The Bombay Textile Research Association

Organises

ONE MONTH CERTIFICATE COURSE IN
TECHNICAL TEXTILES

Venue : BTRA, Mumbai

20th January to 18th February 2025

Training Timing : 10 am to 4 pm

CERTIFICATE COURSE WILL COVER -

- Introduction to Technical Textiles
- High performance fibres Manufacturing
- Characteristics of high-performance Fibres
- Applications of high-performance fibres
- Manufacturing of technical fibres
- Process/ quality control in manufacturing
- Evaluation of technical textiles
- Testing and instruments of textile testing
- Recent advancement in Technical Textiles
- Composite technology / Composite making
- Chemical analysis of textiles
- Environmental aspects related to technical textiles
- Personality development

BENEFITS

- Candidates will get a Certificate with Grade issued by BTRA
- Equips you with specialized knowledge and skills in the field of rapidly growing sector, technical textiles
- Specialized training acquired during training can open doors to a wider range of job opportunities
- Hands-on experience in testing, analyzing, and evaluating technical textiles

HIGHLIGHTS OF THE SYLLABUS

1. **Introduction to technical textiles and its various segments, applications**
2. **High performance fibres manufacturing :** Polymer rheology, Melt spinning, Solution spinning, Post spinning operations
3. **Characteristics of high-performance fibres :** Structure and morphology, Moisture absorption characteristics, Tensile characteristics, Optical and frictional characteristics, Thermal characteristics
4. **Applications of high-performance fibres in** Aerospace textile, Biomedical, Civil engineering, Construction, Protective clothing, Geotextiles, Electronic areas, etc.
5. **Process/ quality control in manufacturing :** Quality control, Cost of quality, Management of quality, Training for quality, Quality circles, Quality assurance, Quality design and quality of conformance, ISO 9000 and similar
6. **Evaluation of technical textiles :** a) Identification of fibres, b) Determination of density of various fibres, denier, moisture regain and moisture content, percentage of spin finish of synthetic fibres, blend proportion, c) Thermo gravimetric analysis of fibres, d) FTIR analysis of polymers and fibres from spectrum
7. **Recent advancement in technical textiles :** Linear polymer fibres, Carbon fibre, Glass and ceramic fibres, Chemical and thermal resistance fibres, Speciality fibres
8. **Chemical analysis of textiles :** Determination of wash, light, perspiration and rubbing fastness of dyed fabrics, Determination of Whiteness and Yellowness index, Determination of K/S of dyed fabrics using Spectrophotometer, Water proof and Flame retardant finish evaluation, Resin and softener finish evaluation
9. **Environmental aspects and sustainable processes :** Sustainability, Renewable energy, Sustainability in yarn and fabric manufacturing and chemical wet processing, Recycling of textile products, Sustainable raw materials
10. **Composites technology/ Composite Making :** Composites reinforcement and matrices, Composites manufacturing technologies, Design of structure with composites, Mechanics and testing of composites, Applications of composites
11. **Personality development :** Interpersonal skills, Leadership, Stress management, Conflict resolution, Decision making

WHO SHOULD ATTEND

- Textile diploma, Civil Engineering Diploma
- B. Sc
- M. Sc
- B. Tech Textiles, Degree in Civil Engineering
- Person already working in the textile field

COURSE FEE :
Rs. 25000 *+ GST
Payable in advance
***** including Lunch**

Group Booking facilities available

Contact details for interested candidates /companies -

The Bombay Textile Research Association
L B S Marg, Ghatkopar(West), Mumbai 400086
Email : btratraining@gmail.com
Mob.: 9137117061, 9594572862, 9821257127
Website: www.btraindia.com

Bank Details :
Company Name : The Bombay Textile Research Association
Bank Name : UNION BANK OF INDIA,
Branch : Ghatkopar West
Bank A/C. No. : 023811100000900
Bank Branch RTGS/IFSC code : UBIN0802387
Bank Branch MICR Code : 400026273
Swift code : UBININBBGHT
Cheque Payable@Mumbai, In favor of **"The Bombay Textile Research Association"**

ONE MONTH CERTIFICATE COURSE IN TECHNICAL TEXTILES

Details of the syllabus for technical textiles :

1. Introduction to technical textiles
a. Agrotech: textile used in agriculture
b. Buildtech: Construction textiles
c. Clothtech: Clothing textiles, which are used in footwear and clothing
d. Geotech: Geo-textiles
e. Hometech: Domestic textiles
f. Indutech: Industrial textiles
g. Meditech/Medtex: Medical textiles, which are used in gowns, facemasks, gloves, and more
h. Mobiltech: Textiles used in transport
i. Oekotech: Environmental protection, waste management, and recycling
j. Packtech: Wrapping fabric, jute sacks, tea bag filter paper, and woven sacks
k. Protech: Fire retardant apparel, ballistic protective clothing, and high visibility clothing
l. Sportech: Sports nets, sleeping bags, hot air balloons, parachute fabrics, and sports
2. High performance fibres manufacturing
a. Polymer rheology
b. Melt spinning
c. Solution spinning
d. Post spinning operations
3. Characteristics of high-performance fibres
a. Structure and morphology
b. Moisture absorption characteristics
c. Tensile characteristics
d. Optical and frictional characteristics
4. Applications of high-performance fibres
a. Aerospace textile,
b. Biomedical,
c. Civil engineering,
d. Construction,
e. Protective clothing,
f. Geotextiles
g. Electronic areas

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a. Aerospace textile,
b. Biomedical,
c. Civil engineering,
d. Construction,
e. Protective clothing,
f. Geotextiles
g. Electronic areas
6. Process/ quality control in manufacturing
a. Quality control
b. Cost of quality
c. Management of quality
d. Training for quality
e. Quality circles
f. Quality assurance
g. Quality design and quality of conformance
h. Iso 9000 and similar
7. Evaluation of technical textiles
a. Identification of fibres
b. Determination of density of various fibres
c. Determination of denier
d. Determination of moisture regain and moisture content
e. Determination of the percentage of spin finish of synthetic fibres
f. Determination of the blend proportion
g. Thermo gravimetric analysis of fibres
h. FTIR analysis of polymers and fibres from spectrum
8. Recent advancement in technical textiles
a. Linear polymer fibres
b. Carbon fibre
c. Glass and ceramic fibres
d. Chemical and thermal resistance fibres
e. Speciality fibres
9. Chemical analysis of textiles
a. Determination of wash, light, perspiration and rubbing fastness of dyed fabrics
b. Determination of Whiteness and Yellowness index
c. Determination of K/S of dyed fabrics using Spectrophotometer

d. Water proof and Flame retardant finish evaluation
e. Resin and softener finish evaluation
10. Environmental aspects and sustainable processes
a. Sustainability
b. Renewable energy
c. Sustainability in yarn and fabric manufacturing and chemical wet processing
d. Recycling of textile products
e. Sustainable raw materials
11. Composites technology/ Composite Making
a. Composites reinforcement and matrices
b. Composites manufacturing technologies
c. Design of structure with composites
d. Mechanics and testing of composites
e. Applications of composites
12. Personality development
a. Interpersonal skills
b. Leadership
c. Stress management
d. Conflict resolution
e. Decision making