ALAGAPPA UNIVERSITY

(A State University Established in 1985)
Karaikudi - 630003, Tamil Nadu, India

2017 — Accredited with A+ Grade by NAAC (CGPA : 3.64)

2018 — MHRD Govt. of India; UGC — Graded as Category - 1 & Granted Autonomy

2018 — MHRD — Swachh Campus Rank : 4

2019 — nirf NATIONAL INSTITUTIONAL RANKING FRAMEWORK — Rank : 28

2019 — QS — India Rank : 20; BRICS Rank : 104; Asia Rank : 216

ALAGAPPA INSTITUTE OF SKILL DEVELOPMENT

M.Voc., FASHION TECHNOLOGY

[Choice Based Credit System (CBCS)]

[For the candidates admitted from the academic year 2019 -2020]

M.Voc. PROGRAMME

in

FASHION TECHNOLOGY

under

CHOICE BASED CREDIT SYSTEM (CBCS)

&

CREDIT FRAMEWORK FOR SKILL DEVELOPMENT (CFSD)

PROGRAMME STRUCTURE

(2019-20 Batch onwards)

ALAGAPPA INSTITUTE OF SKILL DEVELOPMENT

ALAGAPPA UNIVERSITY

(Accredited with A+ Grade by NAAC (CGPA: 3.64) in the Third Cycle &
Graded as Category – I University by MHRD-UGC)

KARAIKUDI – 630003

Tamil Nadu

PROGRAMME OBJECTIVES

- To offer skill / vocational curriculum adhere to the National Occupational Standards (NOS) towards improving the employability of the youth and industrial revolution of the Country.
- To create strong linkage with respective Sector Skill Council (SSC), Industries and academia to offer and vet the progress of the pedagogical process of Skill Vocational training

PROGRAMME SPECIFIC OBJECTIVES

- To inculcate the students with Technical, Generic and Industry specific skills related to Fashion Technology for better employment possibilities and to open avenues for self-employment.
- To empower the students in terms of career goals, decision making and livelihood options.

OUT COME

The curriculum of the M.Voc.(Fashion Technology) Programme enables the students to become any of the below mentioned Jobs

1. Research Assistant
2. Research Associate
3. Teaching Assistant
4. Designer in buying office
5. Industrial Engineer
6. CAD Trainer

ELIGIBILITY:

1) For Admission

A candidate who is a graduate of this University or any recognized University in the main subject / subjects as given below against each or who has passed an examination accepted by the Syndicate, as equivalent thereto.

M.Voc., Fashion Technology	: B.Voc., degree in Fashion Technology / B.Sc., degree in Fashion Technology / Costume Design & Fashion / Apparel & Fashion Designing / Fashion Technology & Costume Design / any UG degree with core / allied papers related to Fashion Technology / Apparel or any qualification equivalent thereto in 10+2+3 pattern with 55% marks in Part III (for SC/ST candidates 50%) OR Any UG Degree (equivalent thereto in 10+2+3 pattern) with Diploma / PG Diploma related to Fashion Technology / Fashion Designing / Apparel with 55% marks in Part III (for SC/ST candidates 50%)

FOR THE DEGREE

The candidates shall have subsequently undergone the prescribed programme of study in Alagappa Institute of Skill Development, Alagappa University for not less than two academic years comprising 4 semester, passed the examinations prescribed and fulfill such conditions as have been prescribed therefore.

DURATION

The Programme is for a period of two years. Each year shall consist of two semesters viz. Odd and Even semesters. Odd semesters shall be form June / July to October / November and Even semesters shall be from November / December to April / May. There shall be not less than 90 working days which shall comprise 450 teaching clock hours for each semester (exclusive of the days for the conduct of University end-semester examination).

ALAGAPPA INSTITUTE OF SKILL DEVELOPMENT
ALAGAPPA UNIVERSITY, KARAIKUDI.
SYLLABUS UNDER CBCS PATTERN (w.e.f. 2019-20)
M.Voc., FASHION TECHNOLOGY – PROGRAMME STRUCTURE

Degree	Sem	Subject code	Course Name	Credits Skill(S)/ General G)		Theory/ Practical	Hrs/Week	Marks		Total
				S	G			Int.	Ext.	
M.Voc. Degree in Fashion Technology	I	9MF1C1	**Core – I** - Advanced Textile Science	5	-	T	5	25	75	100
		9MF1C2	**Core – II** - Apparel Production Planning and Control	4	-	T	4	25	75	100
		9MF1P1	**Core – III** –Advanced Pattern Making - Lab	5	-	P	5	25	75	100
		9MF1P2	**Core - IV** - Advanced Draping - Lab	4	-	P	4	25	75	100
		9MF1G1	**General –I** – Historic, World Costume and Textile	-	4	T	4	25	75	100
		9MF1G2	**General –II** Eco Textiles and Sustainability	-	4	T	4	25	75	100
			Elective – I	-	4	T	4	25	75	100
			Sub-Total	**18**	**12**					
			Total for Semester -I	**30**			**30**	**-**	**-**	**700**
	II	9MF2C1	**Core – V** – Advanced Textile Design	4	-	T	4	25	75	100
		9MF2C2	**Core –VI**–Indian Textile Industry and Trade	4	-	T	4	25	75	100
		9MF2C3	**Core – VII**– Advanced Wet Processing	4	-	T	5	25	75	100
		9MF2P1	**Core VII** – Advanced Wet Processing- Lab	3	-	P	4	25	75	100
		9MF2MP	**Core – IX** – Mini-Project	3	-	P	-	100	--	100
			Non –major Elective Course - I	-	2	-	3	25	75	100
			Elective – II – Lab	-	5	P	5	25	75	100
			Elective – III @	-	5	P	5	25	75	100
			Self-Learning Course (MOOCs) – I %	-	(E)	-	-	-	-	-
			Sub-Total	**18**	**12**					
			Total for Semester -II	**30**			**30**	**-**	**-**	**800**
M.Voc. Degree in Fashion Technology	III	9MF3C1	**Core – X –** Technical Textiles	4	-	T	5	25	75	100
		9MF3C2	**Core – XI –** Textile Testing	4	-	T	4	25	75	100
		9MF3P1	**Core – XII –** Textile Testing- Lab	4	-	P	4	25	75	100
		9MF3P2	**Core– XIII –**CAD in Pattern Making - Lab	4	-	P	4	25	75	100
		9MF3C4	**Core – XIV –** Finishing Skills in Fashion Technology #	2	-	P	-	100	-	100
			Non –major Elective Course - II	-	2	-	3	25	75	100
			Elective – IV	-	5	T	5	25	75	100
			Elective – V – Lab	-	5	P	5	25	75	100
			Self-Learning Course (MOOCs) – II %	-	(E)	-	-	-	-	-
			Sub-Total	**18**	**12**					
			Total for Semester -III	**30**			**30**	**--**	**--**	**800**
	IV	9MF4G1	Portfolio Presentation and Design Collection – Lab	--	6	P	6	25	75	100
		9MF4G2	Visual Merchandising	--	6	T	6	25	75	100
		9MF4MR	**Core – XV –** Industrial Internship with Project Work	18	--	P	18	150	50	200
			Total for Semester -IV	**18**	**12**		**30**	**-**	**--**	**400**
			Grand Total	**120**			**120**	**-**	**--**	**2700**

Fully-internal Course – Examination will be conducted internally
@ External Examination will be conducted as Viva-voce Examination
% Self-Learning Course – MOOCs – Extra Credits (E) – Extra credits earned through MOOCs

Elective – I

1.	Home Textiles	9MF1E1
2.	Knitting Clothing Technology	9MF1E2
3.	Clothing Appearance and Fit	9MF1E3

Elective – II – Lab

1.	Home Textiles - Lab	9MF2E1
2.	CAD in Fashion Designing - Lab	9MF2E2
3.	Advanced Fashion Illustration - Lab	9MF2E3

Elective – III

1.	Corporate Etiquette Skills	9MV2E4
2.	Competitive Examination Skills	9MV2E5
3.	Soft Skills and Entrepreneurial Skills	9MV2E6

Elective – IV

1.	Fashion Photography	9MF3E1
2.	Lean Manufacture in Apparel Industry	9MF3E2
3.	Apparel Brand Management	9MF3E3

Elective – V – Lab

1.	Fashion Styling - Lab	9MF3E4
2.	Surface Ornamentation in Apparels and Textiles - Lab	9MF3E5
3.	Advanced Garment Construction - Lab	9MF3E6

Industrial Internship with Project Work

1.	Project Evaluation (Internal)	150 Marks
2.	Viva – voce (External)	50 Marks

Non-Major Elective Courses (PG)

Sem.	Course Code	Non-major Elective Course Name	Credits	Hrs. / Week	Marks		Total
					Int.	Ext.	
II	9MF2N1	**Non-major Elective – I** : Fashion Designing	2	3	25	75	100
III	9MF3N2	**Non-major Elective – II** : Fashion and Apparel Merchandising	2	3	25	75	100

Skill Component | **Theory**

Semester – I			
Course Code : 9MF1C1	**Core – I - Advanced Textile Science**	**Credits: 5**	**Hours: 5**
Objectives	➢ To understand the different fibre and it manufacturing process, uses. ➢ To know about the fabrication process and it advanced techniques.		
Unit-I	**FIBRE SCIENCE** **Textile fibres classification: Natural fibres:** Classification of natural textile fibres - Essential and desirable properties of textile fibres - morphological structure, Chemical composition, properties and end uses. Artificial fibres**:** History of development, Polymer, Introduction of polyester, nylon, polyolefin, viscose regenerated fibre - Concepts of regeneration of fibre - Raw material for synthetic fibres - Manufacturing sequence of Synthetic fibres.		
Unit-II	**YARN MANUFACTURE** **Pre - Cleaning of Cotton**: Ginning - Mixing, types of mixing & blending - Blow room, Lap feed, Chute feed systems – Carding. Preparatory Process: Drawing – Breaker, finisher – Comber preparatory – Sliver lap, ribbon lap, uni lap – simplex. Yarn manufacturing: Spinning – count – twist – conversion – yarn – classification of yarn – fancy yarns – sewing threads.		
Unit-III	**FABRIC MANUFACTURE –WEAVING** **Weaving preparatory process** – warping, sizing, drawing- in, Denting-in, Gaiting – in, pirn winding - Weaving: Looms - Sequence of material flow – Weave – Draft plan – Peg plan – Loom Types – Primary and Secondary motions – Shuttle looms – Shuttle less looms – Hand loom – Power loom – Projectile loom – Rapier loom – Airjet loom – Water jet loom – Multiphase loom - Dobby, e- Dobby, Jacquard, e- Jacquard, application of fabrics.		
Unit-IV	**FABRIC MANUFACTURE – KNITTING** **Knitting** - Classification of weft knitting machine - Elements of knitting machine - Technology of loop formation - Geometry of loop structure - Relation between yarn count, machine gauge and stitch density. Classification of knit-structures - Loop formation on single jersey, Rib machines and inter lock machines - Knitting notation - Socks knitting technology. Warp Knitting - Introduction - Classification of warp knitting – Netting – Types - Lacing – Classification of laces.		
Unit-V	**NON-WOVEN MANUFACTURE** **Non woven**: Fibre characteristics needed for the manufacture of non - woven - Manufacturing passage for the felt preparation - Web characteristics and their influence properties - Process variable and their effect on properties of non woven. Application of non-woven fabrics in different areas. **Bonding:** Various system of bonding the web and their merits - Flocked fabric - Laminates - latest development in non-woven industry. Braiding – Basic braid structures – Crocheting – Tatting- End uses.		

Reference and Text Books:-

Gandhi, K. L. (2012). *Woven Textiles – Principles, developments & applications.* Cambridge: Woodhead Publishing.

Gohl, E.P.G. & Vilensky, L.D. (2009). *Textile Science*. New Delhi: CBS Publishers.

Kathryn L. Hatch. (1993). *Textile Science*. USA, Minnesota: West Publisher Limited.
Klein, W.D. (2010). *Technology of Spinning*. Manchester: Textile Institute.
Lord, P. R. & Mohamed, M. H. (2010). *Weaving: Conversion of Yarn to Fabric*. Cambridge: Woodhead Publishing.
Sara J. Kadolph. (2010). *Textiles*. New Jersey: Prentice Hall.
Marks, R. & Robinson, A.T.C. (1976). *Principles of Weaving*. Manchester: Textile Institute.
Marks, R. & Robinson, A.T.C. (1986). *Weaving Mechanism*. Manchester: The Textile Institute.

Outcomes	The students are able to ➢ Understand the performance characteristics of fibre and their production process. ➢ Acquire knowledge on nonwovens manufacturing techniques and its applications.

Skill Component | **Theory**

Semester – I			
Course Code : 9MF1C2	**Core - II - Apparel Production Planning and Control**	**Credits: 4**	**Hours: 4**

Objectives	➢ To understand the concepts in production planning and control. ➢ To know about different method of apparel manufacturing systems. ➢ To understand the material management and their movement in the production.
Unit-I	**Production Planning and Control** Definition, Objectives of production control, relationship of production control to the functional areas of a manufacturing organization - Pre planning: Pre-production functions, Importance of Preproduction function - Lead Time - Product development: steps from prototype to production sample - Product data management.
Unit-II	**Plant Layout** Plant site location - Plant Layout: definition and types of production layout, criteria for evaluation of a plant layout - Basic production line layout - Determining minimum space requirement, Government regulations for plant layouts.
Unit-III	**Apparel Manufacturing Systems** **Production systems:** Progressive bundle system, Unit production system, multiple flow system, modular manufacturing systems and their advantages and disadvantages - Guide lines for choosing suitable production system. **Flow Process Grids and Charts:** Flow process grid construction, flow process grids for production control. **Cut Production Analysis:** Cut order planning – types of spreads, spreading methods, marker utilization, economic cut quantities.
Unit-IV	**Material Management** Just in Time Production system (JIT), Optimized Production Technology (OPT), Inventory Modeling – Economic order quantity (EOQ). **Control Forms**: Functions of cutting order, cutting ticket, bundle control sheet. **Principles of Scheduling:** Scheduling charts – Gantt chart, backlog graph. Scheduling techniques Network representation – CPM and PERT.
Unit-V	**Plant Loading and Capacity Planning** Determination of machine requirements for a new factory -calculation of labour requirements. **Line Balancing:** Determination and allocation of man power and machines for balanced production in existing plant for a given target - application of line balancing techniques – balance control.

Reference and Text Books:-

Chuter, A.J. (2004). *Introduction to Clothing Production Management*. UK, Oxford: Blackwell Science.

Cooklin, G., Hayes, S. & McLoughlin. (2006). *Introduction to Clothing Manufacture*. UK, Oxford: Blackwell Publishing.

David J. Tyler. (1991). *Material Management in Clothing Production*. UK, Oxford: Blackwell Science.

David J. Tyler. (2008). *Harold Carr & Barbara Latham's - The Technology of Clothing Manufacture*. UK, Oxford: Blackwell Publishing.

Garg, R.K. & Sharma V. (2003). *Production Planning and Control Management*. New Delhi: Dhanpat Rai Publishing.

Harold Carr & Barbara Latham. (1994). *The Technology of Clothing Manufacture*. New Delhi: Om Book Service.

Jacob Solinger, (1998). *Apparel Production Handbook*. New York: Reinhold Publications.

Karthik, T., Ganesan, P. & Goplakrishnsn, P. (2016). *Apparel Manufacturing Technology*. USA, Florida: CRC Press.

Martand Telsang, (2008). *Industrial Engineering and Production Management*. New Delhi: S. Chand & Company Limited.

Rajesh Bheda, (2002). *Managing Productivity of Apparel Industry*. New Delhi: CBS publishers and distributors.

Outcomes	The students gain knowledge in ➢ Basic techniques of production planning & control in garment industry. ➢ Choose the suitable plant site location, layout and production system for apparel industry. ➢ Prepare and analyze the flow process grids, control forms and scheduling charts for production control in apparel industry.

Skill Component | **Practical**

Semester – I			
Course Code : 9MF1P1	**Core – III - Advanced Pattern Making – Lab**	**Credits: 5**	**Hours: 5**

Objectives	➢ To study the basic and advanced techniques followed in pattern making. ➢ To understand and develop pattern for different types of garments.

1. Basic Body measurements, preparation of size chart.
2. Drafting basic slopers, trueing darts for slopers, developing dartless slopers.
3. Dart manipulation – single and double dart series.
4. Fullness - gathers, pleats, tucks.
5. Princess line variation – blouson, fullness on the princess lines. Armhole princess line dress.
6. Flanges and classic empire.
7. Halters-V neck.
8. Surplice waist- one shoulder décolletage draped surplice.
9. Vests.
10. Cowls- Back armhole and pleated.
11. Collars –Sailor, roll wide collar and stand.
12. Sleeves – Kimono and raglan variations.
13. Skirts –Pegged, tiered, pleated wraparound, skirts and uneven hemlines, peplum, flared skirt.
14. Pants – length variations, bell bottom pants, body fitting pants and other types.
15. Jackets and coats.
16. Prepare industrial pattern for some design.

Outcomes	The students get insight knowledge ➢ Manipulate given patterns using principle of dart manipulation. ➢ Develop paper patterns for various garments and garment components.

Skill Component | **Practical**

Semester – I			
Course Code : 9MF1P2	**Core - IV - Advanced Draping – Lab**	**Credits: 4**	**Hours: 4**

Objectives	➢ To study the basic and advanced techniques followed in Draping techniques. ➢ To understand and drape the design for different designs.

Preparation of fabric for Draping

1. Draping the pattern on dress form, Converting or Trueing the Pattern, Pattern Development, Construction of Garment and fitting of final garment on dress form.
   - Halter
   - Princess bodice and its variation
   - Cowls - wrapped neckline cowls
   - Surplice bodice, Sheath, blouson
   - Draping and Garment constructions of women with design variations
   - Draping and Garment constructions of men with design variations
2. Design Variations (Kimono, Raglan Sleeve Designs, Collars, Cowls, Pleats, darts, Flounces, Ruffles, godets).

