self-Discovery, Habit Formation, Mind-set Development.

**Learning Outcomes:**

The Growth Lab aims to provide students with various learning outcomes, including:

1. Develop personal ethics, a growth mind-set, and strong communication skills.
2. Practice effective time management, overcoming challenges, and teamwork.
3. Master academic skills like reading, writing, and goal setting.
4. Become job-ready through resume building, interviewing, and resource utilization.
5. Reflect on their growth journey and articulate its impact.

**Focus:**

While organizing and participating in the Growth Lab, students should focus on the following key areas:

1. **Mindful Habits:** Emphasize the importance of cultivating mindful habits in their daily lives. Encouraging students to be conscious of their actions, thoughts, and emotions can help them identify any negative patterns and replace them with positive and empowering habits.
2. **Self-reflection:** Students should engage in self-reflection to gain deeper insights into their own strengths, weaknesses, and areas for improvement. Taking the time to reflect on their experiences and learning helps in identifying personal growth opportunities.
3. **Goal Setting:** Students should set clear goals for their personal and professional development. Encourage students to set specific, measurable, achievable, relevant, and time-bound (SMART) goals.

**Role of the Facilitator:**

Department faculty shall play a crucial role in organizing the Growth Lab. Their responsibilities include:

1. **Facilitation:** Faculty lead and guide the students throughout the Growth Lab sessions. They provide instructions, facilitate discussions, and offer insights to foster a

stimulating learning environment. They ensure that the sessions are engaging, interactive, and conducive to student participation.

2. **Mentorship:** Facilitators should Provide clear explanations and guidance on the importance of cultivating mindful habits in their daily lives and engaging in self-reflection. Help students understand how these practices contribute to their personal growth and development.

**Guided Activities:**

The Growth Lab shall incorporate the following guided activities to support the development of students. Here are some examples of guided activities that could be included:

**Period Distribution:** Depends on the Curriculum Allocation

| S.No | Guided Activities | Period |
|---|---|---|
| 1 | **Ethics and Values for Growth**<br>**1. Avoiding Absenteeism**<br>Discuss:<br>Why regular attendance matters?<br>Quick Quiz/Self-reflective worksheet on absenting for something other than being super sick.<br>Brainstorm consequences of absenting often. (becomes a habit, affects productivity, lose inclusivity).<br>How to avoid absenteeism – Initiate group discussion among students.<br>Explain how the habit of absence often affects growth at the workplace.<br>**2. The Importance of Obeying Rules**<br>Talk about college rules and why they're important for students' success.<br>Explain the benefits of following the rules (safe, respectful and productive environment).<br>Consequences of breaking the rules (warnings to fines, academic sanctions, or even expulsion).<br>Connect how the habit of disobeying the rules will affect growth in the workplace.<br>**3. Identifying personal values** | |

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| | Provide self-reflective worksheets to understand how students' get affected when others do not adhere to ethics and values.<br>Help them identify their own ethics and values that they uphold.<br>Explain how upholding ethics and values is important for professional success citing examples from real life.<br>**<u>Suggested Activities (sample – Avoiding Absenteeism)</u>**<br>Peer accountability partner – pair students up and have them check in with each other regularly to ensure both are attending class regularly.<br>Provide statistics on the loss incurred by a company due to frequent absenteeism by employees.<br>Ask students to prepare a comical skit on absenteeism and its consequences. | |
| 2 | **Identifying Strengths and Weaknesses**<br>**1. Overcoming Self-doubt**<br>Provide worksheets to check whether the students have felt unsure about doing something new.<br>Briefly discuss self-doubt and how it can feel like a monster holding us back.<br>Introduce strategies to overcome self-doubt - Train the students to say instead of "I can't," say "I'll try my best" or "I'm learning", focus on progress, and learn from mistakes.<br>**2. Overcoming Procrastination**<br>Ask students (worksheet/oral discussion) how they feel when they put off a task until the last minute.<br>Brainstorm the consequences of procrastination (creates a cycle of avoidance and stress).<br>Introduce strategies to overcome procrastination (Breaking down tasks and setting small goals, self-rewarding).<br>**3. Overcoming Distractions**<br>Help students identify the distractions (phones, social media, noise, conflicts with friends, hanging out with friends often, movies).<br>Discuss the impacts of distractions on productivity and growth.<br>Introduce strategies to fight the Distractions (introduce pomodoro | |

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| | technique).<br>**<u>Suggested Activities (sample –Over Coming Self-doubt)</u>**<br>Present a challenge to the students, it could be anything from narrating a story, mimicking, singing, dancing, talking about their family. Encourage them to overcome their self-doubt and perform in front of their classmates. Finally ask them to express how they felt while performing. | |
| 3 | **Cultivating Growth Mind-set**<br>**1. Cultivating Determination**<br>Explain what determination is (hard work, not giving up, being ready to face challenges).<br>Show videos/share stories of successful people who overcame challenges to achieve something big for them or the society.<br>Define the ways to cultivate determination (setting SMART goals, learning from mistakes, celebrating every small win).<br>**2. Cultivating Positive Habit Change**<br>**Discuss:**<br>Impact of habits on one's actions and decisions (triggers automatic responses, decision making).<br>Impact on skills and abilities (practice makes progress).<br>Impact on personal growth and well-being (confidence building, positive lifestyle).<br>Impact on overall success (reaching goals, building discipline).<br>Ways to switch to positive habits<br>(use self-reflective worksheets to identify students' habits).<br>**3. Time-management**<br>Teach students the importance of prioritizing tasks for effective results.<br>(important and urgent)<br>Teach them prioritization matrix for organizing tasks, projects and ideas<br>**<u>Suggested Activities (sample – Overcoming Procrastination)</u>**<br>Host a procrastination-free week, ask students to team up and commit | |

