

MOT PROJECTS CARRIED OUT AT SASMIRA IN THE LAST TEN YEARS (1998 TO 2009)

Sr.No	Name of the Project	Year of Sanction	Duration in years	Research subject area	Achievements
1	Development of eco-friendly anti bacterial finishes using indigenous natural products	1998	2	Process Development	<ul style="list-style-type: none"> Eco-friendly anti-bacterial finishes for cotton fabrics were developed from natural herbal products. Optimum strength loss and fastness to washing achieved
2.	Development of low cost effluent treatment model for silk / synthetic wet processing units in decentralised sector	1998	2	Process Development	<ul style="list-style-type: none"> Method to reutilise the dye liquor without addition of the reagents established It helps to conserve water and saves on the cost of the reagents Fabrics dyed with such recycled dye liquor found to have good fastness properties
3	Evaluating power loom fabrics for their suitability for automated garment manufacturing for exports	1998	2	Testing Methodology	<ul style="list-style-type: none"> Evaluated the quality of fabrics supplied by the decentralised sector Provided suggestions on improving the Tailorability of these fabrics Devised a simple, cost effective method for objective evaluation of fabric Tailorability as FAST system
4	Eco-friendly alternatives to reducing agents used in vat and sulphur dyes on cellulosic and polyester cellulosic blends	1998	2	Process Development	<ul style="list-style-type: none"> Conventional reducing agents used in vat and sulphur dyeing containing hydrosulphite/ sulphide groups were replaced by eco-friendly alternative agents Use of D-Glucose type reducing agent gave comparable colour fastness to light and washing.
5	Technology for development for recycling polyethylene terephthalate (PET) bottles for specific end uses	1998	2	Product Development	<ul style="list-style-type: none"> Complete technology for manufacturing fibre from recycled PET bottle waste developed Many products were developed from such fibres using non-woven technology

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6	Establishing structural parameters and post treatment requirements in agro textile like sunscreen, bird nets etc. for green house usage	1998	2	Product Development	<ul style="list-style-type: none"> Woven shade nets were developed from HDPE tape yarns with comparable performance as imported knitted ones Cost reduction upto 40 % was achieved by the process
7	Print paste re-utilisation scheme for the decentralised sector	1999	2	Process development	<ul style="list-style-type: none"> Reutilisation of print paste achieved speedily using left-over paste to reduce cost of processing and also pollution load on environment Software developed for reutilisation using spectrophotometer and reflectance data – processing software
8	Development of technique for dyeing cum sizing in package form to facilitate production of striped shirting in decentralised sector	1999	1	Process Development	<ul style="list-style-type: none"> A simple technique for simultaneous sizing and package dyeing of cotton warp yarn is developed This will enable the powerloom weavers to produce small weaver's beam with coloured warp for stripe effect and design flexibility
9	Development of software to evaluate output from the yarn evenness tester for assessing the magnitude of evenness fault analysis and for pinpointing specific areas for corrective action	1999	2	Software Development	<ul style="list-style-type: none"> Software developed to compare the yarn quality in terms of evenness and imperfection with respect to the world norms The software also suggests corrective actions to improve the yarn quality The output on yarn quality in simple form like snake charts and digital output

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10	Designing high performance into polyester viscose blended fibre fabric	1999	2	Product development	<ul style="list-style-type: none"> • Cross-linking with silicone softeners was done to improve fabric handle and reduce pilling of P/V blended fabrics • Other performance were not adversely affected by the above said treatment
11	Development of blue wool standard and grey scale standard for evaluation of fastness properties of textiles	1999	2	Standardisation	<ul style="list-style-type: none"> • Blue wool and grey scale standard for assessing light fastness properties developed indigenously • Developed standards conform to international standards • Cheaper alternative with saving of foreign revenue
12	Developing scientific database and recipe prediction software for computer colour matching on polyester, viscose and its blend for the process houses in the decentralised sector.	2000	2	Software development	<ul style="list-style-type: none"> • Database using disperse dyes was developed on polyester substrates (tops, tows, filaments, staple fibre and fabrics) of various deniers • With reference to the database a series of recipes can be predicted with the help of computer
13	Indigenisation of woven geogrid manufacturing technology	2000	2	Product & Process development	<ul style="list-style-type: none"> • Technology of weaving geogrids on powerlooms with lappet attachment from HT polyester yarns established • Methodology of coating this mesh structure with PVC plastisols successfully accomplished
14	Development of an indigenous airbag fabric for automotive safety	2000	2	Product Development	<ul style="list-style-type: none"> • Airbag fabrics varieties developed from Nylon 6 and Nylon –6,6 • Heavier and lighter fabric varieties woven • Found comparable with the commercial fabric varieties in functional performance