Outcomes	The students are able to ➢ Drape the different variation in bodice like halter, cowl, and surplice. ➢ Create own design in adopting basic designs

General Component | **Theory**

Semester - I			
Course Code : 9MF1G1	**General – I - Historic, World Costume and Textile**	**Credits: 4**	**Hours: 4**

Objectives	➢ To create interest among the students about historic costumes and its adoption. ➢ To get insight knowledge about the growth and development of world costumes.
Unit-I	The Prehistoric reference – development - adoption of fibrous apparel -Beginning of costume - Origin of clothing, Growth of dress, Earlier decoration of textiles of painting, and other methods - hand printing - screen printing - roller printing. Costumes of ancient civilization - Egypt, Greece and Roman, French costume- French costume during renaissance 450 to 1500 AD and 1700 AD.
Unit-II	English costume - English costume during middle, ages- American costume- American from 18th to 20th century.
Unit-III	European countries - Norway, Sweden, Denmark, Scotland, Austria, Switzerland, Hungary, Poland, Ukraine.
Unit-IV	Far Eastern Countries - Mongolia, China, Japan, North and South Korea, Sri Lanka, Pakistan, Burma, Thailand, Philippines.
Unit-V	African countries - Costumes of North, East, West and South - Middle East Countries Turkey and Iran, Costumes of Arab Peninsula.

Reference and Text Books:-

Das, S.N. (1969). *Bombay Costumes of Indian and Pakistan*. Mumbai: D B TaraporevaIa Sons & Co.

Eoan, C. (1985). *Costumes throughout the Ages*. USA, Philly: J B Lippincott.

Harl Kohler, (1963). *A History of Costume - Dover Fashion and Costumes.* New York: Dover Publications.

James Laver, (1968). *Costume through the Ages*. New York: Simon and Schuster publications

Phyllls G. Tortora., Sara B. Marcketti. (2015). *Survey of Historic costume Study Guide*. New York: Fairchild publications.

Rachel H. Kemper. (1977). *The History of Costume*. New York: W.W Norton & Co Inc.

Outcomes	The students get knowledge in ➢ Historic costumes and its prevalence in fashion. ➢ World costume of English costume, European, far eastern and African countries.

General Component | **Theory**

Semester – I			
Course Code : 9MF1G2	**General - II - Eco Textiles and Sustainability**	**Credits: 4**	**Hours: 4**

Objectives	➢ To understand the importance of the Eco textile and its effect on environment. ➢ To create awareness about the natural fibres utilisation and eco standards followed in textile industry.
Unit-I	**Eco-Textiles** Introduction & needs for eco-textiles & its importance - Ecology - Production ecology, Human ecology & Disposal ecology**.** Structure and stability of the ecosystem - European regulation on toxic dyes, chemicals and auxiliaries - Eco-Auditing and Eco-labelling, Eco mark on textiles.
Unit-II	**Natural fibres** Importance of natural fibres in textiles - Major fibres used in textiles - cotton, Jute, linen and silk. Minor fibres used in textiles - sisal, pineapple, coir, nettle. Protein - soya, spider silk etc., Extraction or preparation methods of natural fibre-retting, & its methods, decortications by hand and machine. Recent findings of natural fibres in textile industry.
Unit-III	**Natural Dyes** History and importance - Types of natural dyes- plant, animals and mineral -Madder, indigo, catechu, myrobalan, pomegranate, lac, alum - Extraction methods & application methods-pre, simultaneous and post mordanting. Characteristics of Natural dyed fabrics - Commercially available natural dyes - Recent developments in natural dyes.
Unit-IV	**Natural Finishes** Need for natural finishes. Traditional plants & herbs used in natural finishing. Various plant Components, extraction methods and application. Recent natural finishes on textiles for various applications.
Unit-V	**Eco - Textiles Testing, Standards and Sustainability** Processes adopted for eco-friendliness: Enzyme technology, Foam technology, super critical carbon-di-oxide dyeing & Plasma technology- Glow-discharge method, Corona discharge method & Dielectric barrier discharge method. Toxicology of textile dyes - Eco testing instruments - Eco standards and norms followed in Textile and Garment industry – Social audit, ISO 14000, ISO 9000, SA 8000, CSR and other organisation.

Reference and Text Books:-

Annie Gullingsrud, (2017). *Fashion Fibers*. New York: Fairchild Publishers.

Christie, R.M. (2007). *Environmental Aspects of Textile Dyeing*. Cambridge: Woodhead Publ. Pvt. Ltd.

Dhara Shukla, (2019). *New Trends in Natural Dyes for Textiles*. Cambridge: Woodhead Publ. Pvt. Ltd.

Keith Slater, (2003). *Environmental Impact of Textiles*. Cambridge: Woodhead Publ. Pvt. Ltd.

Leslie Davis Burns, (2019). *Sustainability and Social Change in Fashion*. London: Bloomsbury Publishing.

Maria Mackiewicz, (2019). *Handbook of Natural Fibres* (Vol. 1, 2.). Cambridge: Woodhead Publ. Pvt. Ltd.

Miraftab, M. & Horrocks, A. R. (2007). *Eco Textile – The Way Forward for Sustainable Development in Textiles.* Cambridge: Woodhead Publ. Pvt. Ltd.

Richard Blackburn. (2009). *Sustainable Textiles - Life Cycle and Environmental Impact*. Cambridge: Woodhead Publishing Pvt. Ltd.

Outcomes	The students are able to ➢ Knowledge about the importance of eco-textiles and its implication in safety environment. ➢ Understanding the natural dyes, finishing, eco standards and sustainability.

Skill Component | **Theory**

Semester – II			
Course Code : 9MF2C1	**Core – V - Advanced Textile Design**	**Credits: 4**	**Hours: 4**
Objectives	➢ To study about the different elements of weaving and weave effects. ➢ To know the special weaves and its application in textile design.		
Unit-I	**Elements of weaving** Elements of Woven design – design –draft plan-lifting plan denting order – repeat unit-graphical representation of weave. Basic weave – plain, rib, mat, twill –pointed, broken, herringbone, transposed, elongated and combined twill. Satin, sateen and their modifications.		
Unit-II	**Weave and Weave effects** Crepe weave – honey comb –ordinary and brighten -huck –a-back-mock leno-hop sack weaves. Colour and weave effects – continuous line-dog's tooth –birds eye-spot effects –hairline – strips and checks.		
Unit-III	**Double cloth** Backed cloth – warp and weft backed. Backed cloth with wadded threads - Double cloth –classification and wadded double cloth.		
Unit-IV	**Pile and Figuring weave** Warp pile fabrics -3, pick, 5 pick and 6 pick pile structures Weft pile fabrics – plain back velveteen, weft plush – corded velveteen. Extra Warp figuring –single colour and multi colour planting - Extra Weft figuring Bed Ford Cords - Welts and Piques.		
Unit-V	**Knit structures** Knitting – terms used in knitting. Types of knitting, Weft knit structures – single jersey, interlock, rib and purl - Designing of Weft knit structures - Coloured stitch designs in weft knitting; Pattern and selection devices - Recent technological advancement in weft knitting. Warp knit structures – Raschel and tricot Automatic power flat knitting - Technological advancement in warp knitting.		

Reference and Text Books:-

Ajgaonkar, B. (1998). *Knitting Technology*. Mumbai: Universal Publishing Corp.

David J. Spencer. (2011). *Knitting Technology*. New Delhi: Woodhead Publishing India Pvt Ltd.

Grosicki, Z.J. (2014). *Watson's Textile Design and Colour – Elementary Weaves and Figured Fabrics*. Cambridge: Woodhead Publishing Pvt Ltd.

Grosicki, Z.J. (2018). *Watson's Advanced Textile Design and Colour – Compound Woven Structures*. Cambridge: Woodhead Publishing Pvt. Ltd.

Hayavadana, (2014). *Woven Fabric Structure Design and Product Planning*. Netherland: Elsevier Science & Technology.

Outcomes	The students get insight knowledge ➢ Illustrate the elements of woven fabric design. ➢ Develop elementary fabric structures, weave design, colour and weave effects.

Skill Component | **Theory**

Semester-II			
Course Code : 9MF2C2	**Core - VI - Indian Textile Industry and Trade**	**Credits: 4**	**Hours:4**

Objectives	➢ To educate the students on growth and development of Indian fiber, yarn and textile Industry. ➢ The students are able to understand the government initiatives and programmes about the trade.
Unit-I	Origin, Growth and Development of Indian Textile Industry - Cotton, Wool, Silk, Rayon, Man-Made Textiles, Readymade garments - Technological development in fabric industry: woven and knitting, significance and uses - Technological development in garment industry, significance and uses.
Unit-II	Five year plans for the textile Industry - Recent plan and previous 5 five year plans organizations related to the Textile and clothing Industry - Concept of GATT, MFA, WTO, ALC, GST, Globalization.
Unit-III	Foreign trade document: need, types of documents related to goods, invoice to goods, invoice packing note and list - certificate relating to shipments: shipping bill, cart ticket, certificate of measurement, Bill of lading, airway bill - documents related to payment: letter of credit, bill of exchange - bank certificate for payment - document related to inspection.
Unit-IV	Import procedure and shipment: import license - procedure - special schemes replenishment license - advance license - split up license - spares for after sales service license - code number - bill entry, pre shipment inspection and quality control, post shipment formalities and procedures.
Unit-V	Traditional Textile and Apparel clusters in Tamil Nadu and other state regions - Association for handloom and other textiles - Policies and schemes in apparel sector - Challenges and problems in garment industry.

Reference and Text Books:-

Bindu Oberoi, (2017). The Textile Industry in India - *Changing Trends and Employment Challenges*. New Delhi: Oxford University Press India.

Kavi Kumar, (2018). *A Study of Indian Textile Exports and Environmental Regulations*. New Delhi: Springer Publications.

Mausumi Kar, (2015). *The Indian Textile and Clothing Industry*. New Delhi: Springer Publications.

Peter L. Schwartz., Trevor Rhodes. & Mansour H. Mohamed. (1996). *Fabric Forming Systems*. New Jersey: Noyes Publications.

Sundar A. Shetty. (2001). *India's Textile and Apparel Industry – Growth Potential and Trade and Investment Opportunities*. USA, Washington DC: US International trade commission.

Outcomes	The students are able to ➢ Growth and development of textile industry in different era. ➢ Foreign trade, shipment procedure, import and export policies.

Skill Component | **Theory**

Semester – II			
Course Code : 9MF2C3	**Core - VII- Advanced Wet Processing**	**Credits: 4**	**Hours: 5**
Objectives	➢ To give basic knowledge about the textile wet processing and its application in different textile fibers. ➢ To impart knowledge about the natural processing and material used for the wet processing and to understand the effluent process and recycle application.		
Unit-I	**Preparatory Processing** Introduction, Fibre – Composition - Typical Sequence of Processes: Preparatory process sequence for woven and knitted cotton fabrics – Wet process sequence for polyester, Polyester / Cotton Blend.		
Unit-II	**Dyes** Classification of Dyes - Types of Dyeing Machine: Padding Mangle, Jigger, winch, Beam and Soft flow Jet dyeing machine. **Printing**: Styles of Printing - Methods of Printing: Block, Screen, Transfer, Duplex printing, Pigment Printing, Batik, Khadi - Fixation and After Treatment - Printing Paste Formulation.		
Unit-III	**Finishing & Washing** Necessity for Finishing – Commercial importance of finishing - Soil Release Finish, anti odour and anti microbial finishes Foam Finish, Micro encapsulation techniques in finishing process – Methods of washing – study of modern/industrial washing machines: rotary, swirling, pressure, tumble wash – Stain Removal: various solvents for stain removing blood, tea, rust, oil/grease etc. General rules and ways of stain removal.		
Unit-IV	**Functional washes & Bio process in textile** Stone wash - acid wash - enzyme wash – silicon wash - Enzymes & Proteins – Sources and Applications - Application of enzymes in Textile Chemical Processing - Mechanism of enzyme reactions Bio-scouring - Bio-bleaching - combined bio – processing - bio-polishing - Denim bleaching - bio-finishing and other applications - Evaluation of enzyme treated fabrics.		
Unit-V	**Effluent Treatment Plants** Detail study about characteristic of textile effluent Developments in membrane techniques in the effluent treatment - Energy conservation steps in chemical processing - Low wet pick-up techniques - Causes and remedies for water, air and noise pollution – Bio-Technology in textile effluent treatment plants.		

Reference and Text Books:-

Asim Kumar Roy Choudhury, (2006). *Textile Preparation and Dyeing*. USA, Enfield, NH: Science Publishers.

Asim Kumar Roy Choudhury, (2017). *Principles of Textile Finishing*. Cambridge: Woodhead Publ. Pvt. Ltd.

Bhagwat, R.S. (2000). *Wet Processing Machineries*. Ahmedabad: Mahajan Publications.

Manivasakam, N. (1995). *Treatment of Textile Processing Effluents*. Coimbatore: Sakthi Publication.

Mohd Yusuf, (2018). *Handbook of Textile Effluent Remediation*. New York: Jenny Stanford Publishing.

NCUTE IIT, (2003). Garment Finishing. New Delhi.

Prayag, R S. (1994). *Textile Finishing*. Karnataka: L.R. Prayag publications.
Rao, JV. (2006). Denim Washing. Ghaziabad: NITRA.
Trotman, E.R. (1984). *Dyeing and Chemical Technology of Textile Fibres*. London: Charles Griffin & Co., Ltd.

Outcomes	The students gain knowledge in ➢ Various preparatory processes and dyeing method to produce variety of dyed fabrics. ➢ Environmental hazards caused by the effluents of Wet processing industry.

Skill Component | **Practical**

Semester – II			
Course Code : 9MF2P1	**Core – VIII – Advanced Wet Processing - Lab**	**Credits: 3**	**Hours: 4**

Objectives	➢ To get basic knowledge about the textile wet processing and its application in different textile fibers. ➢ To impart knowledge about the natural dyeing methods and materials used for natural dyeing. Process.

1. Basic preparatory process.
2. Degumming of silk.
3. Dyeing of cotton, silk, wool.
4. Dyeing of synthetic material.
5. Dyeing of blended material.
6. Extraction and application of natural dyes on cotton with different sources.
7. Extraction and application of natural dyes on Silk with different sources.
8. Printing of cotton using pigment colours.
9. Printing of silk and synthetics by using pigment colours.
10. Prepare sample for the following prints.
11. Tie and Dye techniques.
12. Batik printing.
13. Screen printing.
14. Finishing of fabric by using Enzyme.
15. Colour fastness testing.

Outcomes	The students are able to ➢ Preparatory process and dyeing methods of different types of fabrics. ➢ Printing methods natural sources for dyeing and finishing.

Skill Component | **Practical / Viva Voce**

<table>
<tr><th colspan="4">Semester – II</th></tr>
<tr><td>Course Code : 9MF2MP</td><td>Core – IX – Mini-Project</td><td>Credits: 3</td><td>Hours: -</td></tr>
<tr><td>Objectives</td><td colspan="3">The Head of the Department / Director will assign a faculty member as the Mini-project Guide to a particular student concerned in the beginning of the second semester. The student has to fix the project theme / title by submitting a proposal. The work flow of the chosen project and other related guidelines can be had from the Mini-project Guide. During this second semester, there will be two 'Reviews' conducted by the Department and the students must present themselves in person and present the mini-project progress in the form of presentation in front of the mini-project guide. At the end of the semester, the student should prepare and submit a mini-project documentation report (not less than 30 pages, A4 size). The guide will award for 75 marks based on the performance in two reviews and the quality of the mini-project documentation report. The final mini-project viva-voce for 25 marks will be conducted by the Department with two examiners (one mini-project guide and another one designated by the COE) and the cumulative marks for 100 will be given by the Department to the COE.
<table>
<tr><th>Description</th><th>Marks</th></tr>
<tr><td>Internal marks</td><td>75</td></tr>
<tr><td>Viva-Voce</td><td>25</td></tr>
<tr><td>Total</td><td>100</td></tr>
</table>
</td></tr>
<tr><td>Outcomes</td><td colspan="3">The students get insight knowledge
➢ Take-up their own project in garment production and other fashion area.
➢ Various areas and apply creative knowledge to invent innovative products.</td></tr>
</table>

Skill Component | **Theory**

Semester – III			
Course Code : 9MF3C1	**Core - X - Technical Textiles**	**Credits: 4**	**Hours: 5**

Objectives	➢ To study about different areas of technical textiles and fibers used. ➢ To understand the different COE for each category of Technical textiles.
Unit-I	**Technical Textiles Introduction** Definition and Scope, history of technical textiles, milestone in the development of Technical textiles, and Future growth of technical textiles industry. Classification of technical textiles and its application in textile and apparel field.
Unit-II	**Technical Fibres** High – Strength and high-modulus organic fibres, high chemical and combustion - Resistant fibres, high performance inorganic fibres, ultra-fine and novelty fibres. Technical yarns used – staple fiber yarns, filament yarns - Technical woven, knitted structure and nonwoven structure - Finishing of technical textiles.
Unit-III	**Classification of Technical Textiles** Agrotech, Hometech, Oekotech, Buildtech, Clothtech, Geotech, Indutech, Meditech, Mobitech, Oekoteck, Packtech, Protech and Sport tech - Raw material and technology used for the textiles and its application areas. **Agro Textiles** – Need for Agro Textiles, Properties Required, Types of Agrotech products and their application, Fibres used, types, properties and functions.
Unit-IV	**Geo Textiles & Medical Textiles** **Geo Textiles:** Classification, Functions, Design, Properties, Raw materials, and Applications. **Medical Textiles:** Classification – Hygiene Textiles – Wound care products – Surgical Textiles. Medical Products – Vascular grafts – Cardiac supportive devices – Embroidered implants. Implantable medical textiles – Tissue engineering – Biomedical Textiles – Antibacterial Textiles – Antimicrobial wound dressings.
Unit-V	**Safety and Protective Textiles & Home Textiles** **Safety and Protective Textiles:** Thermal insulation materials; study of water vapour permeable / water proof materials, military combat clothing systems; camouflage textiles, UV wave band, visible wave band, visual decoys; infrared camouflage; protective textiles against micro organisms, chemicals and pesticides, evaluation technique. Military and Defence Textiles: Protective clothing, Textiles used in defence systems, other applications. **Home Textiles:** Classification, function, properties required in home textiles, raw materials and application.