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| | to spending a week without procrastinating on any task or assignment. Announce a reward or incentive for the winning team. Also encourage them to share their feeling when they complete the tasks without procrastinating. | |
| 4 | **Improving the Basic Skills**<br>**1. Reading, Writing and Speaking Practice**<br>Train the students to read, write and speak fluently in English/Regional language.<br>**2. Letter Writing Practice**<br>Train the students in letter writing in English (leave letter, permission letter, apology letter) by providing them formats.<br>**<u>Suggested Activities (sample -speaking practice)</u>**<br>Create a WhatsApp group and share short animation English videos (maximum one minute long). Ask the students to listen to the dialogues, repeat it in their voice, record the same and send back. Observe their progress through the semester and reward them duly.<br>**Letter Writing Practice** – set up a 'Mysterious Mailbox' in the classroom, encourage the students to write letters (leave letters, permission slips, apology letters), collect the letters and distribute them for others to analyse and give feedback. | |
| 5 | **Goal Setting and Mind Mapping**<br>1. Teach mind mapping & ask students to make mind maps for visualizing their personal goals.<br>2. Guide students in setting SMART goals for the semester.<br>**<u>Suggested Activities (sample)</u>**<br>Encourage students to take up at least one-value added course and receive certification per semester | |
| 6 | **Interpersonal Skills**<br>Introduce the components of Interpersonal Skills such as:<br>Communication Skills (verbal/non-verbal communication)<br>Speaking, listening, body language.<br>Problem-solving Skills (conflict resolution, negotiation, team work). | |

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| | Team work.<br>Flexibility.<br>Patience.<br>Educate students that how interpersonal skills help in building healthy relationships in personal and professional life.<br><br>**<u>Suggested Activities (Sample)</u>**<br>Organize a guest lecture on the importance of interpersonal skills by inviting a HR Personnel to educate the students (Especially communication skills) | |
| 7 | **Interview Skills**<br>Introduce Resume Writing to students (conduct frequent resume writing drills through the semesters, and ask them to review the same to understand whether they have progressed in all areas).<br>Train the students in self-introduction.<br>Train the students in group discussions (Initiating a discussion, countering participants, using appropriate phrases to interrupt etc.).<br>Introduce Interview ethics (body language, grooming, presentation).<br>Cultivating the habit of researching (to know the profile of companies, their operating style, activity)<br>**<u>Suggested Activities (sample)</u>**<br>Conduct frequent mock interviews to train the students in the above interview skills.<br>Stream videos of mock interviews. | |
| 8 | **Utilizing the Available Resources for Growth**<br>Arrange a campus tour for the students to know the available facilities such as libraries, laboratories etc.<br>Encourage the students to enrol in (online/offline) courses available in the college.<br>Guide the students to use social media for their personal and professional growth (browsing for the latest trends in engineering and technology, following entrepreneurs on social media to understand | |

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| | their journey, to check for institutions for higher studies etc).<br>**Networking & Connecting**<br>Help students connect with their alumni for guidance for their studies and career growth.<br>Encourage students to follow entrepreneurs, eminent businessmen on a regular basis to stay updated and ask them to share the information in the class to inspire others.<br>**<u>Suggested Activities (sample – Networking and connecting.</u>**<br>Identify alumni who would be interested to contribute for the growth of the students and connect them with students for guidance in their studies and career growth. | |
| 9 | **Final Oral Presentation & Impact Assessment: ***<br>1. Give students an opportunity to present their semester's journey and the changes they have experienced.<br>2. Faculty shall compile a brief report assessing program impact based on student feedback. | |

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| **Closure:**<br>End of the semester a half-day session shall be given for the students to share their transformation and feedback can be collected about his self-reflection on the impact of the program. The faculty must submit a brief report by assessing every student's development on the impact of the program, comparing their initial state at the beginning of the semester with their progress at the end. | |
| **Assessments:**<br>● Use self-reflective worksheets to assess students' understanding.<br>● Subject the worksheets to internal/external audit. | |

**References / Resource Materials:**

For the Growth Labs, the following references and resource materials may be utilized to support the learning and development of the students:

**1. Facilities & Spaces:** Growth labs may require access to specific facilities, resources or spaces. Faculty may need to coordinate with the college administration to reserve these as required.

**Online Resources:**

1. How to Begin Your Self-Discovery Journey: 16 Best Questions https://positivepsychology.com/self-discovery/
2. How to break a bad habit? https://www.health.harvard.edu/blog/how-to-break-a-bad-habit-202205022736
3. How To Mind Map Yourself For Growth? https://mindmapsunleashed.com/how-to-mind-map-yourself-for-growth
4. Interpersonal Communication and Its Importance at Work https://www.indeed.com/career-advice/career-development/importance-of-interpersonal-communication
5. Personal Responsibility: Embracing Accountability in Life https://www.graygroupintl.com/blog/personal-responsibility
6. The Power of Prioritization: Why You Need It in Your Life https://medium.com/@Jd-Lewis/the-power-of-prioritization-why-you-need-it-in-your-life-5fd49c7c2f6c#:~:text=Prioritization%20helps%20you%20make%20informed,achieve%20more%20in%20less%20time.
7. How To Write An IT Fresher Resume: A Step-By-Step Guide https://in.indeed.com/career-advice/resumes-cover-letters/how-to-write-it-fresher-resume
8. How to Overcome Self Doubt https://www.wikihow.health/Overcome-Self-Doubt
9. The Surprising Health Benefits of Bird-Watching https://www.nytimes.com/2022/12/10/well/move/bird-watching-health-benefits.html
10. Positive Daily Affirmations: Is There Science Behind It? https://positivepsychology.com/daily-affirmations/

| - - - - 23 - 881* | **Induction Program** |
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| **AUDIT** | |

*(First four digits in the subject code is branch code and Seventh digit is Semester)

**Induction Program - I (One Week) Should be scheduled at the First Week after reopening as per the schedule.**

**Induction Program - II (As per the curriculum) Should be scheduled in the beginning of the III Semester.**

**Induction Program - III (One Week) Should be scheduled at the beginning of the V Semester.**

**Skill Areas:**

Interpersonal Skills, Academic Orientation, Technical Skills Development, Soft Skills and Communication, Study Skills and Time Management, Healthy and Safety Environmental Awareness, Ethics and Professionalism, awareness on drug addiction and its related physical and mental health issues, Career Guidance and Industry Interaction, Extracurricular Activities and Personal Development.

