AISD Fashionista

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Industrial Engineering -Tools & Techniques

Industrial Engineering (IE) is concerned with the design. Improvement, and installation of integrated system of men, material, and machines for the benefit of mankind. It draws upon specialized knowledge and skills in the mathematical and physical sciences together with the principles and methods of engineering analysis and design to specify, predict and evaluate the results to be obtained from such systems. Now industrial engineering is an integral part of garment manufacturing.

Tools of Industrial Engineering:

- Production Planning and control
- Inventory control.
- Job evaluation.
- Facilitates planning and material handling.
- System analysis.
- Linear programming.
- Simulation.
- Network analysis (PERT, CM).
- Queuing models.
- Assignment.

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- Sequencing and transportation models.
- Games theory and dynamic programming.
- Group technology.
- Statistical techniques.
- Quality control.
- Decision making theory.
- Replacement models.
- Assembly line balancing.
- MRP, JIT, ISO, TQM etc.



From the Editor-in-Chief's Desk



Editor-in-Chief Dr.G.Ilankumaran Professor & Director AISD

The aim of ALU AISD Fashionista, carries extensive information on new products & emerging technologies in the Textile and Fashion areas which helpful to the academia, students, researchers and industry personnel. It is intended to bring out the hidden literary talents of our students and also inculcate authoring skills to them. It is constantly exploring ways and means of serving the fashion industry with information, which is vital for survival in today's environment of growing competition. This magazine provides a platform for students and staff to share information, spread the latest technical knowledge and cultivate right ways that will equip all of us to stay competent in our fields of study and research. It is making forays into new fields like wearable fashion, portfolio development, CAD designing, technical textiles, nonwovens, etc and will leave no stones unturned in bringing out information for the betterment of the students community. It includes the title of industrial engineering, banana fibre, fashion show, stain removal of textile fabric and sea weed fiber.

BANANA FIBRE

Introduction:

Banana and plantains are important crops within the global fruit industry. There are cultivated in over 120 countries, over an area of 10 million hectares, with an annual production of 88 million metric tons .

The banana plant, often erroneously referred to as a "TREE" is a large herb, with succulent, very juicy stem which is a cylinder of leaf petiole sheaths, reaching a height of 20 to 25 ft and arising from a fleshy rhizome or corm. Suckers spring up around the main plat forming aclump or "stool" the eldest sucker replacing the main plant when it fruits and dies and this process succession continues indefinitely. the fruit turns from deep green and white striped many southeast Asian countries which plant banana have a large number of fleshy rhizome or banana best which still is wasted. Banana fibre is a biodegradable, natural fibre obtained from the stem and pseudostem of the banana plant. Though the plant is mainly grown for their fruits, the research carried out led to a very useful fibre that can be recovered from the 'pseudostem' of the plant. The stem usually grows up to a height of 3m. It is one of the strongest plant fibres and has a variety of potential applications in the textile, paper, and construction industries.

BANANA GROWING AREAS IN TAMILNADU:

The varieties cultivated here include grand Naine, Virupakshi, Rasthali, Sirumalai, and red banana come 2020 and Tamil Nadu might just be largest producer of bananas in the word as of now the state is the largest producer of bananas to a report in countries.

In 2014 India was said to be the country with the number one production in the world by the national said that a million tones of bananas produced in 2014 in India was from Tamil Nadu. The government of Tamil Nadu provides subsidies irrigation facilities and help to farmers which has fuelled the increase in banana production over the year. The report states that Tamil Nadu could become the number one area in the world in banana production beating Ecuador and Indonesia.





It has several unique properties that make it a popular choice for various applications.

- 1. **Strength:** Banana fibre is strong and durable, making it suitable for various textile and industrial applications.
- 2. **Biodegradability:** It is biodegradable and environmentally friendly, meaning it decomposes naturally in the environment.
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3. **Moisture Absorption:** Banana fibers have high moisture absorption capacity, making it breathable and comfortable to wear.

4. **Anti-bacterial:** It has natural anti-bacterial properties that make it ideal for medical and hygiene applications.

5. **Elasticity:** Banana fibre has good elasticity, which gives it a natural stretchiness and makes it ideal for use in clothing.

6. Lightweight: These fibres are lightweight, making it easy to handle and work with in various applications.

7. Softness: Banana fibre is soft and comfortable, making it suitable for use in clothing and home textiles.

Uses / Application of Banana Fibre:

Banana fibre is used in apparel garments and home furnishings. Being little rough in nature, ropes, mats and some composites are also made from it. It is being used in building construction, geo-textiles and even in sound engineering for sound-proof boards. Hand-made papers are made from the pulp of banana fibres. The paper made from bark is often used for artistic purpose. Banana fibre has a wide range of applications. Here are some of the most common uses of banana fibres:

1.**Textile Industry:** Banana fibres are commonly used in the textile industry to produce clothing, accessories, and home textiles. The fibre's softness, elasticity, and moisture absorption properties make it ideal for use in clothing and bedding products. It is also commonly used to make table runners, placemats, and other decorative textiles.