Reference and Text Books:-

Alagirusamy, R. & Das, A. (2010). *Technical Textile Yarns - Industrial and Medical Application*. New Delhi: Woodhead Publishing India Pvt Ltd.

Horrocks, A R. & Anand, S C. (2016). *Hand book of Technical textiles*. Cambridge: Woodhead Publishing Ltd.

Sabit Adanur & Wellington Sears. (2017). *Handbook of Industrial Textiles*. Florida: CRC Press.

Senthil Kumar, R. (2013). *Textiles for Industrial Applications*. Florida: CRC Press.

Outcomes	The students are able to ➢ Knowledge on the principle and application of technical textiles in textile and fashion. ➢ Understand the different novelty hi tech fibers, yarn and fabric used in technical textiles.

Skill Component | **Theory**

Semester – III			
Course Code : 9MF3C2	**Core - XI - Textile Testing**	**Credits: 4**	**Hours: 4**

Objectives	➢ To study the fiber, yarn and fabric testing. ➢ To get knowledge about high volume instrument used for the textile testing.
Unit-I	**Introduction to testing** Terminology of testing - Selection of samples for testing: fibre, yarn and fabric sampling. Standard RH and temperature for testing - Measurement of Moisture regain - Conditioning oven & Shirley Moisture meter.
Unit-II	**Fiber Testing** Cotton fiber length: Baer Sorter – Fineness: Sheffield micronaire - Maturity - Caustic Soda swelling - Strength - Stelometer. Determination of trash and lint in cotton - Shirley trash analyzer.
Unit-III	**Yarn Testing** Yarn numbering system - Conversion of count from one system to another -Instruments for count determination: quadrant balance, Beesley balance - Yarn strength testing: Principles of CRT, CRL, CRE – Single yarn strength tester, Lea strength tester - Yarn twist: Direction of twist, twist multipliers, twist testers - Yarn Evenness: methods of measuring evenness – Black board appearance, Uster evenness tester, Yarn faults classification, Uster Classimat - Yarn hairiness and crimp testing.
Unit-IV	**Fabric Testing** Fabric Particulars – Length, width, weight, cover factor - Fabric Strength: tensile, tearing and hydraulic bursting strength tester - Fabric Abrasion: Martindale abrasion tester - Fabric Pilling: ICI Pill box tester - Fabric drape – Measurement by Drape meter - Fabric Stiffness: Shirley stiffness tester - Fabric crease resistance and crease recovery: Measurement of crease recovery - Fabric permeability: Shirley air permeability tester - Fabric permeability to water: Bundersmann tester
Unit-V	**Colour Fastness of Textiles, Garment and Accessories Testing** **Colour Fastness of Textiles:** Colour fastness to washing, rubbing, sunlight, perspiration and dry cleaning test, Computer Colour Matching – Colour measurement and Whiteness Index. **Garment Testing:** Seam strength, Dimensional Stability, Spirality. **Accessories Testing**: Zipper, Buttons, Sewing thread, Peel bond strength.

Reference and Text Books:-

Angappan, P. & Gopalakrishnan, R. (2002). *Textile Testing*. Komarapalayam: SSM Institute of Textile Technology.

Booth, J.E. (2018). *Principles of Textile Testing*. New Delhi: CBS Publishers and Distributors Pvt. Ltd.

Elliot B. Grover., Dame S. Hamby. (2016). *Handbook of Textile Testing and Quality Control*. New Delhi: Wiley India Edition.

Kothari, V. K. (1999). *Testing and Quality Management* (Vol.1). New Delhi: IAFL Publications.

Koushik, C.V. & Chandrasekaran, R. (2004). *Textile Testing*. New Delhi: NCUTE Publication.

Marjorie A. Taylor. (1990). *Technology of Textile Properties*. London: Forbes publications Ltd.

Saville, B. P. (2002). Physical *Testing of Textiles*. Cambridge: Woodhead Publishing Ltd.

Outcomes	The students get insight knowledge ➢ Learn the basic terms and definition of apparel testing and methods of evaluation. ➢ Understanding the various principles and methods are used for fibre, yarn, fabric testing.

Skill Component | **Practical**

Semester – III			
Course Code : 9MF3P1	**Core - XII - Textile Testing – Lab**	**Credits: 4**	**Hours: 4**

Objectives	➢ To study the fiber, yarn and fabric testing. ➢ To know about interrelation factor of textiles properties.

1. Determination of Fiber length using Baer Sorter Method.
2. Determination of Yarn Count and CSP.
3. Determination of yarn count by Beesley balance.
4. Determination of Yarn twist – Double Yarn.
5. Determination of Single Yarn Strength.
6. Classification of Fabric defects and evaluation using 4 point system.
7. Determination of Abrasion Resistance of the given fabric.
8. Determination of Crease Recovery of the given fabric.
9. Determination of Drape of the given fabric.
10. Determination of Pilling of the given fabric.
11. Determination of Tensile Strength of the given fabric.
12. Determination of Bursting Strength of the given fabric.
13. Determination of Colour Fastness to Washing and Crocking of the given fabric.
14. Determination of Colour Fastness to Perspiration of the given fabric.
15. Determination of Dimensional Stability of the given fabric.
16. Determination of Tear Strength of the given fabric.

Outcomes	The students gain knowledge in ➢ Prepare the test specimen and determine the various fiber and yarn properties. ➢ Prepare the test specimen and determine the various fabric properties.

Skill Component | **Practical**

Semester – III			
Course Code : 9MF3P2	**Core - XIII- CAD in Pattern Making - Lab**	**Credits: 4**	**Hours: 4**

Objectives	➢ To understand the CAD application in garment industry. ➢ To provide overall skill about the pattern making, pattern lay planning, marker efficiency and grading of patterns.

1. Prepare the specification sheet using CAD for industrial production.
2. Prepare Pattern layout and marker efficiency using specification sheet.
3. Prepare pattern making, Grading and marker planning for the following garments.
   - Children's wear - Yoke frock, Baba suit, Summer frock, Skirt and tops
   - Women's wear - Churidhar, Tops, Nightie, Princess line dress
   - Men's wear - Slack shirt Full sleeve, Bermudas, Pleated trouser Bell bottom and Polo T- Shirt

Outcomes	The students are able to ➢ Create own designs and make pattern and grading the pattern with CAD software. ➢ Design and making pattern for kids, women's and men's wear.

Skill Component

Practical

Semester - III			
Course Code : 9MF3C4	**Core – XIV - Finishing Skills in Fashion Technology**	**Credits: 2**	**Hours: -**

Objectives	➢ To refresh the knowledge of students in various fields of Fashion Technology in order to prepare them to face their career interviews.
Unit-I	**Textile fibres** Natural and synthetic fibers - morphological structure, Chemical composition, properties and end use - Raw materials used - Manufacturing sequence of fibres - Applications of high end fiber.
Unit-II	**Apparel Manufacturing Industry** Nature and Scope - Types of apparel production, process sequence, and major function in apparel industry. Apparel trade association.
Unit-III	**Wet Processing** Textile processing, importance of eco textiles and green textiles.
Unit-IV	**Apparel Trade** Apparel industry and trade, organization involved in trade.
Unit-V	**Technical Textiles** Technical textiles- growth-application.

Reference and Text Books:-

Bhagwat, R.S. (2000). *Wet Processing Machineries*. Ahmedabad: Mahajan Publications.

Gohl, E.P.G. & Vilensky, L.D. (2009). *Textile Science*. New Delhi: CBS Publishers.

Horrocks, A R. & Anand, S C. (2016). *Hand book of Technical textiles*. Cambridge: Woodhead Publishing Ltd.

Karthik, T. (2016). *Home Textiles*. New Delhi: Astral International Pvt Ltd.

Klein, W.D. (2018). *Technology of spinning*. Manchester: Textile Institute.

Normia D'Souza, (1998). *Fabric Care*. New Delhi: New Age International Pvt. Ltd.

Peter L. Schwartz., Trevor Rhodes. & Mansour H. Mohamed. (1996). *Fabric Forming Systems*. New Jersey: Noyes Publications.

Trotman, E.R. (1984). *Dyeing and Chemical Technology of Textile Fibres*. London: Charles Griffin & Co., Ltd.

Note:

This paper aims at seamless preparation of the students for attending / facing placement technical interviews. At the end of the semester, an evaluation will be done for 100 marks with 100 objective type questions. The question paper will be prepared and evaluated by the Department/ Alagappa Institute of Skill Development it.

Outcomes	The students gain knowledge in ➢ Various fields of Fashion Technology in order to prepare them to face their career interviews. ➢ This exercise would update their knowledge and skills in the fashion field.

Skill Component | **Practical**

Semester – IV			
Course Code : 9MF4G1	**Portfolio Presentation and Design Collection – Lab**	**Credits: 6**	**Hours: 6**

Objectives	➢ To help the student to identify their skill in the fashion designing field. ➢ To prepare their portfolio based on theme and trend which may help in their carrier.

A. Portfolio Presentation

1. Customer profile
2. Inspiration board
3. Mood Board
4. Colour board
5. Flat Sketch board
6. Illustration board
7. Swatch board
8. Trim board
9. Accessory board

B. Design garments for occasion/season - with a theme

1. Winter collection - 3 garments
2. Summer Collection -3 garments

Guidelines:

Inspiration board

- Image collection from books and magazines by scanning, Photography and drawing, use of objects for mood creation or prepare mood board by using Photoshop.

Mood board

- Develop a theme based on group discussion, mind mapping, and brain storming.

Colour board

- Spotting theme board, mood board and inspiration board arrive to the colour board.

Flat sketch board

- Develop front, side and back views.
- Construct the garments for anyone above categories.

Outcomes	The students get insight knowledge ➢ Prepare own portfolio which exhibits their creative skills. ➢ Update the fashion knowledge about the fabric colour and trim forecasting.

Skill Component | **Theory**

Semester – IV			
Course Code : 9MF4G2	**Visual Merchandising**	**Credits: 6**	**Hours: 6**
Objectives	➢ To give a precise knowledge about visual merchandising and it importance in garment retailing. ➢ To understand the material used in visual merchandising and effective display management.		
Unit-I	**Introduction** Objectives, Visual merchandising and display, purpose of visual merchandising, store image, target customers, seasonal visual merchandise and windows. Elements and principles of design in visual merchandise - Introduction, objective, design elements - color, texture, line; Principles - balance, emphasis, proportion, rhythm, repetition.		
Unit-II	**Strategic Planning** Analysis of target audience. Segmentation of market, Analysis of buying motives & brand preferences. Understanding Marketing & Sales Management. Basic Principles - Windows designs, showroom, boutique display. Colour theory and harmony application with music, lighting and mannequins.		
Unit-III	**Display and Display Settings** Types of display, one – item, line of goods, related merchandise, assortment, promotional vs. institutional; Type of display settings - Realistic, environmental, semi-realistic, fantasy, abstract. Store and window settings - Exterior of the store, signs, marquees, outdoor lightning, banners, planters, awning; Window in store front - The angled front, the arcade front, the corner, display, closed back, open-back, island, shadow boxes, elevated, deep, tail. Music & Lighting - Selection of music. Advantages & disadvantages of using music, understanding lighting patterns. Role of lighting in visual merchandising, Colours and types of lightings.		
Unit-IV	**Mannequin, Attention Drawing Devices & Merchandise Display** **Mannequin**: Types of mannequins - realistic, semi realistic, abstract, semi abstract, headless; dressing up of mannequin. **Attention drawing devices:** Attention drawing devices, color, lighting, line and composition. Scale, contrast, repetition, humor, mirrors, nostalgia, motion, surprise and shock, props. **Merchandise display:** Introduction, objectives, planning a display, visual merchandiser in store promotion, scheduling the promotion.		
Unit-V	**Visual Merchandising** Approaching clients. Develop according to client requirements. Handling client objections. Developing them and idea for client presentation. Finalization of Display - Motive & Marketing consideration for every merchandise display. Estimation & finalizations of the contract. Assignments & Evaluation. Planning & inventory control system.		

Reference and Text Books:-

Gini Stephens Frings, (2004). *Fashion Concept to Consumer*. New Jersey: Prentice Hall.

Jay Diamond & Ellen Diamond. (2006). *Contemporary Visual Merchandising and Environmental Design*. New Jersey: Prentice Hall.

Martin M. Peglar. (2010). *Visual Merchandising and Display*. New York: Fairchild Publishers.

Outcomes	The students are able to ➢ Learn and know the store image, window display, mannequin and interior & exterior design. ➢ Understanding the marketing and sales management and Visual merchandising.

Skill Component | **Practical / Viva Voce**

Semester - IV			
Course Code : 9MF4MR	**Core – XV – Industrial Internship with Project Work**	**Credits: 18**	**Hours: 18**

Objectives

The objective of M.Voc Fashion Technology Programme is to produce Fashion designers and they are able:

- To get employment in industry, government, or entrepreneurial endeavors to demonstrate professional advancements through significant theoretical and practical knowledge and expanded leadership responsibilities.

The student has to attach himself / herself with an organization related to his / her specialization approved by the (Alagappa Institute of Skill Development) Department for a period of entire semester for Industrial Internship Training with Project. One personnel of that industry and a faculty of the Department will be external and internal guides of the project respectively. The project theme, work flow and other related guidelines can be had from the Industry. During this Internship period there will be two 'Project Reviews' conducted by the Department and the students must present themselves in person and present the project progress in the form of presentation in front of the internal guide. At the end of the internship, the student should prepare a project documentation report (not less than 50 pages, A4 size). Student should also produce a certificate of internship from the organization. The internal guide will award for 100 marks based on the performance in two reviews and the quality of the project documentation report. The external guide (industry personnel) of the particular student will award for 50 marks. The cumulative of these two marks for 150 will be considered as internal mark. The final project viva-voce for 50 marks will be conducted by the Department with two examiners and the cumulative 200 marks will be given by the Department.

Description	Department	Industry	Total marks
Internal marks	100	50	150
Viva-Voce	50	--	50
Total	150	50	200

Outcomes

The students gain knowledge in

- Experience in the garment industry which supports their knowledge updating.
- Encourage students to start up their career in apparel and garment industry.

Skill Component | **Theory**

Semester - I			
Course Code : 9MF1E1	**Elective – I - Home Textiles**	**Credits: 4**	**Hours: 4**
Objectives	➢ To understand the importance of household materials and it application areas. ➢ To know about the varieties of Home textile products and fibre used for manufacturing the products.		
Unit-I	**Introduction** **Home Textile in India**: Introduction to home textile – Domestic and Global market for home textiles - Major production centres in India. **Home furnishing:** Definition, types of furnishing materials: woven and nonwoven - Factors affecting selection of home furnishing: fiber, yarn, fabric & finishes - Finishes for home furnishings: soil repellency, mosquito repellency, flame proofing, dust repellency, anti microbial finish.		
Unit-II	**Window Treatment** **Doors and Windows**: types - Window treatment – exterior, interior - hard and soft - Curtains and Draperies – types, parts, factors for selection and construction, accessories used. **Wall Coverings**: Requirements, benefits, types - carpet as wall covering - Materials and manufacturing of fabrics – Application, end use – colour concepts.		
Unit-III	**Living and Bed Room Furnishing** **Living room:** types **-** sofa, sofa covers, cushion / cushion covers, Bolster and bolster covers. **Bed linen:** types - Bed spread, bed sheets, mattress and mattress covers, pillow and pillow covers – process sequence for bed linen - use and care - Quilt: types - Hand quilting.		
Unit-IV	**Floor Covering and Bath Linen** **Floor covering**: definitions – fibre used – classification of floor covering - Types of carpets – Comparison of carpets - Carpet cushions – Manufacturing Process - Rugs – Types of rugs - uses and care of floor covering. **Bath Linen:** categories – bath robe – Sizes & design elements - Terry towels – Classification – Ranges – Fibre used – Standard sizes – Manufacturing flow chart – Construction of terry towels – Market share - Production centers. Care and maintenance of bath linen.		
Unit-V	**Table Linen & Kitchen Linen** **Table Linens** - Place mats and table cloths - Definition – Placemats – Varieties of placemats – Making process flow – Instruction – tips & warnings – Reversible placemats – Stone placemats — table cloths – Types, material & manufacturing. **Kitchen Linens** - Introduction - Material used – Kitchen products – Oven mitten – Pot holder – Apron – Napkins – Doilies – Kitchen mats – Dining table cloth – tea cozy – kitchen curtain – Table runner – Kitchen rugs – Types of stitches and seams used.		

Reference and Text Books:-

Anita Tyagi, (2011). *Textiles for Apparel and Home Furnishing*. New Delhi: Sonali Publications.

Caroline Lebea, (1994). *Fabrics the Decorative Art of Textiles*. London: Thames and Hudson Ltd.

Cheryl Mendelson*, (*2005). *Home Comforts the Arts and Science Keeping House*. New York: Scroper Publisher.

David Holloway, (2000). *The Essential Book of Home Improvement Techniques*. London: Marshals Publications.

Ghosh Dr. Ashis Kumar. (2011). *Traditional Knowledge of Household*. New Delhi: Daya Publishing House.