**Purpose:**

The transition from school to college life is one of the most challenging events in a student's life. The Induction Programme helps new students adjust, learn institutional values, build bonds, and explore the institutional policies, processes, practices, culture, universal human values, and get introduced to DOTE regulations, overview of the diploma programme, and prospective skill areas.

**Learning Outcomes:**

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

1. Feel comfortable in the new college environment.
2. Understand the curriculum, preparing for their academic journey comprehensively.
3. Get introduced to various committees recommended by AICTE
4. Experience diverse activities, promoting holistic development.
5. Connect with faculty, including the Principal, HoD, and department faculty.
6. Interact with industry professionals and alumni.
7. Learn about the resources needed for skill development.
8. Understand professional ethics and responsibilities in technical fields.
9. Aware of career opportunities and pathways in technical fields

10. Aware of student support services, including counselling and mentorship.
11. Train in effective communication, presentation skills, public speaking, teamwork and collaboration exercises.
12. Awareness of drug addiction and its related health issues.

**Focus:**

The induction program focuses on providing clarity and support for a successful academic journey and holistic development of students. Key areas include adjustment, comfort in the new environment, fostering institutional culture, building bonds, and promoting self-exploration. Some key focus areas include,

1. Credit System and GPA/CGPA Assessment.
2. Diverse Classes at the End.
3. Theory, Laboratory, and Practicum Sessions.
4. Assessment Methods.
5. Internship Opportunities.
6. Fast Track Courses.
7. Exposure to Extracurricular Activities.
8. Course Add/Drop.
9. Examination Withdrawal.
10. Role of a Mentor.
11. Choosing Pathways.
12. The importance of understanding the Universal Human Values.
13. Role of DOTE in diploma programme.
14. Role of AICTE in diploma programme and the various committees and their objectives recommended by Dote and AICTE.

**Role of the Facilitator**

The SIP committee comprises the Head of the Institute, Heads of various departments, Senior Faculty, Senior Students (Second and Final Year), and Alumni. Their roles are as follows:

1. **Head of the Institute:** Explains new regulations from DoTE, institute rules, and significant changes in the new regulations.
2. **Head of the Department:** Walks through department facilities, and discusses achievements of senior and alumni students, placement training and assistance, Entrepreneur development activities, higher education ideas.
3. **Senior Faculty**: Guides diploma students on post-program pathways with faculty

mentor assistance.

4. **Senior Students:** Introduce student clubs, and conduct department and lab tours.
5. **Alumni:** Share the growth opportunities available to diploma students, recent trends and placement opportunities in the relevant field, entrepreneurship ideas and the available resources for the same.

**Guided Activities:**

The SIP should have the below list of activities.

**Period Distribution**

**Induction Program - I**

| S.No | Guided Activities | Period | Day |
|---|---|---|---|
| 1 | Registration, Formation of student classroom groups of respective programs & Formation of Student Representatives | | |
| 2 | Presentation cum Interactive Session with Important Institution Functionaries like Head of Institute, Principal, HoDs, etc. | | |
| 3 | Visit to departments & facilities of the Institution.<br>Motivate students to utilize library, sports facilities, Institution Innovation Council's (IIC) opportunities, Entrepreneur Development Cell, Skill Development and Training facilities, Placement opportunities and other amenities | | |
| 4 | Ice breaking activity for the new students & Self Introduction of some newly joined students | | |
| 5 | Introduction to Various Clubs & Community Initiatives;<br>A short session on the importance of joining such initiatives will be taken.<br>The activities may include:<br>Cultural Activities,<br>Movie shows, | | |

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| | Sports Activities,<br>Visits to museum, community centres, club relevant field visits.<br>Quiz<br>Literary Activities such as, Tamil/English debate, discourses etc.. | | |
| 6 | Introduction to Committees/Associations and their Functions.<br>(Committees of High Importance)<br>Vishaka Committee<br>Anti-ragging Committee<br>Grievance Redressal mechanism<br>SC/ST Committee etc.<br>**Other Preferred Committees/Associations**<br>Alumni Association etc.<br>Department Associations | | |
| 7 | Interaction with Senior Students | | |
| 8 | Interaction with Alumni Students | | |
| 9 | Talks, Lectures or Workshops by Eminent People from varying domains - This may include hackathon, ideation camps, motivational talks, personality development, universal human values, career development, group activities, social awareness lectures etc | | |
| 10 | Talk on Respective Program scheme of studies and details of courses, examination pattern, types of courses, credit system, assessment methods, examination withdrawal, internship, passing and eligibility criteria, attendance requirements and board exam guidelines by respective program coordinator<br>Educate the students on the importance of preparing reports on internships attended during the programme | | |

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| 11 | Industrial Interaction; Local Industrial Visits or Interactions with Industry Experts invited to the Induction. Providing guidelines on following safety measures, undertaking from both students and parents, maintaining discipline during these activities | | |
| 12 | • Awareness talks on "drugs and its ill effects" should be arranged.<br>• College authorities has to explain the various mechanism to control the drug consuming and peddling drugs in their college premises | | |
| **Induction Program - II**<br>The induction programme for the Second Year can be planned. (You may include the above mentioned activities) in addition to the following activities.<br>Emphasis on the importance of improving the academic performance as the students are in their Second Year.<br>Guide students for the Academic and Internship Programmes.<br>Guide students on choosing the elective subjects.<br>Guide students on<br>● Project Selection.<br>● Student Batch Identification.<br>● Financial Planning and Transparent Transaction.<br>● Synopsis Writing.<br>● Execution of the Project.<br>● Project Reviews and Presentation.<br>● Preparing Project Report.<br>● Project Assessment Pattern.<br>● Board Exam Evaluation Pattern.<br>● Dote Prescribed Norms for the Project.<br>Awareness program of,<br>● Anti-ragging guidelines, | | | |