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15	Producing dope dyed polyester from recycled PET waste for use in automotive interior textiles	2000	2	Product Development	<ul style="list-style-type: none"> Moulded carpet in specific shades for auto-interiors have been developed. Dope dyed polyester staple fibres are also used for making products like Blankets, Filter, Shoe upper and Geo-textiles
16	To develop standard depth and whiteness scales on textile substrates.	2000	2	Standardisation	<ul style="list-style-type: none"> Import substitution of commercially available standard depth scale and whiteness index scale for evaluation of colour fastness characteristics.
17	Development of chemical protective fabrics based on activated carbon fibres from cheaper sources	2001	2	Product development	<ul style="list-style-type: none"> The activated carbon fibre developed from nonwovens viscose after optimisation of process had high adsorbency for chemicals (carbon tetrachloride adsorption ranges from 40% to 80%). This Activated carbon was used to develop Anti pollution mask for vehicle riders, Respirators for industry workers, facelet mask for chemical warfare (CW) agent adsorption etc.
18	Development of UV resist water proof breathable coating as protective textiles	2001	2	Product development	<ul style="list-style-type: none"> Nylon fabric as such gives poor sun protection and hence it is essential to be treated with a UV protecting auxiliary. Finishing treatments to impart both UV resistance and water repellency have shown encouraging results.
19	Reducing pollution by recycling decolourised exhaust dye liquor	2001	2	Process development	<ul style="list-style-type: none"> The use of nanofiltration technique for removal of dye particles from the exhaust dye liquor is demonstrated. The technique is successful for most of the reactive dyes. The dyes for which the technique fails, flocculation of dye particles before nanofiltration can be used. The obtained fluid is suitable for redyeing.

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20	Development of calibrated colour-viewing cabinet (CVC) with metamerism scale for the process houses and garment manufacturer	2001	2	Instrumentation	<ul style="list-style-type: none"> A colour viewing cabinet with voltage stabilizers and CIE approved light sources (seven different illuminants) has been developed indigenously. This cabinet can be utilized in process houses/export houses to view the sample under different light sources. Metameric scale used to judge the degree of metamerism has also been developed.
21	Speciality yarns from recycled PET bottles using different spinning techniques	2001	2	Product development	<ul style="list-style-type: none"> Trials have been taken to produce filament yarn from PET bottle wastes. Such yarns may be used in production of tapes, luggage fabrics, etc. Staple fibres for DREF and Rotor spinning have also been developed starting from PET bottle wastes.
22	Development ballistic protective fabric for soft armour	2002	2	Product Development	<ul style="list-style-type: none"> Ballistic protective fabrics from Ultra High Modulus Polyethylene have been developed.
23	Development of multi-layer protective garments for multifunctional usage as sportswear and leisurewear.	2002	2	Product development	<ul style="list-style-type: none"> Multilayer garments were developed using combination of viscose and polyester yarns. The fabric had good absorption & dissipation of sweat making the wearer comfortable for sportswear.
24	Energy conservation in preparatory and finishing processes for natural and synthetic fabrics by application of ultrasonic technique for the decentralised sector	2002	2	Process development	<ul style="list-style-type: none"> The project has developed a methodology for conservation of the auxiliaries, water and energy used in preparatory and finishing processes of natural and synthetic fibre fabrics by means of ultrasonics. The process has been established for enzymatic desizing, scouring and biofinishing of cotton.
25	Indigenous development of geotextiles for pavement overlaying	2005	18 months	Product development	<ul style="list-style-type: none"> Development of polypropylene and polyester geotextiles in nonwovens, woven and grid forms to improve service life of roads Field trials of the developed nonwoven geotextiles have demonstrated their effectiveness

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26	Development of zero effluent process for dye-houses	2005	18 months	Process development	<ul style="list-style-type: none"> The use of nanofiltration and flocculation techniques suitably for not only reactive but various classes of dyes to recycle exhaust dye liquor will be established. The same will be extended for preparatory and finishing process of wet processing.