Hamlym, (2001). *Bed and Table Linen*. New York: Octopus Publishing Group Ltd.
James Merrell, (1995). *Living with Decorative Textiles*. London: Thames and Hudson Ltd.
Jay Diamond & Ellen Diamond. (2007). *Fashion Apparel, Accessories & Home Furnishings*. New Jersey: Pearson Prentice Hall.
Karthik, T. (2016). *Home Textiles*. New Delhi: Astral International Pvt Ltd.

Outcomes	The students are able to ➢ Generalize knowledge about the varieties of home furnishing materials and finishing methods. ➢ Analyze the knowledge on suitability of furnishings and care & maintenance of home furnishing materials.

Skill Component | **Theory**

Semester – I			
Course Code : 9MF1E2	**Elective – I - Knitting Clothing Technology**	**Credits: 4**	**Hours: 4**

Objectives	➢ To know about the knitting industry growth and it contribution in Indian Economy. ➢ To get insight knowledge about the knitting method and fabric manufacturing process, quality management.
Unit-I	Introduction to knitted fabrics - Difference between knits and woven's – Indian knitting industry: past, present and future.
Unit-II	Hand knitting, terms used in knitting, weft knitting & warp knitting –introduction and comparison. Parts and functions of weft knitting and warp knitting – calculations used in knitting.
Unit-III	Wefts knit structures – single jersey or plain – rib – purl – interlock – Knit float-tuck and stitch structures – designing of weft structures. Warp Knit Fabrics –warp knit structures – under lap – overlap – closed lap and open lap stitches**.**
Unit-IV	Latest Knitting machines, weft knitting machines: Flat bar, straight bar, Circular- warp knitting machines: Raschel, Tricot-Knitted fabric defects - Drop Stitches, Barriness, Streakiness, Imperfections, Contaminations, Surface hairiness & pilling, Dyeing patches, Stains, Colour fading, Shade variations, High shrinkage.
Unit-V	Knitted garment manufacture: marker planning, spreading, cutting, stitching, checking, quality control, pressing(or)ironing, packing, final inspection, shipping- knit wear garment designs and developments.

Reference and Text Books:

Ajgaonkar, D B. (1998). *Knitting Technology*. Mumbai: Universal Publication Corp.

Cegielka, L. (1989). *The knitting Industry - Present Needs, Future Requirements*. Manchester: The Textile Institute.

David J. Spencer. (2014). *Knitting Technology*. London: Pergamon press.

Jonh Arthur, (2009). *An Introduction to Weft Knitting*. UK, Watford: Merrow Publications.

Samuel Raz, (1993). *Flat Knitting Technology*. Germany: Universal Maschinenfabrik.

Terry Brackenbury, (2005). *Knitted Clothing Technology*. Oxford: Blackwell Science.

Outcomes	The students get insight knowledge ➢ Knitting and principles involved in making knitted fabric. ➢ Latest machines used in knit manufacturing.

Skill Component | **Theory**

Semester - I			
Course Code : 9MF1E3	**Elective – I - Clothing Appearance and Fit**	**Credits: 4**	**Hours: 4**

Objectives	➢ To understand the perception of body appearance and it relation to clothing. ➢ To know the assessment of clothing appearance and fit. ➢ To study about the sizing system and importance of body Scanning system.
Unit-I	**Perception of body appearance and its relation to clothing** Introduction – Beauty - Facial attractiveness, body physical attractiveness, body image, modification of body appearance by dressing, fabric properties related to clothing appearance & fit.
Unit-II	**Assessment of Clothing Appearance** Introduction - Assessment of fabric surface smoothness, seam appearance, crease retention, appearance retention of finished garments and reliability of subjective assessment. Objective evaluation of fabric wrinkling, fabric pilling, seam pucker, overall garment appearance.
Unit-III	**Assessment of Clothing Fit** Definition of fit - Influences on clothing fit, testing methods for dimensional fit, subject rating scales, subjective fitting guide, Objective evaluation of clothing fit - Moire's optics, algebraic evaluation of clothing fit, clothing waveform, pressure valuation of clothing fit, 3D modelling of pressure fit. Pattern alteration for fit, prediction of garment patterns from body measurements.
Unit-IV	**3-D Body Scanning** Introduction - global development of body scanners, principles and operations of body scanning technologies and bench marking - Challenges of 3D body scanning - Latest national size survey using 3-D body scanner - Garment drape - measurement of fabric drape, empirical prediction of fabric drape, dynamic and seamed fabric drape, modelling fabric and garment drape, drape models in commercial CAD and internet systems.
Unit-V	**Human Anthropometrics and Sizing Systems** Terms and definitions - Traditional anthropometry - Historical development of sizing system, international sizing, principles of sizing systems - Tech packs preparation for men, women and children. Three-dimensional (3-D) apparel design systems for pattern generation and garment fit - virtual fitting on the internet.

Reference and Text Books:-

Fan W. Yu., Hunter, L. (2004). *Clothing Appearance and Fit - Science and Technology*. Netherland: Elsevier.

Jay Calderin, (2004). *Form and Fit*. Netherland: Elsevier Publications.

Sarah Veblen, (2012). *The Complete Photo Guide to Perfect Fitting*. Minneapolis MN: Creative Publishing International.

Vincent G. Duffy. (2016). *Digital Human Modelling*. Florida: CRC Press.

Deepti Gupta, & Norsaadah Zakaria. (2014). *Anthropometry, Apparel Sizing and Design*. Cambridge: Woodhead Publ. Pvt. Ltd.

Outcomes	The students are able to ➢ Gain Knowledge in perception of body appearance and its relation to clothing. ➢ Analyse the clothing appearance and fit &body scanning system.

Skill Component | **Practical**

Semester – II			
Course Code : 9MF2E1	**Elective – II - Home Textiles – Lab**	**Credits: 5**	**Hours: 5**
Objectives	➢ To learn about the pattern making procedure of household textile products. ➢ The students are able to design and construct the item.		
1. Home textiles - Fibers fabric used in home textile products. 2. Design and stitch samples -Mitten, potholder, apron, napkins. 3. Design, draft and stitch the home textile products - Bed Linens, table linens. 4. Design, draft and stitch the home textile products - Curtains & Draperies. 5. Interior Decorations for Home - Diwan set, kitchen Linen. 6. Hangings / mats - Wall and Door, fridge covers.			
Outcomes	The students are able to ➢ Design and stitch and home textile products in creative manner. ➢ Get experience in selecting the fabric which is suitable for making home textile products.		

Skill Component | **Practical**

Semester – II			
Course Code : 9MF2E2	**Elective – II - CAD in Fashion Designing - Lab**	**Credits: 5**	**Hours: 5**

Objectives	➢ To illustrate the different type of design in computer by adopting the software. ➢ To design the garment for different age group of people.

1. Design different types of border patterns.
2. Design and illustrate the children's wear – Casual wear, party wear, Executive wear and formal wear.
3. Design and illustrate the Women's wear - Casual wear, party wear, Executive wear and formal wear.
4. Design and illustrate the Men's wear - Casual wear, party wear, Executive wear and formal wear.
5. Select theme and Design the garments – Develop portfolio.
6. Create weave designs.

Outcomes	The students gain knowledge in ➢ Practical experience on design and illustrate the children's, women's, men's wear. ➢ Learn and develop portfolio and own weave designs.

Skill Component | **Practical**

Semester – II			
Course Code : 9MF2E3	**Elective – II - Advanced Fashion Illustration – Lab**	**Credits: 5**	**Hours: 5**

Objectives	➢ To learn the basic principle and techniques used in drawing. ➢ To understand the colour combination and apply on garment designing.

A. Fashion Sketching

1. Basic colour, theories of colour, colour scheme, colour application.
2. Still Drawing by different shading techniques.
3. Developing flesh figure from stick figuring with different poses.
4. Model drawing with different poses.
5. Garment Sketching - Men, Women & Kid.
6. Creating Checked effects in a garment - one colour and multiple colour.
7. Creating Printed effects in a garment - one colour and multiple colour.
8. Fabric rendering on Croquis (Printed cotton, silk chiffon, velvet, denim, wool and knit).
9. Introduction to children's Croquis – Different postures, stylization, developing theme based design illustration for kid's collection.

B. Fashion Illustration

1. Drawing from Photographs - any 2 garment designs.
2. Stylized illustration - Collage work, Cutwork illustration, 3D illustrations.
3. Group illustration with different backgrounds.

Outcomes	The students are able to ➢ Acquire knowledge about the colour, theories of colour, colour scheme and colour application. ➢ Familiarize students with different garment sketching, body figures, movements of figures and various fashion techniques.

Skill Component | **Practical/Viva Voce**

Semester – II			
Course Code : 9MV2E4	**Elective – III - Corporate Etiquette Skills**	**Credits: 5**	**Hours: 5**

Objectives	➢ To enhance and sharpen the required skills and proper business etiquettes among the students to build good corporate relationship with the customers and their colleagues. ➢ To learn to build a consistent professional image with respective organization's vision and mission.
Unit-I	**Professionalism** Professional approach & behaviour – rational vs. emotional decisions – analysis of self-competence and self confidence – qualities of an effective executive.
Unit-II	**Corporate Etiquette** Dressing occasions – formal – semi formal and informal – Eating habits– Table manners – Body language: Kinesics and proximity.
Unit-III	**House Keeping Skills** Cleanliness at work place – Organizing the Work Table and Shelves – Spatial Utility and Energy Saving habits – Office Files and Personal Computer / Laptop management. Front Office Skills: Reception and Greeting – Telephone manners – effective visitor appointments management – Preparation to attend office meetings – preparation to hold office meetings.
Unit-IV	**Communication Skills** Written and spoken communication. Soft skills for academic presentations - Effective communication skills – Structuring the presentation - Choosing appropriate medium – Flip charts – OHP – Power Point presentation – Clarity and brevity - Inter-action and persuasion - Interview skills – Group Discussions.
Unit-V	**Documentation** Objectives, Report writing, writing minutes, Preparation methods, and Report for media.

Reference and Text Books:-

Lesikar, R.V. & Flatley, M.E. (2007). *Basic Business Communication*. New Delhi: Tata Mcgraw Hill Publications.

Naveen Kumar, & Sudan, A. S. (2015). *Managerial Skill Development*. New Delhi: Anmol Publications.

Outcomes	The students are able to ➢ Build a professional behaviour and standards for appearance, actions and attitude in business environment. ➢ Prepare participants to handle a variety of social and business situations and enhance confidence on you.

Skill Component | **Practical/Viva Voce**

Semester – II			
Course Code : 9MV2E5	**Elective – III - Competitive Examination Skills**	**Credits: 5**	**Hours: 5**

Objectives	➢ To learn about Social skills and Conflict skills to become a successful person. ➢ To acquire interpersonal skills in order to improve the relationships with human behaviour.
Unit-I	**Social Skills and Conflict Management Skills** Component of Social Skills, effective ways of dealing with people - Types of conflict (intrapersonal, intra group and inter group conflicts) - Basic concepts, cues, signals, symbols and secrets of body language - Significance of body language in communication and assertiveness training. - Conflict stimulation and conflict resolution techniques for effective conflict management
Unit-II	**Interpersonal Skills** Concept of team in work situation, promotion of team spirit, characteristics of team player - Awareness of one's own leadership style and performance - Nurturing leadership qualities - Emotional intelligence and leadership effectiveness- self awareness, self management, self motivation, empathy and social skills - Negotiation skills- preparation and planning, definition of ground rules, clarification and justification, bargaining and problem solving, closure and implementation
Unit-III	Intelligence, Creativity & Application, Testing & Assessment
Unit-IV	Types, Verbal Abilities & Fluency, Numerical Ability
Unit-V	Spatial and Perceptual Abilities, Situation reaction Test, Memory and Inductive Reasoning

Reference and Text Books:-

Abdulhashen, (2012). *Interview Manual*. New Delhi: Ramesh publishing House.

Ajay Rai, (2001). *Intelligence Tests*. New Delhi: Sterling Publishers India Pvt. Ltd.

Anandamurugan, S. (2007). *Placement Interviews*. New Delhi: Tata Mcgraw Hill Publications.

Competition Success Review Magazines.

Hurlock, E.B. (2006). *Personality Development*. New Delhi: Tata McGraw Hill Publications.

Outcomes	The students are able to ➢ Acquire knowledge about the social, conflict management and interpersonal skills. ➢ Familiarize students with verbal, numerical and spatial and Perceptual Abilities.

Skill Component | **Practical/Viva Voce**

Semester – II			
Course Code : 9MV2E6	**Elective – III - Soft Skills and Entrepreneurial Skills**	**Credits: 5**	**Hours: 5**

Objectives	➢ To familiarize the students with the latest programs of the government authorities in promoting small and medium industries. ➢ To impart knowledge regarding how to start new ventures.
Unit-I	**Self Concept, Self Esteem and Leadership** Self Concept- Definition and Characteristics of Self Concept – Definition of Self-Esteem - Factors influence Self Esteem - Low Vs High Self Esteem - Step to raise Self Esteem - Leadership and Goal setting: Emergence and Functions of Leader - Characteristics of Leadership - Types of Leadership - Characteristics of Successful Leadership.
Unit-II	**Listening, Speaking and Reading** **Listening**: Active listening – Barriers to listening –Listening and note taking - **Speaking:** Word stress and rhythm –Pauses and sense groups – Falling and rising tones – Fluency and pace of delivery – Art of small talk – Participating in conversations – Making a short formal speech. **Reading:** Reading with a purpose – Making predictions – Understanding text structure – Locating main points – Making inferences.
Unit-III	**Writing Models** Letters - Resume and Covering letters - e-mail - Filling application forms **Presentation Skills:** Soft skills for academic presentations - Structuring the presentation - Choosing appropriate medium – Clarity and brevity.
Unit-IV	**Concepts of entrepreneur** Entrepreneur- Definitions-Characteristics of entrepreneur-Classification of entrepreneur-Entrepreneurial traits- Entrepreneurial functions - role of entrepreneurs in the economic development- Entrepreneurship - Meaning- definition. Entrepreneurial Development Programmes- Objectives of EDP-Methods of training- Phases of EDP - Schemes and agencies which support entrepreneurship development.
Unit-V	Institutional support and incentives to entrepreneurs- Functions of DIC, SIDCO, NSIC, SIDBI,SISI, STEDP, NEDB, NIESBUD. Functions of Software Technology Parks of India (STPI) - Techno park-Functions of techno park Incentives- Importance-Classification of incentives- Subsidy- Types of Subsidy - Basics of Start-ups – principles – Government schemes: Start-up India – principles – plans – policies – procedures – Non-Government schemes – other related schemes. Analysis of business strategies of any one enterprise/entrepreneur, preparation of model business plan, presentation of case study report.

Reference and Text Books:-

http://startupindia.gov.in/

Marilyn Anderson, Pramod K. Nayar. & Madhucchandra Sen. (2010). *Critical Thinking*, *Academic Writing and Presentation Skills.* India: Pearson Education & Mahatma Gandhi University.

Sangram Keshari Mohanty, (2005). *Fundamentals of Entrepreneurship*. New Delhi: PHI Publication.

Sasikumar V. Kiranmai., Dutt, P. & Geetha Rajeevan. (2014). *Communication Skills in English*. India:

Cambridge University Press & Mahatma Gandhi University.
Shukla, M.B. (2010). *Entrepreneurship and Small Business Management*. Allahabad: Kitab Mahal.
Xavier Alphones, S.J. (2004). *We Shall Overcome - A Textbook on Life Coping Skills*. Chennai: ICRDCE Publication.

Outcomes	The students are able to ➢ Acquire knowledge on self concept, self esteem and leadership and develop listening, speaking, reading skills. ➢ Learn and understand the concepts of entrepreneur.

Skill Component | **Theory**

Semester- III			
Course Code : 9MF3E1	**Elective – IV - Fashion Photography**	**Credits: 5**	**Hours: 5**
Objectives	➢ To give a precise knowledge about colour, light in fashion photography. ➢ To understand the various techniques used in fashion photography.		
Unit-I	**Introduction** Camera types – 35mm, SLR, Digital camera - Working principle of camera - Accessories: general accessories - lenses, lens filters, film types, flashlights- lighting accessories – power accessories, system accessories - Care and maintenance of camera.		
Unit-II	**Techniques** Camera techniques: Basic techniques – fundamentals of composition, depth of field, shutter speed, focusing, using exposures. Equipment techniques – filter techniques, lens techniques, flash techniques, studio flash techniques, lighting techniques**.** Subject techniques – landscape, night photography, portrait, action photography and special effects - Outdoor and Indoor Photography – equipments.		
Unit-III	**Lighting and Film** Lighting – concept and importance – Types of lighting – front light, side light, back light, revealing light, controlling light, flash and studio lighting. Film types – Black and White, Colour. Film speed- Film format.		
Unit-IV	**Subject Photography** Fashion Photography in different media – modeling, newspaper, magazines and fashion shows - Concept/theme based photography along with its application and acceptability in marketing and commercialization/branding.		
Unit-V	**Developing and Printing** Basics of developing and printing – image mixing and printing – Latest developments in printing – Computer application in photography - Video photography.		

Reference and Text Books:-

John Hedge, (1992). *Photography Course*. New York: John Hedge Co.

Miller, W.R. (1978). *Basic Industrial Arts, Plastics, Graphic Arts, Photography*. Illinois: McKnight Publishing Company.

Nirmal Pasricha, (2002). *A Professional's Basic Photography*. New Delhi: Black Rose Publications.

Peter Cattrell, (2005). *Photography*. London: Octopus Publishing Group Ltd.

Simon Joinson, (2004). *Get the most from your Digital Camera*. UK, Exeter, Devon: David and Charles Book.

Steve Bavister, (2004). *35 mm Photography - The Complete Guide*. UK, Exeter, Devon: David and Charles Book.

Sue Hillyard, (2003). *The Photography Handbook - A Step by Step Guide*. London: New Holland Publishers.