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| ● Internship policy guidelines & procedures<br>● Grievance Redressal mechanism<br>● Vishaka committee guidelines<br>● Sexual Harassment of Women (Prevention, Prohibition and Redressal)<br>● Awareness talks on “drugs and its ill effects” should be arranged.<br>● College authorities has to explain the various mechanism to control the drug consuming and peddling drugs in their college premises | | |
| **Induction Program - III**<br>The induction programme for the Final Year.<br>(You may include the above mentioned activities in addition to the following activities).<br>As the focus and the weightage are mainly on project work, internship and fellowship:<br>Impart in depth Knowledge on<br>● In-house projects<br>● Internship<br>● Fellowship<br>Instruct the Dos and Don’ts on the above.<br>Guide students on the report preparation for the above.<br>Explain the DOTE’s Objective behind the periods allotted for the above.<br>A Talk by training and placement cell; Career opportunities for students, placement activities in college; placement process which includes introduction to platforms that offer value-added courses such as:<br>SWAYAM NPTEL, CIICP, TCS ION CAREER EDGE, Self-assessment Platform - Parakh Portal.<br>Awareness Program on Competitive Exams such as TNPSC, SSC, JEEE. Introduction to AICTE internship programs. | | |

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| Awareness Program about the Non Resident Tamils Rehabilitation and Welfare.<br>Experts from the Commissionerate of Rehabilitation and Welfare Non Resident Tamils can be called for this session.<br>The following contents can be included.<br>Understanding the different types of migration and employment opportunities.<br>Learning about the legal requirements and documentation needed for migration.<br>Exploring the cultural and social aspects of living and working in a foreign country.<br>Identifying common challenges and risks associated with migration, such as exploitation, discrimination and human trafficking.<br>Providing guidance on how to reach and evaluate potential employers and job offers.<br>Educating students about their rights and responsibilities as migrant workers.<br>Offering practical advice of financial management, healthcare, and personal safety while abroad.<br>Highlighting the importance of maintaining communication with family and seeking support when needed.<br>By incorporating this into the induction program, we can empower our youth with the knowledge and skills they need to make informed decisions and migration and protect themselves from potential risks. | | |

**Recording the Activities**

SIP is intended for ice-breaking and familiarization purposes; hence no student assessment is required. However, documenting visitors' and students' feedback is highly recommended. Also, submitting the prepared report for internal/external audit is encouraged.

For every induction programme conducted, a report may be prepared in the following format.

**Preparing Invitation and Poster**

**Report**

**Programme:**

**Theme:**

**Duration:**

**Date/Time:**

**Resource Person (internal/External):**

**Objective:**

**Outcomes:**

**Photograph:**

**Feedback:**

Collection of student feedback on induction program - Make a report of Induction program by collecting student feedback

**References/Resource Materials:**

Regulation 2023 (R-2023) SOP given by DoTE.

60 Awesome Icebreakers for Orientation and Beyond:

https://sapro.moderncampus.com/blog/60-awesome-icebreakers-for-orientation-and-beyond

**AICTE INTERNSHIP POLICY GUIDELINES & PROCEDURES**

http://www.aicte-india.org/sites/default/files/Aicte%20Internship%20Policy-%2002.04.2019.pdf

AICTE Link Safety of Students in and Outside of Technical Campus

https://www.aicte-india.org/downloads/AICTE_Circular.PDF

Grievance Redressal mechanism:

https://aicte-india.org/bureaus/grievance-redressal

https://www.aicte-india.org/sites/default/files/approval/2023-24/Appendix-6.pdf

Vishaka committee guidelines:

https://www.vishaka.org/#:~:text=Vishaka%20reinforces%20ICC%20formation%20with,Right%20Act%20of%201964%20compliance.

Anti-ragging guidelines: https://www.aicte-india.org/downloads/Antiragging.doc

**GUIDELINES**

**Induction Program - I** (One Week) Should be scheduled at the First Week after reopening as per the schedule.

Day 1: FN: Registration and Inaugural Session.

(Welcome and Brief about the college, and their academic program. Rules and Regulation guidelines, Orientation, Familiarization College, Dept./ Branch)

Day 1: AN: Familiarization about the Dept./ Branch.

Day 2: FN: Literary activity

Day 2: AN: Proficiency Modules

Day 3: FN: Lectures & Workshops by Eminent People

Day 3: AN: Visits to the College Common areas, Respective Department facilities.

Day 4: FN: Extra-Curricular Activities in College, Awareness talk on Drug addiction and its ill effects

Day 4: AN: Mentor-mentee groups meet

Day 5: FN: Interaction Session

Day 5: AN: Feedback and Report on the Program and Valedictory Session

Note: Inauguration and Valedictory can be conducted commonly; other sessions can be organised in the respective department.

**Induction Program - II** (As per the curriculum) Should be scheduled in the beginning of the III Semester.

Brief sessions about the importance of the Diploma Program, Growth and opportunity for higher education and employability.

Guidelines to select the Electives and Projects. Alumni, Industrial experts and Senior faculties can be engaged for this program.