2. Industrial Applications: These fibres are often used in industrial applications due to its strength and durability. It is commonly used to reinforce concrete, to make ropes, twines, and mats, and as a raw material in the production of paper.

3. Agriculture: It is used in agriculture to make mulch and as a natural alternative to synthetic fibres in the production of compost. It helps to regulate soil temperature and moisture, promoting healthy plant growth.

4. Medical Applications: It has natural anti-bacterial properties, making it ideal for use in medical and hygiene applications. It is commonly used to make surgical masks, gowns, and other medical textiles.

5. Automotive Industry: Banana fibre is used in the automotive industry as a lightweight and sustainable alternative to synthetic fibres in the production of car parts and components.

6. Packaging: They are used in the packaging industry to make biodegradable and sustainable packaging materials. It is also used to make bags, boxes, and other types of packaging products.

7. Art and Crafts: Banana fibres are also used in art and craft projects, due to its natural beauty and texture. It is commonly used to make baskets, coasters, and other decorative items.



FASHION SHOW

Introduction:

It is special events that communicate the fashion story. The selection and organizing of model bookings done by fashion office and the special events organized by special event department. The fashion show can be targeted at both consumer and trade. Designer fashion shows are attended predominantly by trade and fashion journalist and photographs who are invited to preview the latest seasons and collections. The major international shows take place in Paris, London, and Milan, New York. Fashion shows can create a desirable designers name such that retail buyers may then wish to be associated with. Excluding the major designers, there are charity shows and retail sponsored shows which the public can attend, and through which publicity can be attained by the designer, manufacturer and retailer. There are different types of fashion listed out in the following heads.

TYPES OF FASHION SHOWS 1. Production show

- Production show
- Formal runway show
- Informal show
- Department fashion show
- Designer trunk show
- Video Technology

It is the most elaborate and expensive fashion show which is organized by the show members. Mostly the event is most dramatic or theatrical. The show may conduct generally atleast one hour length. 2. Formal runway show

It is traditional presentation of fashion also called as fashion parade. The length of the Show is 30 minutes to 1 hour

3. **Informal show** - A casual presentation on models is an informal fashion show.

4.**Department fashion show** - A smaller scale is produced in store to generate immediate

5. Designer trunk show

It is done in co-operation with a single vender (or) and are a popular way to sell expensive collection. **Video Technology**

6. Video Technology

The fashion industry adopted in lido in presenting fashion at both whole sale and retail

PROCEDURE FOR CONDUCT OF FORMAL RUNWAY FASHION SHOW

1. Planning

- •Establishing theme and of the show.
- Preparation of list of audience to be invited.
- Prepare budgets.
- Selection of date and time of the show.
- Selection of location.



2. Preparation of Garments

- ◆Identify the collections
- ◆Identify the models
- Mark down date for a rehearsal
- Set up date for models fittings and alterations



3. Preparation of stage & Facilities

- Prepare stage for runway
- Provide dressing room and facilities
- •Assign dresses one to each model
- Provide catering facilities
- Provide transportation facilities
- Make sure to insure the total show
- ♦ Give wide publicity
- •Keep good public relations
- ◆Finally, record the event.

STAIN REMOVAL OF TEXTILE FABRIC

Introduction:

Stain removal is the process of removing a mark or spot left by one substance on a specific surface like a fabric. A solvent or detergent is generally used to conduct stain removal and many methods are available.

Before we begin

1. The most important aspect of stain removal is pre-treating as soon as possible. The sooner can soak or pre-treat a stain, the better chances of being able to remove it.

2. When pre-treating, always test a discreet area of fabric with a pre-treating solution to make sure the product doesn't damage the garment.

3.Try an enzyme detergent. These detergents are specifically formulated to break down proteins and lift out stains.

The different stains and its remedial measures is given below.

1. Grass

•Apply washing detergent then rub the fabric together. An old toothbrush can be very helpful to get the treatment into the fibers.

•Use diluted white vinegar or ammonia to remove any remaining colour.

•Methylated spirits ,also known as denatured alcohol, can be used to remove the stain.

2. Red wine

•Cover the stain with a handful of salt. The salt should begin to absorb the color, turning it salt pink.

Soak garment in cold water with enzyme detergent and allow it to soak overnight. Wash the fabric.

3. Chocolate

•Allow the chocolate to completely harden then gently remove as much of the chocolate.

If the stained was milk chocolate, use a few drops of ammonia. If the stain was dark chocolate, use two tablespoons white vinegar (for colors) or hydrogen peroxide (for whites) to remove the stain.

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4.Fruit Juice

- Soak the clothes in cold water for 30 minutes.
- Use a drop or two of enzyme detergent and warm water to soak it further.

• Rinse with cool water then apply a solution of one part white vinegar and two parts water and allow for 10 minutes.

• Wash the fabric with detergent..

5.Coffee

- Use liquid dish washing detergent and warm water to work on the stain.
- Wash the fabric after treatment.

6. Mud

1. Allow the mud to dry and brush off wash it.

7. Grease/oil

•Cover stain with an absorbent powder such as cornstarch, baking soda, salt or baby powder and allow it to sit. Brush the powder off but don't rub it. If stain is persistent use a dry cleaning solvent.