Outcomes	The students gain knowledge in ➢ Types of camera, principles of camera and the various accessories and equipment techniques of various cameras in photography. ➢ Importance of lighting, types of lighting, film types and film speed and film format. ➢ Developing and printing, image mixing, printing and computer application in photography.

Skill Component | **Theory**

Semester – III			
Course Code : 9MF3E2	**Elective – IV - Lean Manufacture in Apparel Industry**	**Credits: 5**	**Hours: 5**

Objectives	➢ To impart knowledge on the basics of lean manufacturing, various tools of lean manufacturing. ➢ To understand strategy formulation and implementation of lean in textile and apparel industries.
Unit-I	**Introduction** History of Lean manufacturing, Toyota production system (TPS), Lean practices Vs traditional business practices, three types of wasteful practices, 8 wastages, profit leakages due to wastages, over production, higher inventory, waiting time, unnecessary conveyance and motion of materials, over processing, rework, repairs, rejections, wastage of people talents. Concept of 5s: Seiri, seiton, seisō, seiketsu, shitsuke. Housekeeping practices in spinning, weaving, processing and garment industries for cleaner production.
Unit-II	**Critical to Quality and Value Stream Mapping** Tact Time, calculation of time for producing exact quantity required, pull and push system of manufacturing, concepts of JIT, identifying non-value activities, eliminating non-value activities through value stream mapping (VSM) in garment industry.
Unit-III	**Statistical Tools** Defect / defective distribution measurement using normal distribution. DMAIC (Define-Measure-Analyze-Improve-Control) model in world class zero defect programme (ZED model). Sampling: Sampling plan for attributes and continuous variables. AQL levels.
Unit-IV	**Lean Concepts in Inventory Control** Lean concepts applied in transparent flow of information and production between processes and customers, reduction of inventory using simple Economic Order Quantity (EOQ) and batch production models, influence of WIP. Continuous Improvement: Application of KAIZEN in garment industry for continuous improvement.
Unit-V	**Lean Tools for Garment Industry** Concepts and applications of single piece flow, quick change-over (SMED), total productive maintenance (TPM), heijunka, cellular production system, visual controls (Andon), poka-yoke, super market concept, kanban etc. Lean implementation strategy in textile and apparel industry, case studies of lean manufacturing in spinning, weaving, knitting, processing and garment industries.

Reference and Text Books:-

Askin Ronald, G. & Goldberg Jeffrey, B. (2003). *Design and Analysis of Lean Production Systems*. New Jersey: John Wiley & Sons Inc.

Colenso Michael, (2002). *Kaizen Strategies for Successful Organizational Change*. London: Pearson Education Pvt. Ltd.

Creveling, C M., Slutsky, J L. & Antis, D. (2004). *Design for Six Sigma Technology and Product Development*. India: Pearson Education India Pvt. Ltd.

Gopalakrishnan, N. (2010). *Simplified Lean Manufacture - Elements, Rules, Tools and Implementation*. New Delhi: Prentice Hall of India Learning Pvt. Ltd.

Hobbs Dennis, P. (2009). *Lean Manufacturing Implementation - A Complete Execution Manual for any Size Manufacturer*. New Delhi: Cengage Learning India Private Ltd.

Rajmanohar, T P. (2008). *Cost of Poor Quality - Concept and Applications*. Telangana: ICFAI Press.

Rajmanohar, T P. (2009). *Lean Product Development - Concept and Models.* Telangana: ICFAI Press.

Outcomes	The students are able to ➢ Understand the lean implementation in garment industry and evaluation of its effectiveness in the process. ➢ Get experience about the various lean tools and its appropriateness for various textile industries.

Skill Component | **Theory**

Semester – III			
Course Code : 9MF3E3	**Elective – IV - Apparel Brand Management**	**Credits: 5**	**Hours: 5**

Objectives	➢ To understand the brand management concepts. ➢ To impart knowledge on brand building, global branding, advertising and advertising business.
Unit-I	**Basics of Branding** Concept, image, identity, loyalty - Brand name – types - Branding strategy - Brand positioning -competitive positioning, product positioning. Brand equity - Intellectual property rights Trademark and brand registration.
Unit-II	**Brand Building** Consumer branding, technology branding, corporate branding, retail branding. Brand extension: Concept, evaluation of opportunities, factors influencing extension, extension guidelines.
Unit-III	**Global Branding** Rationale: advantages / disadvantages - International branding strategy - planning system, leadership, cross-country relationship. Brand Management Systems: Role of Product managers / brand managers - Trends in brand management - brand culture - Brand alliances – co branding, licensing.
Unit-IV	**Advertising** Definition, advertising objectives, benefits, economic aspects and ethics in advertising - Advertising and marketing mix - Advertising Appeal: Message – reach, frequency, impact and effectiveness Media Overview: Types of media, media selection, media plan, media cost and availability - Matching media and market - Media strategy - media mix, media scheduling - Comparative evaluation.
Unit-V	**Advertising Business** Organization, advertising manager, advertising agency, advertising plan, basic principles and agency compensation - Public relations - Advertising Budget: Allocation of budget for various components of advertising. Methods of determining budget for advertisement. Administering the advertisement budget.

Reference and Text Books:-

Chandrasekhar, K.S. (2002). *Product Management - Text and Cases*. Mumbai: Himalaya Publishing House.

Chunnawala, S.A. (1998). *Product Management*. Mumbai: Himalaya Publishing House.

Harsh V. Verma. (2005). *Brand Management - Text and Cases*. New Delhi: Excel Books.

Kevin Lane Keller, (2006). *Strategic Brand Management*. New Jersey: Prentice Hall.

Moorthi, Y L R. (2004). *Brand Management*. Mumbai: Vikas Publications House Pvt. Ltd.

Sengupta, S. (2006). *Brand Positioning*. New Delhi: Tata McGraw Hill Publications.

Outcomes	The students get insight knowledge ➢ Branding strategy, brand management, and global branding techniques. ➢ Advertising types, business and budgeting.

Skill Component | **Practical**

Semester – III			
Course Code : 9MF3E4	**Elective – V – Fashion Styling - Lab**	**Credits: 5**	**Hours: 5**

Objectives	➢ To enable the students to take up traditional costumes, costumes for the movie, theatre and advertisement industry. ➢ To give hands on training to students in understanding the store and window display.

1. Costumes of India: traditional costumes of different states of India.
2. English Textiles and Costumes- Middle Age and American Costumes-18th-20th Century.
3. Introduction to evolution of theatre costumes.
4. Sketch and colour: Costume (male & female), Mask, Footwear's, Accessories and Jewellery of the following theatres - Greek, Egypt, (One each).
5. Sketch and colour: Costume (male & female), Mask, Footwear's, Accessories and Jewellery of the following theatres - Roman, Chinese, Japanese and 19th century (One each).
6. Study and preparation of any one variety of theatre costume with suitable accessories based on a movie or a book.
7. Major Trimmings and Decorations.
8. Survey on famous brands available in market for men, women & children.
9. Sourcing of fabrics, fasteners and trims.
10. Layout, design and illustration for different kinds of store displays.
11. Window display for a specific store and boutique.
12. Thematic window display.

Outcomes	The students are able to ➢ Acquire knowledge in traditional costumes of India, English and American costumes. ➢ Understanding the theatre costumes. ➢ Know the store displays and window displays for special store and boutique.

Skill Component | **Practical**

Semester – III			
Course Code : 9MF3E5	**Elective – V - Surface Ornamentation in Apparels and Textiles - Lab**	**Credits: 5**	**Hours: 5**

Objectives	➢ To understand the basic embroidery Stitches and it application in designing. ➢ To enable the student to develop design and practice the stitches to embellish the fabric surface.

1. Introduction and origin of embroidery – general rules for hand and machine embroidery.
2. Selection of needle, threads & fabrics for embroidery.
3. Basic embroidery stitches and its variations -Running stitch, chain stitch, cross stitch, stem stitch.
4. Lazy daizy, French knot, Satin stitch, Feather.
5. Traditional embroidery stitches – Kantha, Kasuthi, Chikankari, Phulkari, Kashida.
6. Quilting, and patch work.
7. Cut work, couching Mirror work, drawn thread work.
8. Special techniques: Smocking, ribbon work, beads and sequence work, hand fabric painting.
9. Developing one product based on techniques of Surface Ornamentation (one or more).

Outcomes	The students gain knowledge in ➢ Make the sample of basic and traditional embroidery stitches. ➢ Experience in preparing frame fitting for hand Aari and stitches.

Skill Component | **Practical**

Semester – III			
Course Code : 9MF3E6	**Elective – V - Advanced Garment Construction - Lab**	**Credits: 5**	**Hours: 5**

Objectives	➢ To understand and develop garment for special uses. ➢ To analyse the need and develop design based on the need of the wearer.

1. Single Needle Lock Stitch Machine (SNLS) – Select fabrics of different construction and modify the stitches per inch and study the effects.
2. Design and construct the casual and party wear for children.
3. Design and construct the casual and party wear for women's wear.
4. Design and construct specialised clothing – pesticide worker.
5. Design and construct innerwear for men / women / children.
6. Design and construct garment for Special people.
7. Design and Construct Gloves / Cap / Socks / Veils.

Outcomes	The students are able to ➢ Acquire knowledge about the SNLS machine and analyze the fabrics of different construction, modify the stitches and effects. ➢ Understanding the design and construction of garments for children, men and women.

Skill Component | **Theory**

Semester – II			
Course Code : 9MF2N1	**Non - major Elective - I – Fashion Designing**	**Credits: 2**	**Hours: 3**

Objectives	➢ The learner will learn the basic fashion, design development, concepts and its application. ➢ To understand the elements and principles of design and apply it with garment design. ➢ Will be trained in the fashion design area and make them to be an entrepreneur.
Unit-I	Fashion – Definition, terminology, Fashion cycle, Famous fashion designers. Design – Definition, Types- Structural and Decorative Design, Requirements of a Good Structural and Decorative Design. Application of Structural and Decorative Design.
Unit-II	Elements of Design -Line, Shape or Form, Colour, Size and Texture. Principles of Design – Balance, Rhythm, Harmony, Emphasis and Proportion. Application of these elements in apparel designing.
Unit-III	Basic sewing, sewing tools used for garment construction, seams and seam finishes, hems, hem types, fullness - definition, types. Darts, tucks pleats, flares and godets, gathers and frills or ruffles, flounces, neckline finishes.
Unit-IV	Designing of collars and its types, factors to be considered in designing the collars. Yoke designs and its types, Draw different types of yoke, sleeve, skirt, shirt, pant. Plackets, fasteners.
Unit-V	Body measurement – importance, preparation of fabric cutting, pattern making methods, principles of pattern making, dart manipulation, pattern grading, and garment fitting.

Reference and Text Books:-

Mary Mathews, (1997). *Practical Clothing Construction – Part- I*. Chennai: Cosmic Press.

Meenakshi Narang, (2003). *Hand Book of Fashion Technology*. New Delhi: Asia Pacific Business Press Inc.

Khurana Pooja, & Sethi Monika. (2007). *Introduction to Fashion Technology*. New Delhi: Fire Well Publication.

Pundir, N. (2007). *Fashion Technology Today and Tomorrow*. New Delhi: Mittal Publication.

Sushma Gupta, (2008). *Text Book of Clothing and Textiles and Laundry*. New Delhi: Kalyani Publishers.

Outcomes	The students are able to ➢ Learn elements and principles of design and application in garment designing. ➢ Familiarise the different types of sewing machines and special attachments used in garment industry.

Skill Component | **Theory**

Semester – III			
Course Code : 9MF2N2	**Non - major Elective - II – Fashion and Apparel Merchandising**	**Credits: 2**	**Hours: 3**

Objectives	➢ The learner will learn the basic fashion, fashion theory, fashion show, fashion forecasting ➢ To understand the process flow and structure of an apparel industry. ➢ Will be trained in the merchandising and make them to be a merchandiser.
Unit-I	Fashion – definition, classification, Terms related to the fashion industry – Fashion cycle – Fashion theory – National and international fashion designers. Environment of fashion – Leaders of fashion – Fashion show – Fashion forecasting.
Unit-II	Process flow in apparel industry – Organization structure of an apparel industry – Rating or Grading of export houses – Classification of Exporters - Classification of buyers - Receiving and warehousing – Distribution – Sourcing: definition, methods, and apparel sourcing clusters in India.
Unit-III	Merchandising: Introduction, Meaning- Apparel Merchandising – Concepts of 'Six Rights' - Types of merchandiser - Functions of a merchandiser – Essential requisites of a good merchandiser. Export merchandising and retail merchandising – Company profile and its contents.
Unit-IV	Buyer sourcing & communication – sampling: Meaning & importance, Types of samples. Inspection and its types – Approvals: definition, types of approvals – Assortment and its types. Order sheet and its contents – Packing list and its contents – Document formats: order sheet, packing list, invoice, inspection and testing reports etc.
Unit-V	Advertising: scope, importance, types, merits & demerits - Sales promotion - Personal selling - Journals and magazines related to apparel and textiles – Trade shows and Fairs - Export associations: Apparel Export Promotion Council.

Reference and Text Books:-

Daragho' Reilly, Jullian J. Gibbs, *Building Buyer Relationships*.

Inside the Fashion Business. Mc Millan Publishing Co.

Elian Stone, *Fashion Merchandising.*

Krishn Kumar M, (2010). *Apparel Merchanidising*, *An integrated Approach*. Abishek

Publications.

Robin Mathew, *Apparel Merchandising*. Jaipur: Book Enclave Publishers.

Jerry A & Rosenau, *Apparel Merchandising*. London: Fairchild Publications.

Outcomes	The students are able to ➢ Learn terms related to fashion industry ➢ Familiarise the different types of merchandising, advertising, sales promotion, personal selling.

BROAD BASED BOARD OF STUDIES

Broad Based Board of Studies for Alagappa Institute of Skill Development held on 7th June, 2019 in the Alagappa Institute of Skill Development, Alagappa University, Karaikudi with the following subject Experts.

Members Present:

1	**Dr.B. Dharmalingam** Professor & Director Alagappa Institute of Skill Development Alagappa University, Karaikudi	Chairperson / Convener
2	**Dr.G.Mahesh** Assistant Professor(Fashion Technology) Alagappa Institute of Skill Development Alagappa University, Karaikudi	Member
3	**Dr.C.Balakrishnan** Assistant Professor(Software Development) Alagappa Institute of Skill Development Alagappa University, Karaikudi	Member
4	**Dr.J.Hayavadana** Professor & Head, Department of Textile Technology Osmania University Amberpet, Hyderabad, Telangana-500007	Subject Expert (Fashion Technology)
5	**Dr.S.Nickolas** Professor in Computer Application National Institute of Technology, Tiruchirappalli	Subject Expert (Software Development)
6	**Dr.Anand Bhojan** Senior Faculty Department of Computer Science National University of Singapore, Singapore	Foreign Subject Expert
7	**Dr.K.J.Sivagnanam** Head-Skill Development Initiatives NIFT TEA, Mudalipalayam,Tirupur-641 606	Co-opted Member from the Industry (Fashion Technology)
8	**Mr. A. Arockia Arulnathan** Senior Automation Developer K7 Computing Pvt.Ltd, Chennai	Co-opted Member from the Industry (Software Development)

9	**Dr. KM. Pachiyappan** Head, Department of Costume Design & Fashion PSG College of Arts & Science, Coimbatore-14	Special Invitee (Fashion Technology)
10	**Dr. A. Senthilrajan** Professor & Director Department of Computational Logistics Alagappa University, Karaikudi.	Special Invitee (Software Development)
11	**Dr. S. Rajaram,** Professor Dept. of Tamil Head *i/c*, Dept. of Fine Arts Alagappa University, Karaikudi	Special Invitee (Tamil)
12	**Dr. P. Madhan** Associate Professor and Head *i/c* Dept of English and Foreign Languages, Alagappa University,Karaikudi.	Special Invitee (English)
13	**Ms. J. Jenita Mary** No.3/436,Vairavapuram 3rd Street, Karaikudi.	Student Alumni Special Invitee
14	**Dr. E. Kannapiran** Director, Curriculum Design and Development Cell Alagappa University, Karaikudi	Ex-Officio Member

CURRICULUM VITAE

Name: **Dr. B. Dharmalingam**
Designation: Professor & Director
Address: Alagappa Institute of Skill Development, Alagappa University
Phone: 9443850902
Fax: ----------
Email: dharmaws@yahoo.co.in

Educational qualification:

- M.A.,
- M.Phil.,
- Ph.D

Professional experience:

- 25 Years

Honours and Awards:

- Created four Vocational / Skill training units under Alagappa Institute of Skill Development, namely,
  a. UG-B.Voc. programmes
  b. Garment Training Unit
  c. Alagappa University-IL&FS Institute of Skills (AU-IIS)
  d. Small Industries Services Unit (SISU) to offer Vocational / Skill training programmes.
- Participated UK Seminar and Study tour on ‘Improving Employer and Learner Engagement in Vocational Education’ during 15th – 17th November 2016 at Birmingham, United Kingdom in response to the invitation of British Council - India, New Delhi
- Got approval and financial assistance of Rs. 1.85 Cr from UGC, New Delhi to start UG-B.Voc. Degree programmes in 1). Fashion Technology and 2). Software Development from the academic year 2014-’15.
- Signed eight MoUs. (Six with Industry partners, one MoU with IL&FS Institute of Skills, New Delhi to establish AU-IIS and another with Entrepreneurship Development Institute, Chennai to offer various Skill training programmes).
- Applied for DDU-KAUSHAL Kendra scheme to UGC, New Delhi for the tune of Rs. 5 Cr to offer PG and Research programmes beyond B.Voc. Degrees.
- Got approval by SSC-NASSCOM as Training partner to offer ‘Web Developer’ and ‘Software Developer’ certificate programmes.
- Produced 100% result in the skill assessment carried out by SSCs 1). Apparel Made ups & Home furnishing Sector Skill Council and 2). NASSCOM to the B.Voc. students.
- In B.Voc. programmes, 16,30,32 and 24,43,50 students were admitted during the academic years 2014-’15, 2015-’16 and 2016-’17 into the respective B.Voc. programmes in Fashion Technology and Software Development. Among them, 7 – B.Voc. Fashion Technology and 5 – B.Voc. Software Development second year students have got placement in the first year of their studies itself.
- Through, Garment Training Unit under AISD, during the period of April-2013 to January-2017 totally 300 trainees were trained in the short-term certificate courses in ‘Industrial Sewing Machine Operation’ and ‘Embroidery’ with University certificate and very minimal course fee. Rs. 2 lakhs of fund is generated from the course fee of the trainees.
- Prior to this 30 trainees were trained in Fashion Designing with the financial assistance of Rs. 1 lakh by the Entrepreneurship Development Institute (EDI), Tamil Nadu and 218 trainees were given training in Repairing of Refrigeration & AC machines, Welding Technology and other Entrepreneurship Development programmes through the ‘Entrepreneurship cum Skill Development Centre’.
- Established Alagappa University-IL&FS Institute of Skills (AU-IIS), Karaikudi in October 2013 under the aegis of Alagappa University, by signing MoU with IL&FS Institute of Skills, New Delhi as India’s first skills institute offering university recognized and NOS compliant placement linked short term High-end employable Technical training programmes and handhold support to start Income Generating Activities on various trades. The courses offered at AU-IIS are mapped to the NOS designed by the industry-led SSCs. During the period of The AISD/AU-IIS is offering various Certificate / Diploma programmes in Welding / CNC Machine Operator / Electrician / Patient Care Assistant / Mechatronics (both Diploma & PG Diploma) / Solar P.V. Technician / Assistant Mason /

Application Development in Android / Front-End Design and Development / Banking Executive for the duration of two / three months. Within a short span of three years (2013 – 2016), AISD/AU-IIS acclaimed 81% of placement record among the 1101 candidates trained. The AU-IIS is augmented with CNC turning machine, CNC Milling machine, Welding simulator, TIG/MIG Welding machines, AG-4, AG-7 grinding machines, Electrical Working board and healthcare equipments for providing training in the above said programmes.