Conduct Awareness programs on Drug addiction and its ill effects

**Induction Program - III** (One Week) Should be scheduled at the beginning of the V Semester.

Day 1: FN: In-house projects, Internship, Fellowship

Day 1: AN: Online Skill Courses

Day 2: FN: Employability Skills - I (Industry Awareness and Trends)

Day 2: AN: Employability Skills - II (Resume Building and Job Application Skills)

Day 3: FN: Employability Skills - III (Interview Preparation, Technical Skill Enhancement)

Day 3: AN: Employability Skills - IV (Soft Skills and Communication)

Day 4: FN: Employability Skills - V (Entrepreneurship and Innovation)

Day 4: AN: Employability Skills - VI (Career Counselling and Guidance)

Day 5: FN: College to Corporate (Ethics and Professionalism, Emotional Intelligence and

Stress Management)

Day 5: AN:  Non Resident Tamils Rehabilitation and Welfare Program

| - - - - 23 - 884* | **Student-Led Initiative** |
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| **AUDIT** | |

*(First four digits in the subject code is basic Engg. / branch code and Seventh digit is Semester)

**Skill Areas:**

Team Work, Presentation Skills, Communication.

**Purpose:**

The aim is to promote active participation and collaboration among students, allowing them to learn from each other. One such initiative is the student-led tech talk series, where students can share knowledge and explore new technologies. These initiatives also provide resources and support to help students achieve their personal and career goals with guidance from the educational institutions.

**Learning Outcomes:**

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

1. Collaborate and Communicate effectively
2. Develop interpersonal skills with self-confidence and resilience
3. Foster a culture of collaborative learning with peers by sharing knowledge effectively.

**Focus:**

When conducting a student-led initiative, there are several focus areas that students should keep in mind to ensure a successful and impactful endeavour. Here are some key areas to consider:

1. Teamwork
2. Planning and Execution
3. Personal Growth and Learning

**Role of the Facilitator:**

The role of a college faculty facilitator in student-led initiatives is crucial in providing guidance, support, and mentorship to the student participants. Here are some key aspects of the faculty facilitator's role:

1. **Mentorship and Coaching:** Faculty facilitators act as mentors, providing one-on-one or group coaching to students involved in the initiative. The faculty facilitator serves as an

advisor, offering expertise, knowledge, and feedback to guide students in the planning and implementation of their initiatives.

2. **Resource Support:** Faculty facilitators assist students in accessing resources necessary for the success of their initiatives. They can help students identify relevant research or technical expertise.

**Guided Activities:**

In a student-led initiative, various guided activities can be implemented. Here are some guided activities to be undertaken:

1. Identify Technology Areas/Themes
2. Team Formation for the Presentation
3. Oral Presentation Preparation
4. Oral Presentation
5. Feedback
6. One Page Report

***Note:*** *The student teams are expected to conduct an Oral Presentation in a seminar format, which means they* ***don't*** *need to create presentation slides. Instead, they will present their content through verbal communication during the presentation.*

**Period Distribution**

| S.No | Guided Activities | Period |
|---|---|---|
| 1 | Introduction and Briefing<br>1. Identification of 8-10 Emerging Trends/Technology by the faculty<br>2. Briefing of the 8-10 Emerging Trends/Technology to the students | |
| 2 | Team Formation for the Presentation<br>1. Team of 4 students are formed based on the topic that is selected<br>2. Faculty assigns the roles and responsibilities of each student in the team | |

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| 3 | Oral Presentation Preparation<br>1. Students browse the topics or go to the library to learn the topics for the presentation<br>2. Students develop contents for the presentation<br>3. Faculty mentor the students to form a outline for the presentation in the following format<br>a. Introduction<br>b. Working Principle<br>c. Advantages & Limitations<br>d. Applications | |
| 4 | Oral Presentation<br>1. Students need to prepare & deliver the Oral presentation based on guidelines prescribed by the Faculty mentor<br>2. Deliver within the allotted time of 15 minutes<br>3. Include a Q&A Section covering a maximum of 3 minutes | |
| 5 | Feedback<br>1. Mentor gives the feedback to the student team about<br>a. Presentation Contents<br>b. Presentation Delivery/Quality<br>c. Suggestions for improvisations for individual student | |
| 6 | One Page Report<br>1. Each Student submits a handwritten one-page summary of the oral presentation | |

**Rubrics for the Evaluation**

| Category | | SCORE | | | |
|---|---|---|---|---|---|
| | | **5—Excellent** | **3—Good** | **2—Fair** | **1—Needs Improvement** |
| **A** | **Quality of oral Presentation** | Well-structured Content and clear presentation; engages the audience with good preparation and confidence. | Sufficiently clear content and reasonably organized; presents with moderate confidence. | Somewhat clear with basic organization; needs improvement in coherence and confidence. | Unclear about topic and disorganized presentation; lacks coherence and preparation. |
| **B** | **Communication** | The delivery is confident, natural, and engaging. The student maintains excellent eye contact, gestures appropriately, and uses a clear and well-modulated voice. | The delivery is mostly confident and engaging but may have some minor areas for improvement in eye contact, gestures, or vocal delivery. | The delivery is somewhat engaging, but there are noticeable issues with eye contact, gestures, or vocal delivery. | The delivery is hesitant, and the student struggles with eye contact, gestures, or vocal delivery. |
| **C** | **Teamwork** | The team runs perfectly coordinated, with clear guidelines about each member's role. Each member has participated. | The team was mostly coordinated, but there were some moments of doubt and/or unbalance. A minority of the members of the group did not know what to do. | One or two members of the group have focused most of the presentation. The rest of the group did not have clear instructions about their role. | The team did not know when to speak, or what role they were having. Only one person leads the group. |
| | **SCORE** | (A+B+C)/15 Points | | | |

**Closure:**

After finishing their student-led initiatives, each team member must write a one-page summary of the oral presentation by hand. This summary should include topics covered in the Oral presentation.

**Assessments:**

No formal assessments are required for the student-led initiatives since it's just a platform for peer-to-peer to exchange knowledge and skills.

