PhD Course Work
Department of Silpa-Sadana, PSV

Course Number	Subject	Credit	Mode of teaching	Marks	Internal	External
1	Research Methodology and Techniques	4	Theory + Practical	100 (70:30)	Theory: 20	80 Theory: 50 Practical: 30
2	Elective Course * (Choice Based) Candidate has to select one course among the followings: a) Mechanical Processing of Textiles b) Chemical Processing of Textiles c) Textile Design and Craft d) Ceramic Design e) Elements of Ceramics f) Furniture Design g) Furniture – Materials and Manufacturing Techniques	4	Theory	100	20	80
3	Reviewing of published research work in the relevant field of research	4	Practical	100	20	80
		12		300	60	240

Head
Silpa-Sadana
Visva-Bharati

19/12/2016

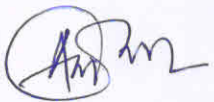| Course No.	Subject	Credit	Mode of Teaching	Marks	Internal	External
01	Research Methodology and Techniques	4	Theory + Practical	70 + 30	20	50 + 30

- Type of research methods
- Tools of Research
- Mechanics of Proposal Writing, Writing Scientific Articles
- Research Ethics
- Protection of Intellectual Property Rights
- Data Collection, Organization & Representation of numerical data.
- Frequency Distribution
- Measures of Central Tendency
- Measures of Dispersion
- Normal Distribution
- Correlation & Regression
- Significance Testing
- ANOVA
- Design of Experiment: Orthogonal design, Box & Behnken Model
- Multi-Criteria Decision Making (MCDM)
- Soft Computing tools and their applications
- Use of appropriate software for statistical analysis/decision making/DOE/soft computing.
- Design Fundamentals ——— theories, studies, advancements.

Ashis Mitra
(Dr. ASHIS MITRA)

Pontoi Kumar Chonder.

Course No.	Subject	Credit	Mode of Teaching	Marks	Internal	External
02 [Elective Course (Choice based)]	Mechanical Processing of Textiles	4	Theory	100	20	80

- Different Fibres——— Characteristics, their role in Textiles
- Conventional & advanced yarn manufacturing techniques
- Yarns in designing fabrics
- Characterisation of fibres & yarns through testing
- Different fabric making technologies/processes
- Fundamentals of Fabric Structure ——— Weave, repeat, weave representation, weaving plan.
- Common weaves ——— Features, end-uses, manufacturing techniques.
- Simple numerical calculations for yarn & fabric manufacturing
- Concept of yarn count, crimp, fabric cover, GSM, Counting systems of Heald & Reed.
- Different functional characteristics of fabrics
- Fabric comfort ——— Various factors at play
- Objective evaluation of Fabric Handle.

Anitu
(Dr. ASHIS MITRA)

Ranbir Kumar Chandln.

PhD Course Work
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Course Number	Subject	Credit	Mode of teaching	Marks	Internal	External
2 Elective Course (Choice Based)	**Elective Course** Chemical Processing of Textiles	4	Theory	100	20	80

> Chemistry and technology of removing natural and added impurities from natural and synthetic fibres
> Eco-friendly processing of textiles.

Dyeing

- Theory of dyeing and different types of dye-fibre interaction
- Application of different classes of dyestuffs on natural and synthetic fibres.
- Natural Dyes: Source, extraction and its application technology on textile substrates.
- Colour science and fundamentals of measuring colour parameters, viz. Hue, Chroma, Total Colour Difference, whiteness, yellowness, metamerism index etc.
- Concept of Computer Colour Matching (CCM), working principle of CCM, advantages and limitations of CCM, applications of CCM.

Printing

- Styles and methods of printing
- Ingredients used in printing paste and their functions
- Printing of cotton and other cellulosic fabrics/blends with important dyestuffs and pigment colour.
- Printing of silk fabric with different classes of dyes such as acid, solubilised vat etc.
- Printing of silk and cotton fabric with natural colour

Finishing

- Introduction to general textile finishing, Classification of textile finishing
- Different softening and stiffening agents and other temporary finishes.
- Common chemical finishes for cellulosic and synthetic textiles such as anti-crease, water proof, Soil release, Water repellent, Flame retardant etc.
- Some specialty finishes and recent developments in textile finishing.
- Applications of enzymes in textile processing and finishing

Testing and Characterisation

> Methods of assessing different colour fastness properties.
> Characterizations of different properties of fibrous materials through instrumental evaluation

(Dr. Sankar Ray Maulik)

PhD Course Work
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Course Number	Subject	Credit	Mode of teaching	Marks	Internal	External
2 Elective Course (Choice Based)	**Elective Course** Textile Design and Craft	4	Theory	100	20	80

- Introduction to the Textile Crafts of India
- Major Categories of Textile Crafts in India
- Geographical Locations of Important Indian Textile Crafts
- Relation between Textile Design and Textile Craft
- Selection of a Textile Craft for Study
- Ethnographical Study of the Crafts Community
- Conducting a field study of the chosen Textile Craft of India

Dr. Padmini Balaram
Professor of Design, Silpa-Sadana, Visva-Bharati

PhD Course Work
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Course Number	Subject	Credit	Mode of teaching	Marks	Internal	External
2 Elective Course (Choice Based)	**Elective Course** Furniture – Materials and Manufacturing Techniques	4	Theory	100	20	80

- ➢ Requirement of properties of raw materials used in Furniture
- ➢ Different raw materials used in Furniture manufacturing with limitations
  - Quality characteristics
  - Quality evaluation
- ➢ Timber (natural)
  - Macro structure & Micro structure
  - Converted, Rough and Standing timber
  - Processing of timber
  - Conversion, Preservation, Abrasion, and Mechanical Properties, Working ability, Upgradation of timber
- ➢ Industrial Timber
  - Veneer, Ply wood, Fibre Board, Block Board, Lamin Board, Hard Board, Particle Board, Manufacturing techniques, Processing
  - Advantages & Exploration
  - Usage in discipline
  - Working condition, weathering effect, weight, treatment, finishing
- ➢ Contemporary material
  - Ferrous
  - Non-ferrous
  - Polymer
- ➢ Role of different materials in interior designing
  - Requirements
  - Exploration
- ➢ Anthropometric considerations
  - Important parameters under consideration
  - Application in Furniture design
  - Application in Interior design