- In particular, we have a specialized Mechatronics Training Centre with latest eqiupments such as, PLC kit, Scada PLC kit, HMI & Sensor training kit, Pneumatic with PLC and Hydraulic with PLC. We have trained 24 final year students of Alagappa Chettiar College of Engineering Technology, Karaikudi in Mechatronics. We also give training to the newly recruited faculty of ACCET in Welding, CNC and Mechatronics. As a result of our quality of training and latest amenities, the Alagappa Chettiar College of Engineering Technology, Karaikudi expresses its interest to sign MoU for extending the training to all its Students and Faculty.
- Mobilized the machineries worth of 2.25 Cr to the AISD for offering various skill / vocational training.

Recent publications:

National

- Dharmalingam. B; Empowering Rural Women And Youth Through Skill Development: The experiments of Alagappa University, in Best Practices in Rural Development, Shanlax Publications, Madurai, (ISBN 978-9385977-85-5, Nov, 2016 P.No: 267-286.
- Dharmalingam. B; Skill Development Curriculum - Possible role of Universities: A case study of Practices in Alagappa University, in Health Indicators for Physical and Cognitive Fitness Education, Universal Publishers, Chennai, (ISBN: 978-81-836868-84) 2016 P.No: 12-20.
- Dharmalingam. B; Critical Analysis of Health and Cognitive issues of Information Technology Professionals, in Health Indicators for Physical and Cognitive Fitness
- Education, Universal Publishers, Chennai, (ISBN: 978-81-836868-8-4) 2016 P.No: 2126.
- Dharmalingam. B; Inculcation of Soft skills during Academic persuasion towards Professional Sustainability of Information Technocrats, in Health Indicators for Physical and Cognitive Fitness Education, Universal Publishers, Chennai, (ISBN: 97881-836868-8-4) 2016 P.No: 243-247.
- Dharmalingam. B; பழதமிழ ெதாழிசா வாவய, in Health Indicators for Physical and Cognitive Fitness Education, Universal Publishers, Chennai, (ISBN: 978-81836868-8-4) 2016 P.No: 652-655
- Dharmalingam. B; Empowering Women through Skill Development: Challenges and Opportunities, Women and Social Transformation, Department of Women's Studies, Alagappa University, (ISBN 978-81-928690-4-9), 2016, p-42-52.
- Dharmalingam. B; Nutritional Status Assessment of Ramanathapuram Adolescent College Girls, Feminism Today, (ISBN 978-81-928113-8-3), 2014, p-427-430
- Dharmalingam. B; Feminist Research Methodology, Enhancing the Quality of Social Science Research, Department of Women's Studies, Alagappa University (ISBN 978-81928690-3-2), 2014, P.No: 53-82
- Dharmalingam. B; The Idea and Practice of Mainstreaming Gender in Development and Governance, Gender Mainstreaming and Sustainable Development, Department of Women's Studies, Alagappa University, (ISBN 978-81-927063-2-0), 2013

International

- Dharmalingam. B; Continuum of Nehruvian Discourse in contemporary rural development in India, International Research Journal of Business and Management – IRJBM, Vol. IX, Issue-7 (ISSN 2322-083X), July- 2016
- Dharmalingam. B; Pandit Jawaharlal Nehru: The Founding Father of Panchayati Raj Institutions in India, International Journal of Management and Social Science Research Review, Vol.1, Issue.5. (ISSN 2349-6738), May - 2016, p-127-132.
- Dharmalingam. B; A Study on Sustainable Development of Small & Medium Exterprises in Ashar Nagar, 60 Feet Road, Tirupur, Management Research (Athenaeum 09), BIM, Thiruchirapalli, 2009.
- Dharmalingam. B; Human Rights Education: Lessons for Life, Third Concept – An International Journal of Ideas - Vol.14, No.168, Feb, 2001, p.23-24

Cumulative Impact factor:
Total Citation: 34
h- index: 02
i10- index: 01

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Educational qualification:

- M.Sc.,
- Ph.D

Professional experience:

- 9 Years

Honours and Awards:

- UGC NET qualified in 2008 and 2010
- Academic Proficiency Award

Recent publications:

National conference

- **G. Mahesh**, "Computational Textiles Bioengineering", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018
- J. Jenita Mary and **G. Mahesh**, "Smart Textiles for wearable Technology", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018
- S.Karpagam and **G. Mahesh**, "Smart Textiles for wearable Technology", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018.
- B.Subbulakshmi and **G. Mahesh**, "Study the Anti diabetic effect of Millet foods in diabetic induced rats , Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018.
- **G. Mahesh** and B.Dharmalingam, "Nanotechnology Applications in Textiles. One day national conference on Recent Developments in Textile and Fashion, PSG College of Arts and Science, Coimbatore., 19th March. 2018.
- **G. Mahesh** and B.Dharmalingam, "Eco Friendly Approaches in Textile water treatment. One day national conference on Emerging Trends in the Apparel Sector, Bishop Appasamy College of Arts and science, Coimbatore., 7 th February 2018.
- **G. Mahesh** and A. Sharada Devi "Effect on Enzyme treatment on bamboo fabric dyed with natural dyes", Two day national conference on Emerging strategies in Green Textiles and Sustainable Fashion, Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 10th - 11th January 2017
- **G. Mahesh** and D.Anitha "Bioremediation of textile waste water treatment. Two day national conference on Emerging strategies in Green Textiles and Sustainable Fashion, Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 10th - 11th January 2017
- **G. Mahesh** " Research on replacing synthetic fibre with coir fibre for mulches in agricultural fields, Two day national conference on Emerging strategies in Green Textiles and Sustainable Fashion, Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 10th - 11th January 2017

International conference

- **G. Mahesh** "Musculoskeletal disorders for apparel Industry workers. International Conference on Health Indicators for Physical and Cognitive Fitness Education Faculty of Education, Alagappa University, Karaikudi, 26th - 27th February 2016.
- **G.Mahesh** and Sirisha Deepthi Sornapudi, "Techniques And Application of Smart Textiles, IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.
- Sirisha Deepthi Sornapudi and **G.Mahesh**, "Fashion on Smart Phone –APPS that Connect with Customer. Techniques And Application of Smart Textiles, IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.

National Publications

- Ashwini Joshi, D.Anitha and G.Mahesh and Physical properties of organic and non organic cotton: comparative study, Manmade Textiles in India, Vol. XLVI No. 7 July 2018.
- G.Mahesh and Anitha Eco friendly fabrics from bamboo. The Indian textile Journal.Vol124 No.7 April 2014
- Anitha and G.Mahesh Utility of herbal products in Antimicrobial finishing of cotton Fabrics. The Journal of Research of ANGRAU. Vol.XLI No.3 July-September 2013.
- Handle properties of enzyme treated bamboo and bamboo blended fabrics. The Journal of Research of ANGRAU. Vol.XL No.2 April-June 2012.
- Natural dye on bamboo and bamboo blended fabrics. International workshop on Natural Dyes 2014, March NAIP-VCND, ICAR, ANGRAU, Hyderabad.

International

- G.Mahesh and Sirisha Deepthi Sornapudi, Techniques and application of Smart Textiles, International Journal of Computer Science Volume 5, Issue 2, No 05, 2017
- Sirisha Deepthi Sornapudi and G.Mahesh Fashion on Smartphone - Apps that Connect with Consumer, International Journal of Computer Science Volume 5, Issue 2, No 04, 2017
- G.Mahesh, Anitha and Sharada Devi, Study of bamboo charcoal polyester nonwoven fabric for effluent filtration. International Journal of Advanced Research in Management and social sciences. Vol.3.No.7 July 2014.

Cumulative Impact factor:
Total Citation: 01
h- index: 01
i10- index: 0

CURRICULUM VITAE

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Educational qualification:

- M.Sc.,
- M.Phil.,
- Ph.D

Professional experience:

- 14 Years

Honours and Awards:

- UGC NET qualified in 2012
- SET qualified in 2012
- Appreciation letter from the Vice-Chancellor, Alagappa University for contributions for preparation towards NAAC Accreditation, NIRF Ranking and IoE proposal in 2018
- College Appreciation Award in 2010

Recent publications:

National Conference

- P. Subhasri and **C. Balakrishnan**, "Survey on Data Mining Techniques for Plant Leaf Classification", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018
- S. Santhosh Kumar and **C. Balakrishnan**, "Issues and Challenges for Digital Forensic Investigation", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018
- **C. Balakrishnan**, S. Santhosh Kumar and A. Sumathi "An Analysis of Mitigation Policies of Information Security", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018
- **C. Balakrishnan**, and B. Dharmalingam "A Study on Internet Penetration in Rural India", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018
- K. Nithya Kalyani and **C. Balakrishnan**, "Emerging Trends in Educational Informatics", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018
- K. Seethalakshmi and **C. Balakrishnan**, "Content Based Image Retrieval using R+ Tree Algorithm", Two-Day National Conference on Recent Trends in Informatics (NCRTI 2018), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 19th - 20th March 2018
- **C. Balakrishnan**, B. Dharmalingam, "A Study on Gender Discrimination and Information Technology Skills Acquisition", UGC Sponsored Two-Day National Conference on Contemporary Issues in Justice and Human Rights (CIJHR 07), Department of History & Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 25th - 26th September 2017
- **C. Balakrishnan**, S. Ganesan, "An Investigation on Inclusiveness of Mobile Apps for Justice and Rights", UGC Sponsored Two-Day National Conference on Contemporary Issues in Justice and Human Rights (CIJHR 07), Department of History & Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 25th - 26th September 2017
- **C. Balakrishnan**, Albert Levay, "An Empirical Analysis of Awareness on Rights by the IT Technocrats", UGC Sponsored Two-Day National Conference on Contemporary Issues in Justice and Human Rights (CIJHR 07), Department of History & Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 25th - 26th September 2017
- **C. Balakrishnan**, S. Santhoshkumar, "A Study on the Role of Digital Age and ICT in Protecting and Promoting Uniform Justice and Rights", UGC Sponsored Two-Day National Conference on Contemporary Issues in Justice and Human Rights (CIJHR 07), Department of History & Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 25th - 26th September 2017

- S. Santhoshkumar, **C. Balakrishnan**, "Study on detection of Hacking in Wireless using Access Point", National Conference on Emerging trends in Computing (NCETC 2017), Department of Computer Science, Alagappa University, Karaikudi, 13th - 14th March, 2017
- **C. Balakrishnan**, "An Analysis on Nano-Fabrics as Emerging Smart Textile", National Conference on Emerging Strategies in Green Textiles and Sustainable Fashion (NCESGTSF - 2017), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 10th - 11th January 2017
- **C. Balakrishnan**, "CAD/CAM - Past, Present and Future in Textile Curriculum and Industry", National Conference on Emerging Strategies in Green Textiles and Sustainable Fashion (NCESGTSF - 2017), Alagappa Institute of Skill Development, Alagappa University, Karaikudi, 10th - 11th January 2017
- **C. Balakrishnan**, "A Recital on Biological Computers", National seminar on Advances in Computer Science (NSACS 2016), Department of Computer Science, Alagappa University, Karaikudi, 21st - 22nd October, 2016
- **C. Balakrishnan**, "A Critic review on Biodiversity Informatics", National seminar on Advances in Computer Science (NSACS 2016), Department of Computer Science, Alagappa University, Karaikudi, 21st - 22nd October, 2016
- **C. Balakrishnan**, "Swami Vivekananda: A True Igniter of Young Minds", National Conference on Swami Vivekanandar: A Youth Icon (SVYI-2016), Swami Vivekananda Centre for Higher Research and Education, Alagappa University, Karaikudi, 24th October, 2016
- D.I. George Amalarethinam and **C. Balakrishnan**, "ElasticPeerDB- An Optimized Approach for Efficient Fragmentation and Re-Allocation in Peer-to-Peer Distributed Databases", National Conference on Emerging Trends in Software Development, Alagappa University, March 2016.
- M. Priya and **C. Balakrishnan**, "A Critical Study on Agile Software Development Methodologies", National Conference on Emerging Trends in Software Development, Alagappa University, March 2016.
- M. Rekha and **C. Balakrishnan**, "An Analytical Study of Multimedia User Interfaces in Education", National Conference on Emerging Trends in Software Development, Alagappa University, March 2016.
- M. Priya and **C. Balakrishnan**, "Analysis of Green Computing Impacts on Environment", National Conference on Emerging Trends in Software Development, Alagappa University, March 2016.
- Karamchand Gandhi and **C. Balakrishnan**, "The Internet of Things (IOT)- Architecture, Applications, Security and Privacy", National Conference on Recent Advancements in Software Development, Alagappa University, March 2015.

International Journals

- S. Santhoshkumar, **C.Balakrishnan**, R.Muthulakshmi, "A Study of Stress Caused by Social Interactions in Social Networks", International Journal of Computer Engineering and Applications (ISSN 2321-3469), Vol. 12, Issue 5, pp. 142-147, May 2018.
- **C. Balakrishnan**, "An enhanced methodology for efficient Fragmentation and Re-Allocation in P2PDDBS", International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) (ISSN 2394-3777), Vol. 3, Special Issue 20, pp. 590-595, April 2016.
- D.I. George Amalarethinam and **C. Balakrishnan**, "HAADAS- An enhanced approach for Re-allocation of Fragments in Peer-to- Peer Distributed Databases", International Journal of Applied Engineering Research (ISSN 0973-4562) - Scopus Indexed, Annexure II Journal, Vol. 10 No.82, pp. 315-320, 2015.
- D.I. George Amalarethinam and **C. Balakrishnan**, "An improved mechanism of clustering the sites for Peer-to-Peer Distributed Databases", International Journal of Fuzzy Mathematical Archive (ISSN-2320-3242), Vol. 5, No. 2, pp. 57-69, December 2014.
- D.I. George Amalarethinam and **C. Balakrishnan**, "*oDASuANCO* - Ant Colony Optimization based Data Allocation Strategy in Peer-to-Peer Distributed Databases", International Journal on Science, Engineering and Technology, International Journal of Enhanced Research Publications (ISSN NO-2319-7463), Vol. 2, No. 3, pp. 1-8, March 2013.
- D.I. George Amalarethinam and **C. Balakrishnan**, "A Study on Performance Evaluation of Peer-to-Peer Distributed Databases", IOSR Journal of Engineering (ISSN- 2250-3021), Vol. 2(5) pp- 1168-1176, May 2012.
- D.I. George Amalarethinam and **C. Balakrishnan**, "A Survey on Peer-To-Peer Real Time Object Databases", Published in International Journal on Research and Reviews in Computer Science (IJRRCS) (ISSN-2079-2557), Vol. 1, No. 4, pp. 8-10, December 2010.