**References/Resource Materials:**

Student-led initiatives may require a variety of resource materials to support their planning, implementation, and success. Here are some general requirements:

1. **Informational Resources:** These include textbooks, reference materials, and online information relevant to the topic or theme of the initiative.
2. **Facilities and Spaces:** Some initiatives may require access to specific facilities or spaces for presentations. This can include classrooms, laboratories, meeting rooms, performance spaces, exhibition halls, or outdoor areas.
3. **Online Resources:**
    1. How to Do a Presentation in Class? - https://www.wikihow.com/Do-a-Presentation-in-Class
    2. How to Give a Short Class Presentation Competently? - https://www.instructables.com/How-to-Give-a-Short-Class-Presentation-Competently/
    3. Best Practices for Oral Presentation: https://www.uow.edu.au/student/learning-co-op/assessments/presentations/
    4. How to keep up with the latest emerging trends? - https://pakwired.com/latest-technology-trends/
    5. Body Language Tips for Presentation - https://www.toastmasters.org/resources/public-speaking-tips/gestures-and-body-language

| - - - - 23 - 883* | **SHOP FLOOR IMMERSION** |
|---|---|
| **AUDIT** | |

*(First four digits in the subject code is Basic Engg. / Branch code and Seventh digit is Semester)

**Skill Areas:** 5S Methodology, LOTO, Six Sigma, ISO, SAP, Agile Methodology, etc…

Note: Any one industrial practices can be planned for every semester.

**Purpose:**

First semester, students will learn about the importance of '5S' through a shop floor workshop. '5S' helps reduce waste and improve productivity by organizing the workplace and using visual cues. It involves five steps: sort, set in order, shine, standardize, and sustain.

**Learning Outcomes:**

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

1. Creates an organised and clean environment in their lab/workshop
2. Acquire self-discipline as they need to maintain the standards
3. Identify and eliminate wastes
4. Creating a safe workplace by reducing accidents caused by external factors

**Focus:**

This course introduces the important concept of 5S, a fundamental skill used in various industries. It focuses on workplace organization and efficiency, which is essential for students entering the industry.

The 5S Methodology includes five steps:

- Sort: Remove unnecessary items to tidy up the space.
- Set In Order: Organize the work area with a place for everything.
- Shine: Clean and maintain the area to prevent dirt and grime.
- Standardize: Create written procedures to make new practices a norm.
- Sustain: Continuously commit to maintaining the organized and efficient workspace.

Additionally, safety is integrated throughout all the steps to improve workplace safety, not just efficiency.

**Role of the Facilitator:**

Faculty introduce the concepts of 5S to the students and assign a specific activity to each team of 4 students and guide them to implement 5S to a specific lab or workshop.

**Guided Activities:**

In the shop floor immersion course, few activities can be implemented to reach the desired course outcome. Here are some guided activities to be undertaken:

1. **Workshop (Learning Session):** The Faculty can take a session 5S Methodology covering the aspects of 5S like; What is 5S?, Why use 5S?, Advantages & Limitations, Case Studies, The 6th S - Safety.

2. **5S Implementation:** Students will implement 5S in a chosen lab. Faculty guides lab selection, assesses its state, gathers inventory, plans resources. After implementation, a post-assessment is done with faculty guidance.

**Period Distribution**

| S.No | Guided Activities | Period |
|---|---|---|
| 1 | Workshop (Learning Session)<br>1. Faculty will conduct Session on 5S Methodology and its significance in the industry<br>2. Faculty need to conduct a Q&A Section to address questions, concerns & clarifications related to 5S | 2 |
| 2 | 5S Implementation<br>1. Preparation:<br>a. Faculty should identify lab/workshop needing 5S implementation<br>b. Faculty will form a teams of 4 students | 6 |

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| | 2. Implementation<br>a. Develop an implementation plan for 5S<br>b. Document lab's current state by taking a photograph<br>c. Proceed with the implementation of 5S by assigning specific jobs to the student teams. | |

**Closure:**

The faculty in charge of the session is responsible for maintaining a one page record of the 5S implementation in the lab along with the "before" and "after" photographs.

**Assessments:**

No assessments are required for students. The facilitator monitors & guides the students to implement the practical implementation of 5S in the lab/workshop.

**References/Resource Materials:**

The references and resource materials required may differ depending on the department and type of lab 5S implementation is done. However, here are some general reference materials and resources that may be helpful:

1. **Facilities and Spaces:** 5S Implementation may require access to specific facilities or spaces. This can include access to workshops or labs.

2. **Online Resources:**
    1. What is 5S?: https://www.graphicproducts.com/articles/what-is-5s/
    2. 5S Guide: Improve efficiency with effective organisation: https://leanscape.io/what-is-5s-and-what-are-its-benefits/
    3. How to implement 5S in Workplace? https://www.simplilearn.com/implementing-5s-methodology-to-achieve-workplace-efficiency-article

Note: Every semester any one activity can be planned as above.

| - - - - 23 - 885* | **Emerging Technology Seminars** |
|---|---|
| **AUDIT** | |

*(First four digits in the subject code is Basic Engg. / Branch code and Seventh digit is Semester)

**Skill Areas:**

Knowledge Enhancement, Communication Skills, Confidence Building, Awareness of Trends.

**Learning Outcomes:**

1. Research Skills: Students learn how to gather information, analyze data, and present findings. This enhances their research abilities.
2. Presentation Skills: By delivering seminars, students improve their presentation techniques, including slide design, body language, and engaging with the audience.
3. Critical Thinking: Preparing for seminars encourages critical thinking. Students evaluate different perspectives, assess evidence, and form well-reasoned arguments.
4. Networking: Seminars provide opportunities to connect with industry professionals, guest speakers, and fellow students. Networking is crucial for future career prospects.
5. Time Management: Balancing seminar preparation with other academic tasks teaches students effective time management.