•Apply dish washing soap to the stain and allow it to sit for a few minutes. Blot with a clean cloth then wash in detergent.

8. Ink

- Soak item in milk overnight then wash as usual.
- Wash the fabric with detergent.

9. Nail polish

• Apply acetone and aryl acetate on the stained area to remove the stain. Don't use acetone for rayon fabrics.

10.Ketchup and other Tomato-based substances

- Soak garment in warm water and dab the spot with a sponge that has been coated with dishwashing soap.
- Stubborn stains can be treated with methylated spirits.

• Apply a stain treatment and allow it to sit for 15 minutes. Use diluted white vinegar to remove any remaining color.

11. Mehandi

• Dip in warm milk for half an hour. Wash the fabric with detergent.

12. Paints/shoe polish/ Ballpen

• Scrape out all excess stain rub gently with spirit or kerosene. Repeat this method two or three times.

13. Betel leaf:

• Apply a paste of mims and leave in sunlight-repeat above method two or three times.

13. Blood/Egg/Meat

14. Blood/Egg/Meat

• Wash with cold water and soap wash with salt water (2 table spoons of salt +1/2 bucket of water)

15. Butter/Ghee/oil/curry

• Wash with hot water and soap for cotton fabrics. Make a paste of soap and water and apply it on stain leave in sunlight until stain is removed for cotton fabric.



Introduction:

- Seaweed is a versatile and sustainable material that is increasingly being used in textiles.
- Seaweed fibres are an eco-friendly alternative to traditional textiles like cotton and polyester, which are environmentally damaging and unsustainable.
- Sea cellfibre textiles are made from seaweed that has been harvested and processed into yarn or fabric.
 Seaweed is a type of algae that grows in the ocean, and it is abundant in many coastal regions around the world.
- The most common seaweed species used for textile production are kelp, dulse, and kombu.



• Sea

Fiber is a type of fabric that is made from a combination of seaweed and wood pulp.

- The seaweed used in this material is harvested from the ocean and is a sustainable resource.
- The seaweed is dried and ground into a powder, which is then combined with wood pulp to create a soft and breathable fabric.

- The manufacturing process of Sea Cell Fiber is also environmentally friendly.
- The production of this material involves a closed-loop system where the water used in the manufacturing process is recycled, and the waste is used as a natural fertilizer.

Benefits of Sea Cell Fiber

- One of the most significant benefits of Sea Cell Fiber is its eco-friendliness.
- This material is made from sustainable resources and is biodegradable, making it a great alternative to traditional fabrics that are harmful to the environment.
- Additionally, the manufacturing process of Sea Cell Fiber uses less energy and produces fewer greenhouse gas emissions than other textile production processes.
- Sea Cell Fiber also has several benefits for the wearer.
- Another unique feature of Sea Cell Fiber is its ability to release beneficial minerals into the wearer's skin.
- Seaweed is rich in minerals like magnesium, calcium, and potassium, which can help improve skin health and reduce inflammation.
- When Sea Cell Fiber comes into contact with the skin, it releases these minerals, providing a natural skincare solution.



Properties:

Sea Cell Fiber is a sustainable and innovative textile solution that offers several benefits to the environment and the wearer. This material is made from a combination of seaweed and wood pulp.

- Incredibly soft.
- Breathable.
- Moisture-wicking.
- Natural skincare solution.
- As the textile industry continues to shift towards sustainable and eco-friendly solutions. Sea Cell Fiber is a material that is sure to gain popularity.

Comfortable to wear.

• Antimicrobial qualities can be incorporated during the production process.

Applications of Sea Cell Fiber

• Sea Cell Fiber can be used in a variety of textile applications, including clothing, bedding, and upholstery.

• This material is incredibly versatile and can be blended with other fibres to create unique and innovative textiles.

• Sea Cell Fiber is also a great option for eco-conscious brands that want to offer sustainable and ecofriendly products to their customers.



The Psychology of Fashion

Fashion Psychology is a branch of applied Psychology that uses psychological theories and principles for understanding and explaining the relationship between fashion and human behavior just as how fashion affects emotions, self-esteem, and identity. This branch also examines how fashion choices can be influenced by factors such as culture, social norms, individual differences, and values.

Fashion Psychologists may use their knowledge and skills to advise individuals, organizations, and the fashion industry on many issues including consumer behavior, sustainability, marketing strategies, and design

Self-expression

Fashion and styling is a medium through which people are able to express their sense of self, mood, personality, and identity to the world out there. When we choose our own clothes, we think of what designates our inner self the most.

Mood and clothing choices

Our moods also have a large role to play in the way we dress up. Clothing choices can convey a wide range of moods and feelings. For example, when we're happy we want to wear something that enlightens us, like bright, vibrant colors and comfortable relaxed clothing. When we are feeling confident, we might feel like wearing something bold, and stylish that makes us feel empowered.



Healing Impact of Fashion:

The healing potential of fashion is evident in the growing field of "fashion therapy." This is an approach that involves using clothing and personal style as tools for self-discovery, empowerment, and healing.