International Conferences

- K. Nithya Kalyani, **C. Balakrishnan**, "Photo Sharing Safe Mode Services to Make Privacy Reliability", IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February, 2017.
- M. Rekha, **C. Balakrishnan**, "Study on New Architecture for Enhancing the Security and Performance of E-Mail Security Protocols", IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.
- M. Priya, **C. Balakrishnan**, "Big data- Issues, Challenges and Tools", IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.
- M. Priya, **C. Balakrishnan**, "A Brief Introduction to Process and Analyze Healthcare Big Data on Cloud Environment", IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.
- B. Dharmalingam, **C. Balakrishnan**, M. Priya, "Role of ICT in Vocational Education and Training", IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.
- B. Dharmalingam, **C. Balakrishnan**, M. Priya, "Blended Learning- A Pathway to Enhance Learning Experiences in Vocational Education", IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.
- **C. Balakrishnan**, "A Recital on Extreme Programming and SDLC", IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.
- **C. Balakrishnan**, "An Empirical Study on Agile based Development and Testing Methodologies", IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR 2017), Alagappa Institute of Skill Development & Computer Centre, Alagappa University, Karaikudi, 15th - 16th February 2017.
- B. Dharmalingam and **C. Balakrishnan**, "Skill Development Curriculum - Possible role of Universities- A case study of Practices in Alagappa University", International Conference on 'Health Indicators for Physical and Cognitive Fitness Education' Alagappa University, Karaikudi, 26th & 27th February, 2016.
- B. Dharmalingam, **C. Balakrishnan** and M. Priya, "Critical Analysis of Health and Cognitive issues of Information Technology Professionals in India", International Conference on 'Health Indicators for Physical and Cognitive Fitness Education' Alagappa University, Karaikudi, 26th & 27th February, 2016.
- B. Dharmalingam, M. Priya and **C. Balakrishnan**, "Inculcation of Soft skills during Academic persuasion towards Professional Sustainability of Information Technocrats", International Conference on 'Health Indicators for Physical and Cognitive Fitness Education' Alagappa University, Karaikudi, 26th & 27th February, 2016.
- D.I. George Amalarethinam and **C. Balakrishnan**, "HAADAS - An enhanced approach for Re-allocation of Fragments in Peer-to- Peer Distributed Databases", International Conference on Advanced Computing (ICAC 2015), Jamal Mohamed College, Tiruchirapppalli, December 3-4, 2015.
- B. Dharmalingam and **C. Balakrishnan**, "Empowering Women through Skill Development- Challenges and Opportunities", International Conference on 'Women and Social Transformation- New Era of Just and Gender- Fair Society (ICWS - 2015)' Alagappa University, Karaikudi, 21st & 22nd August 2015.
- D.I. George Amalarethinam and **C. Balakrishnan**, "An Optimized Strategy for Data Allocation in Peer-to-Peer Distributed Databases", International Conference on Mathematical methods and Computation (ICOMAC 2015), Jamal Mohamed College, Tiruchirapppalli, 22-23, January 2015.

Cumulative Impact factor:
Total Citation: 14
h- index: 03
i10- index: 0

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Educational qualification:

- B.Tech.,
- M.Tech.,
- Ph.D

Professional experience:

- 30 Years

Honours and Awards:-----

Recent publications:

National

- Design and Development of Drape Tester , Journal of Apparel Technology and Management , June 2018

International

- Arjun. D L, RenukaTejaswini, J Hayavadana and Susheel " Effcet of Potassium PermanganateFinish on the Properties of Denim Fabric" European Journal of Advances in Engineering andTechnology, 3(9), December 2016, 28-32
- Arjun. D L. RenukaTejaswini, Vinay Kumar Midha and J Hayavadana" Potential of NonwovenFabrics as Surgical Gowns" International Research Journal of Medical Sciences, 5(1), February2017,1-4.
- Novel Approach To Apparel Drape measurement- A New Horizon, Prof. Dr.J. Hayavadana, Ayodya Kavitha,Kodamagundla Sreenu, International Journal of Advance Research in Science and Engineering, Vo.No:6, Issue No:3, March 2017
- 'When textiles meet computers', Ayodya Kavitha, Prof. J.Hayavadana and Bathini Deepthi, May 2017, Link: http://www.fibre2fashion.com/industry-article/7930/when-computers-meet-textiles
- 'Novel methods of Assessment Asthetic properties of Dress material'International Journal of Current Advanced Research, July 2017
- Arjun. D L. RenukaTejaswini, Vinay Kumar Midha and J Hayavadana" Potential of NonwovenFabrics as Surgical Gowns" International Research Journal of Medical Sciences, 5(1), February2017,1-4.
- Novel Approach To Apparel Drape measurement- A New Horizon, Prof. Dr.J. Hayavadana, Ayodya Kavitha, Kodamagundla Sreenu, International Journal of Advance Research in Science and Engineering, Vo.No:6, Issue No:3, March 2017
- 'When textiles meet computers', Ayodya Kavitha, Prof. J.Hayavadana and Bathini Deepthi, May 2017, Link: http://www.fibre2fashion.com/industry-article/7930/when-computers-meet-textiles
- 'Novel methods of Assessment Asthetic properties of Dress material' International Journal of Current Advanced Research, July 2017
- "NEW METHODS OF ASSESSING AND GRADING APPAREL FABRICS", S.Viswanaath., J. Hayavadana., Ayodya Kavitha ., J.Lakshminarayana and Pradeepkumar, International Journal of Current Advanced Research., Sept 2018
- Application of a Multivariate Analysis (Biplot) Method to a Comparative Study of Fabric Characteristics-J. Hayavadana+, Srinivasulu .K*,International Journal of Latest Technology in Engineering, Management & Applied Science (IJLTEMAS),Volume VII, Issue XII, December 2018 , ISSN 2278-2540
- Study of degradation of polyester partially oriented yarns through alkaline hydrolysis process Hayavadana J,1 Srinivasulu K, Volume 5 Issue 1 – 2019,MEDCRAVE, Journal of Textile Engineering & Fashion Technology

Cumulative Impact factor:
Total Citation: 199
h- index: 02
i10- index: 01

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- M.C.A.,
- M.E.,
- Ph.D

Professional experience:

- 30 Years

Honours and Awards:---

Recent publications:

National Conference

- P.Asokan, S.Nickolas, "CAD/CAM solutions for CNC machining/turning center", Eighth ISME conference on mechanical engineering New Delhi, 1993.
- P.Ramaraj, S.Nickolas, "A descriptive study on data mining and Algorithm for multi-dimensional association", All India seminar on IT for 21st century, IE(India), 1997.
- N.Gayatri, S.Nickolas, A.V.Reddy, "Comparative Study of Software Quality Metrics Feature Set Using Data mining Techniques", National Conference on Advanced Pattern Mining and Multimedia Computing(APMMC 10) , NIT, Tiruchirappalli, February 2010.

International Conference

- K. Shobha, S. Nickolas, "Imputation of multivariate attribute values in big data",International Conference on Smart Intelligent Computing and Applications, Springer, Singapore, 2019, pp. 53-60.
- K. Shobha, S. Nickolas, "Integration and Rule-based Pre-Processing of Scientific Publication Records from Multiple Data Sources", International Conference on Smart Intelligent Computing and Applications(SCI 2018), Springer, Bhubaneswar.
- Silambarasan E, Nickolas S, Mary Saira Bhanu S, "Attribute based Convergent Encryption Key Management for Secure Deduplication in Cloud", 3rd International Conference on Advanced Computing and Intelligent Engineering (ICACIE 2018), Springer, Bhubaneswar.
- Sareena Rose, Nickolas, S., Sangeetha, S., "Machine Learning and Statistical Approaches used in Estimating parameters that affect the soil fertility status : A Survey", Second International Conference on Green Computing and Internet of Things (ICGCIoT 2018), IEEE, Bangalore.
- Pitchai, A. V. Reddy, N. Savarimuthu, "Quantum walk based genetic algorithm for 01 quadratic knapsack problem", 2015 International Conference on Computing and Network Communications (CoCoNet) (2015) 283-287.
- T. Subramanian, N. Savarimuthu, "Effective tariff selection on cloud services: A consumer perspective", 2014 International Conference on Contemporary Computing and Informatics (IC3I) (2014) 326-330

International Journals

- M.Chandrasekaran,P.Asokan,S.Kumanan,T.Balamurugan,S.Nickolas,"Solving job shop scheduling problems using Artificial Immune System", International Journal of Advanced Manufacturing Technology, UK,(2006) 31:580-593
- S.Nickolas , C.S.P.Rao , A.V.Reddy and P Asokan," Performance Enhancement of Flow Shop Scheduling using Data Mining", Journal of Advanced Manufacturing Technology, CMTI, Vol.6,No.8, pp.17-23,August 2007
- Ilango Paramasivam, Hemalatha Thiagarajan, Nickolas Savarimuthu ,"Imputation of Missing Data Using Weight Based Clustering in type II diabetes Databases", Journal of Advanced Research in Computer Engineering, Vol 3, No. 1,pp99-104 January-June 2009.ISSN:0974-4320
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- Ilango Paramasivam, Hemalatha Thiagarajan, Nickolas Savarimuthu, "A Semi Supervised Clustering by λ_cut for Imputation of missing Data in TYPE II Diabetes Databases", Indian Journal of Medical Informatics, Vol 4,No. 1 ,2009
- Ilango Paramasivam, Hemalatha Thiagarajan, Poonkuntran Shanmugam, Nickolas Savarimuthu ,"Imputation of Missing Data :A Semi Supervised Clustering Methodology", Journal of information Science and Technology, 6(3) pp 38-55,Washington,DC,USA 2009.
- Sarojini BalaKrishnan, Ramaraj NarayanaSwamy, Nickolas Savarimuthu , " Feature Subset Selection using Nomogram in TYPE II Diabetes Databases", Indian Journal Of Medical Informatics, 4(1):5, 2009.
- N.Gayatri, S.Nickolas, A.V.Reddy, "Performance Analysis and Enhancement of Software Quality Metrics using Decision Tree based Feature Extraction", International journal of Recent Trends in Engineering, Vol 2,No. 4, pp.54-56, November 2009.
- R.Chithra, S.Nickolas, "A Novel Algorithm for Mining Hybrid-Dimensional Association Rules", International journal of Computer Applications(0975-8887), Vol1-No.16, pp.62-69, 2010.
- R.Chithra, S.Nickolas, "Partition Based High Utility Itemset Mining", Intl. J. of Decision Making in Supply Chain and Logistics, Vol.1, No.2,pp.153-165, July-Dec. 2010.
- R.Eswari, S.Nickolas, "A Level-wise Priority Based Task Scheduling for Heterogeneous Systems", Intl. J. of Information and Education Technology, Vol.1, No.5, pp.371-376, Dec.2011.
- R.Chithra, S.Nickolas, " HUPT-Mine : An efficient algorithm for high utility pattern mining", Intl. J. of Business and Systems Research, Vol.6, No.3, pp.279-275, 2012.
- R.Eswari, S.Nickolas, "Efficient Task Scheduling for Heterogeneous Distributed Systems using Firefly Algorithm", Intl. J. of Computer Science and Engineering (Accepted).
- S.Karthikeyan, P.Asokan, S.Nickolas, T.Page, "Solving Flexible Job Shop Scheduling Problems with a hybrid PSO Algorithm and Data Mining-An Attribute oriented approach", Intl. J.of Manufacturing Technology and Management.(Accepted).
- R.Chithra, S.Nickolas, "VB-HU-Mine : An Efficient High Utility Itemset Mining Algorithm using Vertical Data Representation", Intl. J. of Information Technology and Management.
- Anandkumar P,S.Nickolas, "Significance of One-Class Classification in Outlier Detection",IJCIIS,June 2013,Vol 4,No. 6.
- S.Karthikeyan, P.Asokan, S.Nickolas,"A hybrid discrete firefly algorithm for multi-objective flexible job shop scheduling problem with limited resource constraints",Int J Adv Manuf Technol,2014.
- N.Gayatri, S.Nickolas, A.V.Reddy,"A Frame Work for Business Defect Predictions in Mobiles", IJCA,Vol 81,No.1,November 2013.
- R.Eswari, S.Nickolas, Michael Arock "A path priority-based task scheduling algorithm for herterogenous distributed systems", Int.J.Communication Networks and Distributed Systems,Vol 12,No.2,2014
- R.Eswari and S.Nickolas "Effective task scheduling for herterogenous distributed systems using firefly algorithm", Int.J.Computational Science and Engineering,Vol 11,No. 2,2015
- T. Subramanian, N. Savarimuthu, "Application based brokering algorithm for optimal resource provisioning in multiple heterogeneous clouds", Vietnam Journal of Computer Science 3 (2015) 57-70.
- A. Prakasam, N. Savarimuthu, "Metaheuristic algorithms and probabilistic behaviour: a comprehensive analysis of ant colony optimization and its variants", Artificial Intelligence Review 45 (2015) 97-130.
- T. Subramanian, N. Savarimuthu, "Cloud service evaluation and selection using fuzzy hybrid MCDM approach in marketplace", IJFSA 5 (2016) 118-153.
- A. Pitchai, A. V. Reddy, N. Savarimuthu, "Fuzzy based quantum genetic algorithm for project team formation", IJIIT 12 (2016) 31-46.
- A. Prakasam, N. Savarimuthu, "Novel local restart strategies with hyper populated ant colonies for dynamic optimization problems", Neural Computing and Applications (2018) 1-14.
- K. Shobha, S. Nickolas, "Analysis of importance of pre-processing in prediction of hypertension", CSI Transactions on ICT 6 (2) (2018) 209-214.

Cumulative Impact factor:
Total Citation: 347
h- index: 09
i10- index: 07

CURRICULUM VITAE

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Educational qualification:

- M.C.A.,
- **PGC in Teaching Higher Education**
- Ph.D

Professional experience:

-

Honours and Awards:

- 2012 Nominated for Best PhD Thesis Award (Wang Gungwu Medal & Prize), National University of Singapore.
- 2011 Dean's Graduate Research Achievement Award (PhD), SoC, National University of Singapore.
- 2006 Best R&D Project award, TOTE Board, Singapore model R&D project, 'Mobile Industrial Network Integrating 3G for Mobile Experiments'
- 2003 Best Presenter Award, Industrial-Info Comm. Technology (M2M), Singapore Industrial Automation Association, Mobile/Wireless Enabling Technologies for M2M
- 2000 Best Presentation Award, Association Of Principals Of Colleges Of Bharathiar University., 'Need Based Curriculum Development'
- 1995 Gold medal for first Rank (out of 4000) in Computing, Bharathiar University, Awarded by the honourable Governer of the State
- 1989 State Government's Higher Education Scholarship for Outstanding Academic Performance, State 39th Rank among 300,000 candidates.

Recent publications:
International

- Bhojan Anand and Pan Wenren, "CloudHide: Towards Latency Hiding Techniques for Thin-client Cloud Gaming," ACM Multimedia 2017. ACM, New York, NY, USA, 144-152.
- Anand Bhojan, Hong Wei Wong, "TIṬAL – Asynchronous multiplayer shooter with procedurally generated maps," In Entertainment Computing, Volume 16, 2016, Pages 81-93, ISSN 1875-9521.
- Bhojan Anand, Li Kecen, Akkihebbal L. Anand , "PARVAI - HVS Aware Adaptive Display Power Management for Mobile Games," IPS/IEEE Proceedings of the 7th International Conference on Mobile Computing and Ubiquitous Networking - ICMU 2014.
- Bhojan Anand, "Energy Efficient Multi-player Smartphone Gaming using 3D Spatial Subdivisioning and PVS Techniques," Proceedings of the 21th ACM International Conference on Multimedia - IMMPD 2013, Barcelona, Spain.
- Bhojan Anand , Lee Kee Chong, Ee-Chien Chang, Mun Choon Chan, Akhihebbal L. Ananda and Wei Tsang Ooi, "El-pincel: a painter cloud service for greener Web Pages," Proceedings of the 20th ACM international conference on Multimedia Nov 2012, Nara, Japan.
- K Thirugnanam, Bhojan Anand, J Sebastian, PG Kannan, AL Ananda, RK Balan, and MC Chan, "Dynamic Lookahead Mechanism for Conserving Power in Multi-Player Mobile Games," IEEE INFOCOM 2012, Orlando, Florida, Mar 2012.
- Bhojan Anand, Akhihebbal L. Ananda, Mun Choon Chan and Rajesh Krishna Balan, " ARIVU: Making Networked Mobile Games Green - A Scalable Power-Aware Middleware ", MOBILE NETWORKS AND APPLICATIONS, Springer Netherlands, Feb 2012.

- Bhojan Anand, Karthik Thirugnanam, Jeena Sebastian, Pravein G. Kannan, Akhihebbal L. Ananda, Mun Choon Chan, and Rajesh Krishna Balan. 2011. “Adaptive display power management for mobile games,” In Proceedings of ACM MobiSys '11. ACM, New York, NY, USA, 57-70.

Cumulative Impact factor:
Total Citation: 234
h- index: 7
i10- index: 6

CURRICULUM VITAE

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Educational qualification:

- Diploma in Textile Designing & Weaving
- B.Tech.,
- M.Tech.,
- Ph.D.

Professional experience:

- 22 Years

Honours and Awards:

- As Project Head, Implemented Placement Linked Skill Development Training Programs for about 25000 + candidates with the support of various state and government schemes and industry with about 75 % of placements.
- As Program Officer of Industrial Training Programs, coordinated about 250 batches of Technology and Skill Up gradation programs and about 3000 working employees / executives of Tiruppur cluster have completed up skill training successfully.

Recent publications:

National

- Sivagnanam, et al, "Blended yarns for fashion garment", Apparel Today, 2005.
- Sivagnanam, et al, "A New 3D concept for weaving medical textiles" Textile Asia, Oct 2009
- Sivagnanam et. al, "Novel Properties of splittable fibres" fibre2fashion online publications.
- Sivagnanam et. al, "Micro fibres" fibre2fashion online publications.
- Sivagnanam, et al, "New 3D weaving concept for manufacturing of medical textiles", P69, Indian Textile Journal, Feb 2010.
- Sivagnanam, et al, "Eri silk knits for suitability in fashionable garment", Indian Textile Journal; Apr 2011, Vol. 121 Issue 7, p44

International

- Sivagnanam et al, "Vanya silk for Non Traditional Textile and Fashion Market" Silk for Green World and Sustainable Development, ISC, Thailand
- Sivagnanam, et al, "Study on Moisture Behaviour of Weft knitted Interlock Spacer Fabrics", International journal of ChemTech Research, Vol.8 / 2015
- Sivagnanam, et al, "Detailed Investigation of Weft Knitted Interlock Fabrics for Comfort Properties to Suit for Active and Sportswear Application", International Journal of Engineering and Advanced Technology, (IJEAT), ISSN: 2249-8958,Vol.8 / Issue 5, June 2019

Cumulative Impact factor:
Total Citation:
h- index:
i10- index:

CURRICULUM VITAE

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Educational qualification:

- B.Sc.,
- M.C.A.