**Role of the Facilitator:**

The department faculty will be the facilitator. All the students will be given opportunity to prepare a seminar on the selected topic during the Library periods also. Each student should present on topic for about 10 minutes. The faculty in-charge should make the necessary facility for the presentation. The HOD is requested to deploy at least two staff members for the Assessment during the presentation.

**Guided Activities:**

**Preparation**

1. Select a Relevant Topic:
    - Choose an emerging technology that is relevant to the engineering field and has significant current and future impact.

- Ensure the topic is neither too broad nor too narrow, allowing you to cover it comprehensively within the given time.

2. Research Thoroughly:
    - Gather information from reputable sources such as academic journals, industry reports, and expert interviews.
    - Stay updated with the latest developments and advancements related to your chosen technology.
3. Define Objectives:
    - Clearly outline the learning objectives of your seminar. What should the audience learn or understand by the end of your presentation?
4. Structure Your Presentation:
    - Introduction: Introduce the topic and explain its importance.
    - Body: Discuss the key aspects of the technology, including its principles, applications, benefits, and challenges.
    - Conclusion: Summarize the main points and discuss future prospects.
5. Create Visual Aids:
    - Develop slides that are visually appealing and easy to understand.
    - Use diagrams, charts, images, and videos to illustrate complex concepts.
    - Keep text minimal on slides; use bullet points and short phrases.
6. Prepare Supporting Materials:
    - Provide handouts or digital resources for further reading.
    - Prepare a list of references and sources for credibility.

**Presentation**

1. Practice:
    - Rehearse your presentation multiple times.
    - Time yourself to ensure you stay within the allotted time.
    - Practice in front of friends or colleagues to get feedback.
2. Engage Your Audience:
    - Start with a compelling opening to grab attention.
    - Use questions and interactive elements to involve the audience.
    - Encourage participation and allow time for Q&A sessions.
3. Communication Skills:
    - Speak clearly and confidently.
    - Maintain eye contact with your audience.

- Use appropriate gestures and body language.

4. Use Technology Effectively:
    - Ensure your presentation equipment (laptop, projector, microphone) is set up and functioning properly.
    - Be familiar with the software you are using for your slides.
5. Handle Questions Gracefully:
    - Listen carefully to questions from the audience.
    - Answer clearly and concisely. If you don't know the answer, acknowledge it and offer to find out later.

**Follow-Up**

1. Feedback:
    - Collect feedback from your audience to understand what worked well and what can be improved.
    - Use this feedback to refine future presentations.
2. Provide Additional Resources:
    - Share your presentation slides and any additional resources with your audience.
    - Offer to answer further questions via email or a discussion forum.
3. Stay Updated:
    - Continue to follow developments in your chosen technology area.
    - Update your presentation and materials as new information becomes available.

**Rubrics for the Evaluation:**

1. **Content Quality (40%)**
    - Relevance: The topic is relevant to the field of engineering and is current.
    - Depth of Research: The presentation demonstrates thorough research with accurate and up-to-date information.
    - Clarity of Objectives: Clear objectives are defined and met during the presentation.
    - Comprehensiveness: The topic is covered comprehensively within the scope and time limits.
    - Accuracy: Technical details are correct and well-explained.

2. **Presentation Skills (30%)**
    - Clarity and Coherence: The presentation is clear, logically structured, and easy to follow.
    - Engagement: The presenter engages the audience and maintains interest throughout the presentation.
    - Communication: The presenter speaks clearly and confidently, using appropriate language and terminology.
    - Visual Aids: Slides and other visual aids are well-designed, relevant, and enhance the presentation.
3. **Delivery (20%)**
    - Confidence and Poise: The presenter appears confident and handles the presentation smoothly.
    - Body Language: Appropriate body language, gestures, and eye contact are used.
    - Time Management: The presentation is well-timed, adhering to the allotted duration.
    - Handling Questions: The presenter answers questions clearly and accurately, demonstrating a good understanding of the topic.
4. **Originality and Creativity (10%)**
    - Innovative Approach: The presentation includes original ideas or perspectives.
    - Creativity: The presenter uses creative methods to explain concepts and engage the audience.

**Assessment Process**

1. **Pre-Presentation Briefing:**
    - Provide students with the evaluation criteria and explain how they will be assessed.
    - Ensure students understand the importance of each criterion.
2. **During the Presentation:**
    - Use a standardized evaluation form to score each criterion. This ensures consistency and fairness.
    - Have multiple assessors, if possible, to provide a balanced evaluation. Assessors can be faculty members, industry experts, or peers.

3. **Post-Presentation Evaluation:**
    - Assessors should meet to discuss and finalize scores.
    - Provide detailed feedback to students, highlighting strengths and areas for improvement.

**Assessments:**

Sample Evaluation Form

| Criteria | Weight | Score (1-10) | Comments |
|---|---|---|---|
| Content Quality | 40% | | |
| Relevance | | | |
| Depth of Research | | | |
| Clarity of Objectives | | | |
| Comprehensiveness | | | |
| Accuracy | | | |
| Presentation Skills | 30% | | |
| Clarity and Coherence | | | |
| Engagement | | | |
| Communication | | | |
| Visual Aids | | | |
| Delivery | 20% | | |
| Confidence and Poise | | | |
| Body Language | | | |

| | | | |
|---|---|---|---|
| Time Management | | | |
| Handling Questions | | | |
| Originality and Creativity | 10% | | |
| Innovative Approach | | | |
| Creativity | | | |
| Total Score | 100% | | |

**Feedback**

1. Individual Feedback:
    - Provide each student with detailed feedback on their strengths and areas for improvement.
    - Use the comments section in the evaluation form to offer specific suggestions.
2. General Feedback:
    - Share common strengths and areas for improvement with the entire class to help all students learn and improve.
3. Follow-Up:
    - Offer opportunities for students to discuss their feedback with assessors.
    - Encourage students to apply feedback in future presentations and projects.

