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<th>Teaching Schedule</th>
<th>Examination Scheme</th>
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Total teaching scheme is of 30 hours
VEER NARMAD SOUTH GUJARAT UNIVERSITY  
B.E. –II (Textile Technology)  
Semester – III

TT – 301, TEXTILE DESIGN AND COLOUR

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1. Elements of Colour:

   Application of colour to woven fabrics. Influence of fabric characteristics (weave) on appearance of colour.

   Chromatic circle, colour vision - Pigment theory of colour. colour wheel etc.

2. Colour Harmony and Colour Modifications:
   Achromatic Harmony, Monochromatic Harmony, Analogous Harmony, High Key, Low Key, Mid Key Harmony, Change in Hue, Change in Value, neutralised colour.

3. Elements and Principles of Design:

   Origin and basis of patterns from historic and modern fabrics

4. Survey of designing methods, studio and workshop techniques. Free hand sketching, enlarging and arrangement of motifs. All over repeating design, half drop, diamond, ogee, weaved fine, rectangular drop reverse, sateens, etc.

Effect of raw material weave and finish on the appearance and ornamentation of fabrics. References: -

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VEER NARMAD SOUTH GUJARAT UNIVERSITY
B.E. –II (Textile Technology)
Semester – III
TT 302 TEXTILE FIBRES

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**Theory :**
1. Introduction to basic concept related to the structure of textile fibres, Introduction to linear polymers, Basic concepts to addition polymers.
2. Fibres used in Textile Industry, their classification & origin
3. General physical properties of cotton, wool, silk & Jute.
4. Action of acids, alkalies, oxidising agents, heat, light, micro organism etc. on these fibres.
6. Different steps in the manufacture of viscose & acetate rayons, different types of viscose & Acetate rayons, General physical properties of these rayons, action of acids, alkalies, oxidising agents, heat, light etc on them
7. Outline of steps for the manufacture of polyamide, polyester, polyacrylics & polypropylene fibres. Action of acids, alkalies, oxidising agents, heat, light etc. on these fibres.
8. General idea of other synthetic fibres such as vinyon, Dynel, Saran & regenerated protein fibres.
9. Identification of fibres :- Qualitative & Quantitative

**Practical :**
This shall be based on prescribed syllabii

**Term work :**
This shall consist of records of practical work done during practicals & recorded in the journal.

**References:**
1) MONCRIFF : Textile Fibres
2) HESS : Textile Fibres.&. Their Use
3) MURTHY : Induction to Textile Fibres
4) GUPTA : Recent Advances in Man - Made Fibres
### TT 303 ELEMENTS OF TEXTILE TECHNOLOGY & PROCESSING

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<tr>
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**Theory:**
1. Introduction to Spinning Processes:
   - Blow room, card, Draw frame, Lap former, comber, speed frame, Ring frame, Doubling & Reeling.
2. Function passages of Spinning processes.
3. Introduction to weaving processes:
   - Winding, warping, sizing, pirn winding, Loom shed & Grey folding. Type of weaves.
4. Functions & important motions of weaving processes.
   - Scouring, bleaching, Mercerising, singeing, Dyeing, printing, calendering, Stentering, Press Finish etc.

**References:**
1) ATIRA : Cotton Spinning
2) ASWANI : Plain Weaving Motions
3) GROSICKI: Watson's Textile Design & Colour
4) SHENAI : Fundamental Principles of Textile Processing
TEACHING SCHEME:
(No. of Contact Hrs.)

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Theory:
Concept of Management:
Management - Science or Art ?, Management thoughts, Approaches to Management though, Co-ordination.

Planning:
Process of Planning & making Planning effective, Different types of Plan, Objective setting, Decision Making,

Organizing:
Organisation theory, Organization structure, Departmentation, Delegation of Authority, Centralisation & decentralization, Line & Staff authority.

Directing:
Leadership & Motivation, Communication process - barriers & effective communication.

Controlling:
Process of control, Reporting system of control, Management and social audit
Legal aspects of Management:
Indian factories act, Trade unions act, Industrial disputes act
Management & Development of Human Resources
Marketing Management:
Core concepts of marketing, Marketing Environment, Marketing process & planning.

Finance & Accounts:
Elementary aspects of managerial accounting & financial management.
VEER NARMAD SOUTH GUJARAT UNIVERSITY
B.E. –II (Textile Technology)
Semester – III
CH 305 POLYMER CHEMISTRY

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Theory:

1) Basic concepts : Definition, Classification of polymeric material, general methods of preparation of polymers, classifications of Polymerisation reaction, Polymerisation technique, Polymer structure - Polymer geometry, structural unit variety, Polymer tacticity, Polymer utilisation

Scope, raw material preparation, structure, properties & important copolymers for the following chemical classes.

* Polyolefin - Polyethylene, Polypropylene, Butyl rubber
* Polystyrene
* Polyvinyl chloride, Polyvinyl acetate
* Acrylic polymers
* Polyamides & related polymers
* Polyesters
* Cellulose & related polymers
* Phenol - Formaldehyde polymers
* Aminopolymers
* Silicons
* Epoxies
* Polydiene - Natural rubber, Vulcanization

3) Measurement of molecular weight & size - End group analysis, Light Scattering etc.,

4) Analysis & testing of Polymer - Chemical, thermal analysis, Spectroscopic method, X-ray diffraction Microscopy

5) Polymer reaction - Hydrolysis, Acidolysis, Hydrgenation, Addition & Substitution reaction, cyclization, crosslinking etc.

6) Polymer Processing - Plastic technology, Elastomer technology.

7) Polymers & Environment. Pollution by Polymers, Polymers & energy, Need of awareness for the future.
Practical:
This shall be based on the prescribed syllabii.

Termwork:
This shall consists of record of practical work done during practical and recorded in the journal.

References:

1) K. J. SAUNDER, CHAPMAN & HALL : Organic Polymer Chemistry.
2) FRED W. BILLMFYER Jr., JOHN WILEY & SONS : Text Book of Polymer Science.
3) V. R. GOWARIKER, N. V VISHVANATHAN JAYDEV SREEDHAR s : Polymer Science.
4) S. W, NICOISON, ROYAL SOCIETY OF CHEMISTRY : The Chemistry of Polymers.
VEER NARMAD SOUTH GUJARAT UNIVERSITY
B.E. –II (Textile Technology)
Semester – III

TT 306 YARN MANUFACTURING – 1

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Theory:
1) General idea of Ginning & Bale processes. Characteristics of Bales of various countries
2) Objects of mixing, Methods of mixing, Different types of conventional Feeders, Openers & Cleaners, Use of air currents for cleaning & transportation, Blow Room sequence for different Cotton & Man-Made fibres, Construction & working of machines for single process Blow Room, Modern openers & cleaners.
4) Recent developments, Tandem card - Chute feeding system - Auto levellers at card.
5) Common defects and remedie in product delivered at each machine
6) Calculation pertaining to machines dealt with above.
7) Maintenance of machines.

Practical:
This shall be based on the prescribed syllabii

Termwork:
This shall consists of record of practical work done during practical & recorded in journal

References:
2) MERRILL : Cotton Opening & Picking
3) MERRILL : Cotton Carding
4) SZALOSKI : The Institute of Textile Tech., U.S.A. Opening, Cleaning & Picking Vol : I
5) SZALOSKI : High Speed Carding & Continuous Card Feeding Vol: II
6) W.KLEIN : The Technology of Short Staple Spinning
7) W.KLEIN : A Practical Guide to Opening & Carding