Professional experience:

- 07 Years

Honours and Awards:

-

Recent publications:

National

-

International

-

Cumulative Impact factor:

Total Citation:

h- index:

i10- index:

CURRICULUM VITAE

Name: **Dr. KM. Pachiyappan**
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Educational qualification:

- M.Tech.,
- Ph.D

Professional experience:

- 30 Years

Honours and Awards:

-

Recent publications:

National

- 09

International

- 10

Cumulative Impact factor: ----------

Total Citation:

h- index:

i10- index:

CURRICULUM VITAE

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Educational qualification:

- BE.,
- MBA.,
- M.sc(IT).,
- M.Phil.,
- Ph.D.

Professional experience:

- 19 Years

Honours and Awards:

- Nominee for world who is who book for year 2008 and 2009
- National Conference Organised.
  1. Convenor and organised National level Conference on Artificial Intelligence and Parallel computing –September 8th and 9th,2006.
  2. Convenor and organised National conference on Information Technology and- Business management October 30th and 31st,2009.
  3. Convenor and organised National conference on Information computing and Management challenges in contemporary business - 21st and 22nd,2011.
- International Conference Organised:
  1. Convenor and organized international Conference on Computing and Information Technology - September 23rd and 24th, 2013. Alagappa University – Karaikudi.
  2. Convenor and organized two days IT Skill Show International Conference on Advancements in Computing Resources (SSICACR – 2017) – 15th & 16th February 2017. Alagappa University – Karaikudi.
- Other Training Programs
  1. Hardware maintenance
  2. S/W Installation
  3. Troubleshooting
  4. Network administration.
  5. Team building
  6. (i). Social development program at Sheshaiya homes, Austinpatti, Madurai.
     (ii). Social development (Outreach program), Sumanahalli, Bangalore.
  7. Village Extension Programme at Thiruvelangudi, 11-13 October 2018.

Recent publications:

- "Segmentation Chick's Image Using Artificial Neural Network", in International Conference on Computing, Communication and Information Technology (CCIT 2018), ISBN: 978-1-63248-162-7, DOI: 10.15224/ 978-1-63248-162-7-06, Page: 11-14. 2. "Multimedia Cloud Computing for Agriculture", in International Multi - Conference on Computing, Communication, Electrical & Nanotechnology (I2CN-2K18) at Kottayam, Kerala on April 26-27, 2018, presented and published.
- "Removal of Weeds in Agriculture field using Wavelet Transformation in Image Processing'' International Journal on Recent and Innovation Trends in Computing and Communication (IJRITCC), Vol – 6, Issue – 2, ISSN: 2321-8169, Impact Factor: 5.837 Page: 19-26, February 2018.
- Bavithra Matharasi, Dr.A.Senthilrajan , "Sentiment Analysis using a Novel approach to classify sentiments in social networking data", International Journal of Advanced Research in Computer Science - 2018, Vol – 9, ISSN: 0976-5697, Page: 297-301.

- J.Tamilselvan, Dr.A.Senthilrajan, "Adding Text Document to cluster based on the similarity measures", International Journal of Pure and Applied Mathematics - 2018, Vol – 118, ISSN: 1314-3395, Page: 3069-3074.
- "Segmentation in Manganethi Plant using Mathematical Morphology", International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE), Vol – 6, Issue – 10, ISSN 2278-1021, Impact Factor: 5.947, Page: 291-293, October 2017.
- N.Vijyayalakshmi, "A hybrid approach for sarcasm detection of social media data", International Journal of Scientific and Research Publications - 2017, Vol – 7, Issue – 5, ISSN: 2250-3153, Page: 327-336.
- Bavithra Matharasi, Dr.A.Senthilrajan, "Sentiment Analysis of Twitter Data using Naive bayes with Unigran Approach", International Journal of Scientific and Research Publications - 2017, Vol – 7, Issue – 5, ISSN: 2250-3153, Page: 337-341.
- "Image Reduction Using Edge Based Region of Interest", IOP conf.series: Materials Science and Engineering - 2017, doi: 10.1088/1757-899X/225/1/012248.
- M.Sangeetha, Dr.A.Senthilrajan, "Super Resolution – A Review", International Journal of Engineering Research & Technology (IJERT) – 2016, Vol – 4, Issue – 21, ISSN: 2278-0181, Page: 36-40.
- Gopala Krishna Nagasarapu, Dr.A.Senthilrajan, "Robust Image Desoising using Infantile Fixation of Non Local Euclidean Median in Patch Space", International Refered Journal of Engineering and Science(IRJES) – 2016, Vol – 5, Issue – 8, ISSN: 2319-1821, Page: 24-28.
- M.Sangeetha, Dr.A.Senthilrajan, "Analysis of methods in wavelet domain for image resolution", International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) - 2016, Vol – 3, ISSN: 2394-3785, Page: 628-631.
- J.Tamilselvan, Dr.A.Senthilrajan, "Constructing and maintaining large web repositories through continuous web crawling", International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) - 2016, Vol – 3, ISSN: 2394-3785, Page: 605-608.
- Gopala Krishna Nagasarapu, Dr.A.Senthilrajan, "Implementation of speech steganography using spread spectrum with wavelet domain", International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) - 2016, Vol – 3, ISSN: 2394-3785, Page: 588-594.
- Bavithra Matharasi, N. Vijayalakshmi, Dr.A.Senthilrajan, "A study on Various Techniques and Challenges in Sentiment Analysis", International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) - 2016, Vol – 3, Special issue – 20, ISSN: 2394-3777, Page: 474-478.
- Bavithra Matharasi, N. Vijayalakshmi, Dr.A.Senthilrajan, "Object Oriented Graph Structure to Represent the Dataset in online Social Network", 2015, doi: 10.3850/978-981-09-4426-1-086, ISBN: 978-981-09-4426-1, Page: 314-321.
- "Pest Control in Paddy using Segmentation in Image Processing", Engineering Sciences International Research Journal, Vol – 3, Issue – 2 (2015), ISSN: 2320-4338,
- ISBN: 978-931-84124-55-7, Page: 82-85.
- Gopala Krishna Nagasarapu, Dr.A.Senthilrajan, "Generalized non-local mean algorithm for De-Speckling of Digital images", International Journal of Emerging Trends in Science and Technology (IJETST) - 2015, Vol – 2, Issue – 8, ISSN: 23489480, Page: 3077-3082.
- "Efficient Image Retrieval In Real Time Database Using Grey Model Technique", Mathematical Sciences International Research Journal – 2015, Vol - 4, Issue - 1, ISSN: 2278 – 8697, ISBN: 978-93-84124-36-6, Page: 216-219.

National Conference:

- Attended the Indian Cyber Congress (INCYCON) on 28 & 29 September 2018 at Sree Vidyanikethan Engineering College(SVCE), Tirupati, Andhra Pradesh.
- Attended the one day orientation workshop on the roles and responsibilities of the university and its Swayam coordinators on 2nd February 2018 at AICTE office, Nelson Mandela Marg, Vasant Kunj, New Delhi.
- A.Fathima Mubeen, Dr.A.Senthilrajan, " Optimal Features Selection and Classification of Healthcare Big data in Medical Internet of Things", National conference on Cyber Security (NCCS – 2018) organized Computer Science, Alagappa University, Karaikudi held on 25th January 2018. Paper was presented
- K.Sheela, Dr.A.Senthilrajan, "Rice quality analysing using Image Processing Technique", National conference on Cyber Security (NCCS – 2018) organized Computer Science, Alagappa University, Karaikudi held on 25th January 2018. Paper was presented.

- Attended the DIDAC INDIA 2016 on September 28th to 30th at Bangalore International Exhibition Centre.
- Attended the RUSA – One Day Training on 23rd August 2016 at Anna University.
- Attended ICTACT Bridge 2016 Chenai edition on 24th February 2016.
- National conference on "Engineering Applications for Developing Smart Cities" held during March 30, 2015 organized by Dhirajlal Gandhi college of technology, Salem.

International Conference:

- "Segmentation Chick's Image Using Artificial Neural Network", in International Conference on Computing, Communication and Information Technology (CCIT 2018) at Rome, Italy on October 27-28, 2018
- "Multimedia Cloud Computing for Agriculture", in International Multi - Conference on Computing, Communication, Electrical & Nanotechnology (I2CN-2K18) at Kottayam, Kerala on April 26-27, 2018.
- J.Tamilselvan, Dr.A.Senthilrajan, "Adding text document to cluster based on the similarity measures", in International conference on Advances in Computer Science and Technology (ICACSET'18) held during January 19-20, 2018 at Kalasalingam Academy of Research and Education, Krishnankoil.
- "Design on Benefit Mechanism of the Information and Communication Technology Based on Boolean Law", in International Conference on Advances in Mathematics and Computer Science held during December 14-16, 2017 at V.V. Vanniaperumal College for Women, Virudhunagar.
- "Defective Chicks Deduction Based on Texture Feature Analysis Using Random Transform", in International Conference on Applied Science and Engineering held during December 05-07, 2017 at Seoul, South Korea.
- Bavithra Matharasi, N. Vijayalakshmi, Dr.A.Senthilrajan , "A study on Various Techniques and Challenges in Sentiment Analysis", in International conference on Innovations in Computer Science & Technology – 2016 at Alagappa University, Karaikudi. 16. Gopala Krishna Nagasarapu, Dr.A.Senthilrajan , " Implementation of speech steganography using spread spectrum with wavelet domain ", in International conference on Innovations in Computer Science & Technology – 2016 at Alagappa University, Karaikudi.
- J.Tamilselvan, Dr.A.Senthilrajan , "Constructing and maintaining large web repositories through continuous web crawling", in International conference on Innovations in Computer Science & Technology – 2016 at Alagappa University, Karaikudi.
- M.Sangeetha, Dr.A.Senthilrajan , "Analysis of methods in wavelet domain for image resolution", in International conference on Innovations in Computer Science & Technology – 2016 at Alagappa University, Karaikudi.
- "Diagnosing Infective Diseases in Paddy Using Mobile Device", in International Conference on Symposium on Electrical, Electronic Engineering and Digital Technology"(SEDT 2016) at Tokyo, Japan on December 6-8, 2016. 20. "Image Reduction Using Edge Based Region of Interest", in International Conference on Advanced Material Technologies"(ICAMT 2016) at Visakhapatnam, Andhra Pradesh on December 27-28, 2016.

Cumulative Impact factor:
Total Citation:
h- index:
i10- index:

CURRICULUM VITAE

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Educational qualification:

- M.A (Tamil),
- M.A (Linguistics),
- M.Phil.,
- B.Ed.,
- Ph.D.

Professional experience:

- 20 Years

Honours and Awards:

- Best Research Paper Award for "Va Supa Manickanarin Ilakkiya Parvai" Presented by All India Universities Tamil Teachers Association during May 2002 behalf of V.SP.Manickanar Endowment.
- Best Research Paper Award for "Sanga Ilakkiyathil Manai Marutchi" Presented by All India Universities Tamil Teachers Association during May 2005 behalf of V.SP.Manickanar Endowment.
- Best Research Paper Award for "Kadal Seetram Thadukkum Kandal" Presented by 'ARR' All India Research Forum December 2005.
- Best NSS Programme Officer Award presented by Alagappa University, Karaikudi,2009.
- Best Research Paper Award for "Peedandru-Meel Vaasippu" Presented by 'ARR' All India Research Forum December 2011.

Recent publications:

- Thirumuruhatrupadaiyil Arupadai veedu – Sanskritisation, International Seminar on Place names, Tamil Sakthi Research Forum & National College,Trichirapalli, 25.09.2011
- Kalitriyanai Niraiyil Sanskritisation, International Conference on Agananooru,Sangam Literature Research Forum& Ethiraj Women`s College,Chennai, 09.12.2011
- Peedandru – Meel Vasippu, 7th International Seminar,AAR All India Research Forum &Sengunthar College of Arts and Science, Thiruchengodu, 17&18.12.2011
- Tholkappiyamum Irayanar Agapporulum- Karpu Marabukal & Tholkappiyamum Maranahapporulum-Ilakkana Valarchi, Workshop on Aspects of Tholkappiam and Later grammatical works on Agam concept, Alagappa University, Karaikudi & CICT, Chennai, 04.01.2012to13.01.2012
- Inai Vizhaichu, 43rd All India University Tamil Teachers Association Seminar, Tamil Sangam, Bangalore, 19&20.05.2012
- Silappathikaram Suttum Inthezhuthu Manthiram, VIII th Internatioinal Seminar on AAR International Research Forum, Karpagam University, Coimbatore, 22.12.2012
- Artrupadai Ilakkia Seiyul Kattamaippil Uyarthinai Suttu, International Research Seminar On Pathupattu, Kongunadu Arts and Science College, Coimbatore, 23.12.2012
- Karkala Padalathil Tamizhar Panpattu Nilaviyal,International Seminar on Kalanthorum Kampan,Kampan Tamil Research Centre, Karaikudi, 23 &24.03.2013
- Tholkappiyamum Kootru muraikalum, Seminar on Tholkappiya Ilakkiyak kotpadukal,
- CICT, Chennai & Tamil Research Centre, Ganeshar Arts and Science College, Melaisivapuri, 08.01.2014
- Sanga Ilakkiyathil Manitha Urimaikal, Seminar on Palthurai Thotruvaaikku Sanga Ilakkiyathin Pangalippu, CICT ,Chennai & Dep`t of Tamil, Alagappa Gov`t Arts College, Karaikudi, 09.01.2014
- Vazhipadugalum Thinaikkotpadugalum, Workshop on Chevviyal Ilakkiyangalil Tamizhar Vazhipaattu Marabugal, CICT, Chennai& Alagappa University, Karaikudi, 22.01.2014

- Ra. Ragavaiyangarin Urainadai Thiran, Workshop on Pazhanthamizh Uraiyasiriyarkalin Nadaikkotpadu, CICT, Chennai& Alagappa University, Karaikudi, 03.03.2014
- Tamil Haigoo Kavithaikalil Puthiya Pokkuhal, National seminor on New Trends on 20 th Century Tamil Puthu kavithaikal, Urumu Danalakhshmi College, Trichirapalli, 30.09.2015 & 01.10.2015
- Tholkapiathil Neethi, Seminar Collection on Tamil Ilakkiathil Neethi, Ulaga Tamil Sangam, Madurai, 23.01.2016.
- Thiruvasagathil Madurai, International Seminar on Ilakkiya Pathivuhalil Madurai, Meenakshi Govt Womens College, Madurai, 25.02.16 & 26.02.16
- Chitrakooda malai Punaivu – Kambarum Valmikiyum, World Tamil Research Seminar On Kambanil Iyarkai, Karaikudi Kamban Kazhaham & Andaman Tamil Ilaikkiya Mandram, Andaman, 10.04.2016
- Tholkappiyathil Pillai – Collinaiyu Porunmai, International Seminar on Tamil Culture, Center for Tamil Culture , Alagappa University – 22.10.2016 &23.10.2016
- Vayinum Kaiyinum Vaguththa Kalaihal, National Seminar on the role of Arts in Tamil Culture, Centre for Tamil Culture & Department of Fine Arts, Alagappa University, Karaikudi , 16.12.2016 .
- Barathidasanin Samaththuva kolhai, National Seminar on Contemporary Tamilian and Barathidasan's work, Department of Tamil, Alagappa University, Karaikudi,20.12.2016 &21.12.2016 .

Cumulative Impact factor:
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h- index:
i10- index:

CURRICULUM VITAE

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Educational qualification:

- M.A.,
- M.Phil.,
- Ph.D

Professional experience:

- 14 Years

Honours and Awards:

-

Recent publications:

National

- Madhan, P. "TO END VIOLENCE AGAINST WOMEN" GEM NATIONAL JOURNAL OF WOMEN'S STUDIES, vol: VI, ISSN: 2320-6403, Page No: 100

International

- Madhan, P. "WOMEN CHAMPIONS OF JUSTICE: A COMPARISON OF KANNAKI AND PORTIA" LITERARY INNOVATIONS –A Bi-Annual International Literary Journal. Vol: II No: 1,ISSN: 2279-0128,Page No:68
- Mathan, P. "A THEMATIC EXPLORATION OF BERNAD SHAW'S PYGMALION" LITERARY INNOVATIONS –A Bi-Annual International Literary Journal. ISSN: 2279-0128Vol: III, ISSUE: 1,Page No: 56
- Mathan, P. "CULTURAL CONFLICTS AND ETHNIC ANXIETY IN SIDHWA'S AN AMERICAN BRAT" LITERARY INNOVATIONS –A Bi-Annual International Literary Journal. ISSN: 2279-0128, Vol: III, ISSUE: 2, Page No: 38
- Mathan, P. "THE TRANSCULTRUAL PHASE IN AMITAV GHOSH'S THE HUNGRY TIDE: A STUDY" LITERARY INNOVATIONS –A Bi-Annual International Literary Journal. ISSN: 2279-0128, Vol: III, ISSUE: 2,Page No: 62
- Mathan, P. "AN ANALYSIS OF T.S. ELIOT'S POETIC TECHNIQUES" LITERARY INNOVATIONS –A Bi-Annual International Literary Journal. ISSN: 2279-0128, Vol: IV, ISSUE: 1,Page No: 20
- Madhan, P. "AN ANALYSIS OF CHALLENGES OF WOMEN IN INDIA AND SUGGESTIVEREMEDIES FOR THEIR EMPOWERMENT" Social Sciences International Research Journal, ISSN: 2395-0544.
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Recent publications:

National

- Ravindran J, G. Geetha Priya and E. Kannapiran, 2011. Effect of Concentrating and Exposing the Bioluminescent Bacteria to the Non Luminescent allo – Bacterial Extracellular Products on their Luminescence. Journal of Luminescence, 26: 23–28.
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