By following these guidelines, you can ensure a fair, transparent, and constructive evaluation process that helps students improve their seminar presentation skills.

| | |
|---|---|
| - - - - 235887* | **Special Interest Groups (Placement Training)** |
| **AUDIT** | |

*(First four digits in the subject code is Branch code)

Note: Training related to enhance the employability skill can be conducted during this period.

| | |
|---|---|
| - - - - 23 - 882* | **I&E / Club Activity / Community Initiatives** |
| **AUDIT** | |

*(First four digits in the subject code is Basic Engg. / Branch code and Seventh digit is Semester)

**Club Activity**

| |
|---|
| **Skill Areas:** Collaboration, Ownership, Interpersonal Skills |
| **Purpose:**<br>Club activities provide a platform for students with similar interests to engage, participate in events, workshops, and competitions. This fosters collaboration and skill development in various fields. |
| **Learning Outcomes:**<br>At the end of the course, students will be able to:<br>1. Collaborate and work in interdisciplinary teams towards contributing effectively<br>2. Learn or enhance skills through workshops, competitions, and experiential learning. |
| **Focus:**<br>During club activities students should prioritize key focus areas to enhance their learning and impact. Here are some focus areas to consider:<br>1. Collaboration & Communication<br>2. Identify strengths and weaknesses, and learn from experiences to foster personal growth |
| **Role of the Facilitator:**<br>The faculty facilitator's role is crucial in guiding and supporting students in club activities. Key aspects of their role include: |

1. **Mentorship and Guidance:** Faculty facilitators act as mentors, providing one-on-one or group guidance to students involved in the club.
2. **Creating a Supportive Learning Environment:** Facilitators will nurture a supportive, inclusive environment in the clubs where students freely express and learn collaboratively. They provide a platform for like-minded students to engage, collaborate, and participate.

**Guided Activities:**

For Club Activities, students can engage in learning and developing a new skill or enhancing their skill by involving & actively participating in one or more clubs of their interest. These clubs can be used as a platform for Personal growth.

They may include but are not limited to the following clubs: Tamil Mandram, Music, Dance, Math, Chess, Arts, Anti-drug, Photography, Sports, Astronomy, Science, Robotics, English, Theatre, NCC, NSS, Digital Media Club, Cooking, UN Sustainable Development Goal, YRC (Youth Red Cross), Olympiad clubs, etc. The Outcome can be achieved through conducting **Competitions and Challenges.**

**Period Distribution**

| S.No | Guided Activities | Period |
|---|---|---|
| 1 | Enrolment to Clubs<br>1. Invite club representatives along with Faculty to give short presentations, and collect names of students who are interested to join<br>2. Students should list their top 3 preferred clubs based on their interests and submit to the respective club representative | |
| 2 | Exploring of Clubs<br>1. Ensure students understand their responsibilities as club members.<br>2. Emphasize the importance of commitment and regular participation.<br>3. Explore with club representatives about planning and hosting competitions, or events for the club. | |

| | | |
|---|---|---|
| 3 | Learn & Exhibit<br>1. Encourage students to participate actively and showcase their skills.<br>2. The Faculty should provide a necessary platform to enhance students skills, learn new skills, and exhibit skill through various competitions, events or initiatives. | |
| 4 | Recognition<br>1. Acknowledge the efforts and contributions of individual members as well as the whole club | |

**Closure:**

No formal documentation is needed for course completion, but students must participate in at least one or more of the clubs meeting the 30 Period Requirement.

**Assessments:**

No formal assessments are required for the Innovation and Entrepreneurship, Cub activities or Community Initiatives.

**References/Resource Materials:**

The references and resource materials required for club activities may vary based on the personal focus, goals, and also resources available at each college. However, here are some general reference materials and resources that may be helpful:

1. **Facilities and Spaces:** Some clubs may require access to specific facilities or spaces. This can include classrooms, laboratories, meeting rooms, performance spaces, exhibition halls, or outdoor areas.
2. **Coaching:** Students may require coaching from faculty members or professionals with relevant knowledge and experience related to the club.
3. **Online Resources:**
    1. How to choose the Right Club for your personal growth? https://www.topuniversities.com/student-info/student-stories/5-common-mistakes-avoid-when-choosing-student-clubs
    2. How to make your club great? https://www.pearson.com/ped-blogs/pearsonstudents/2021/04/11-tips-to-

| |
|---|
| make-a-any-college-club-great.html |

**Note:** Innovation & Entrepreneurship and Community Initiatives awareness program and activities can also be conducted.

**STUDENT INDUCTION PROGRAM CELL (SIP CELL)**

The Principal or HOD will be the Chairman of the Student Induction Program Cell.

SIP Cell (or Induction Unit) will be managed by the department faculty members with the help of student volunteers.

The SIP Cell will be responsible for planning, organization, coordination and reporting of the annual Student Induction Program with the help of other faculty members and student volunteers.

**Students Counselling Service (SCS)**

In order to provide advice or help to the students of the institute, Student Counselling Service (SCS) needs to be initiated. Team of SCS will assist and strengthen the students at the institute for enhancing their academic skills and career developments, as well as for their overall wellness.

Student Coordinators may be appointed with the guidance of a staff mentor.

1. Wellness Coordinator.
2. Skills Coordinator
3. Career Coordinator
4. Academic Coordinator etc…

**OBJECTIVE:**

The objective of the SIP cell is

1. Development of a holistic perspective based on self-exploration about themselves (human being), family, society and nature/existence.
2. Understanding (or developing clarity) of the harmony in the human being, family, society and nature/existence.
3. Strengthening of self-reflection.
4. Development of commitment and courage to act.

**OUTCOME:**

At the end, students are expected to become more aware of themselves, and their surroundings (family, society, nature); they would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind. They would have better critical ability. They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society). It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.

**Note: ILE activity can be conducted and monitored by the SIP Cell.**