

Certificate Course

in

Coir Technology

Unit I – Introduction to Coir Industry

(6hrs)

Historical background and development of the coir industry, Overview of the coir sector in various countries, Botanical origin and structure of coconut husk, Extraction and processing of coir fiber, Physical and mechanical properties of coir fiber, Quality assessment and grading of coir fiber.

References:

1. The Complete Book on Jute & Coir Products, Niir Project Consultancy Services. 27 October 2014. ISBN 978-9381039625.
2. Coir: Processing, Properties and Applications" by K.R. Salunkhe and S.S. Kadam
3. Coir Handbook" by P.C. Punekar
4. Handbook on Coir Processing and Utilization" by NPCS Board of Consultants & Engineers
5. Coir: The Fabric of the Future" by James Fisher
6. Coir Industry in India: Production, Processing & Export" by K.V. Peter

Unit II - Coir Yarn and Products

(6hrs)

Spinning methods for coir yarn production, Weaving and knitting techniques, Dyeing, printing, and finishing processes for coir products, Different coir-based products and their applications (e.g., mats, rugs, geotextiles).

References:

1. Coir Handbook" by P.C. Punekar
2. Handbook on Coir Processing and Utilization" by NPCS Board of Consultants & Engineers
3. Coir: The Fabric of the Future" by James Fisher
4. Coir Industry in India: Production, Processing & Export" by K.V. Peter.
5. Coir: Processing, Properties and Applications" by K.R. Salunkhe and S.S. Kadam

Unit III – Coir Processing Machinery, Substrates and Horticultural Applications: (6hrs)

Overview of machinery used in coir processing, Maintenance and optimization of coir processing equipment, Automation and technological advancements in coir processing, Production and properties of coir-based substrates, Use of coir in horticulture, agriculture, and landscaping, Sustainable and organic farming practices utilizing coir products.

References:

1. Handbook on Coir Processing and Utilization" by NPCS Board of Consultants & Engineers
2. Coir Industry in India: Production, Processing & Export" by K.V. Peter.
3. Coir: Processing, Properties and Applications" by K.R. Salunkhe and S.S. Kadam
4. The Complete Book on Jute & Coir Products, Niir Project Consultancy Services. 27 October 2014. ISBN 978-9381039625.

Unit IV – Quality testing of Coir products (6hrs)

Physical properties testing, Moisture content analysis, chemical composition analysis, strength and durability testing, water retention and drainage testing, microbiological and contaminant analysis, compressibility and expansion testing, Field trials and application testing.

References:

1. Sharma, B.K. Instrumental Methods of Chemical Analysis. Goel Publishing House, New Delhi. 2004.
2. Hazards in chemical laboratories and guide to safe practices in chemical laboratories published by Royal Society of Chemistry.
3. I. Vogel, "Text book of Quantitative Inorganic Analysis
4. Day & Underwood "Quantitative analysis: laboratory manual.
5. Coir: Processing, Properties and Applications" by K.R. Salunkhe and S.S. Kadam
6. Coir Handbook" by P.C. Punekar

Unit V - Environmental and Economic Aspects of Coir Technology: (6hrs)

Environmental sustainability in the coir industry, Economic significance and market trends of coir products, Challenges and opportunities in the coir industry, Recent advancements and research in coir technology, Innovative uses of coir in different industries.

References:

1. A.K.De,Environmental Chemistry,New Age International(P) Ltd. New Delhi
2. A.K.Ahluwalia, Environmental Chemistry, Ane Books, India, New Delhi
3. S.S.Dara, A Textbook of Environmental Chemistry and Pollution Control, 8th Edn. S Chand& Sons,New Delhi.
4. Coir: Processing, Properties and Applications" by K.R. Salunkhe and S.S. Kadam
5. Coir Handbook" by P.C. Punekar.