Kurukshetra University, Kurukshetra

(Established by the State Legislature Act-XII of 1956)

("A++" Grade, NAAC Accredited)

Syllabus of the Programme

for

Post Graduate Programme

M.Sc. Home Science (Clothing and Textiles)

(

as per NEP 2020
Curriculum and Credit Framework for Postgraduate Programme

With Multiple Entry-Exit, Internship and CBCS-LOCF
With effect from the session 2024-25 (in phased manner)

DEPARTMENT OF HOME SCIENCE

FACULTY OF LIFE SCIENCE

KURUKSHETRA UNIVERSITY, KURUKSHETRA -136119

HARYANA, INDIA

CLT-1

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Session: 2024-25			
Part A - Introduction			
Name of Programme	M.Sc. Clothing and Textiles		
Semester	I		
Name of the Course	Historic Textiles & Costumes		
Course Code	M24-CLT-101		
Course Type	CC-1		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD,TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO 1: Know about the different traditional textiles of India. CLO 2: Get knowledge regarding different traditional sarees of various states in India. CLO 3: Compare different resist dyeing techniques of India with other countries. CLO 4: Get knowledge regarding different historic world costumes.		
Credits	Theory	Practical	Total
	4	0	4
Teaching Hours per week	4	0	4
Internal Assessment Marks	30	0	30
End Term Exam Marks	70	0	70
Max. Marks	100	0	100
Examination Time	3 hours		

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.

Unit	Topics	Contact Hours
I	**1. Study of Traditional Textiles of India-** 1.1 Patolas of Gujarat 1.2 Bandhani of Rajasthan 1.3 Shawls & carpets of Kashmir 1.4 Brocades of Banaras 1.5 Kalamkari of AP 1.6 Patchitra of Orissa &Madhubani paintings 1.7 Few other famous textiles like Mulmul of Dacca, Jamdani, Amroo, Himroo, and Mashroo.	15
II	**2. Traditional Sarees of India-** 2.1 Ikat sarees of Orissa 2.2 Maheshwari&chanderi of Madhya Pradesh 2.3 Patola	15

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	2.4 Baluchar 2.5 Paithani 2.6 Kanjivaram 2.7 Kanchipuram 2.8 Jamdani 2.9 Sidipeth. 2.10 Narayanpeth 2.11 Pochampalli 2.12 Bandhni 2.13 Banaras brocade sarees 2.14 Gadwal 2.15 Gharchola 2.16 Vichitrapur 2.17 Gari 2.18 Tanchoi.	
III	**3. Development of Resist dyeing in Indonesia.** **4. Development of weaving in India and England.** **5. Study of traditional costumes of different states of India in relation to fabrics, motifs and other related accessories.**	15
IV	**6. Ancient Indian Dresses:** 6.1 Dress of Aryans. 6.2 Dress during 1100 AD to 1730 AD (Islamic Influence) 6.3 Dress during 1730 AD to 1947 AD (British Period). **7. World Costume in ancient civilization- Features of dress, headgear, accessories and footwear of:** 7.1 ASIA (a) Babylonia (b) Persia (c) Assyria 7.2 Europe (a) Greece (b) Rome (c) Byzantine (d) France 7.3 Africa (a) Egypt (b) Coptic	15
	Total Contact Hours	60

Suggested Evaluation Methods			
Internal Assessment: 30		**End Term Examination: 70**	
➢ **Theory**	**30**	➢ **Theory:**	**70**
• Class Participation:	5	Written Examination	
• Seminar/presentation/assignment/quiz/class test etc.:	10		
• Mid-Term Exam:	15		

PartC-Learning Resources

Recommended Books/e-resources/LMS:

1. Bosom worth Dorothy (1995): The Encyclopedia of Patterns and Motifs, Studio Editions, London.
2. Dhamija Jasleen (1979): Living Traditions of Iron's Crafts, Vikas Publishing House, New Delhi.
3. Dupont Auberville, M. (1989): Classic Textiles, Bracken Books, London.
4. Gillow John (1992): Traditional Indonesian Textiles, Thames AND Hudson, London.
5. Gillow John and Sentence Bryan (1999): World Textiles, Thames and Hudeson,

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London.
6. Ginsburgh, M. (1977): Embroidery, Marshall Cavendish Editions, London.
7. Guy John (1998): Woven Cargos, Thames and Hudson.
8. Harris Jennifer (1993): Textiles 5000 years, Henry and Brans Inc., New York.
9. Harvey Janet (1966): Traditional Textiles of Central Asia, Thames and Hudson, London.
10. Jones Owen (1997): The Grammar of Omament, Bernard Quatrich, London.
11. Lewis Ethel: Romance of Textiles.
12. Paine Sheila (1990) : Embroidered Textiles Traditions, Thames and Hudson, London.
13. Stone Miller Rebecca (1994): To weave for the Sun, Thames and Hudson, London.
14. Readers Digest (1973): History of Man- The Last Two Million Years.
15. J Anderoon Black, Muidge Garland, A History of Fashion orbis Publishing Limited, London.
16. Boucher Francoius, A History of Costume in the West, Thames and Hudson.
17. R. Tumer Wilcox, The Dictionary of Costume B. T. Batsford Ltd.
18. GeroginaO'Hara: The encyclopedia of Fashion, Thames and Hudson.
19. Gini StephenesFrings: Fashion from concept to Consumer, Prentice Hall, N. Jersey.
20. Revolution in Fashion : The Kyoto Costume Institute, Abbeville

Session: 2024-25			
PartA - Introduction			
Name of Programme	M.Sc. Clothing and Textiles		
Semester	I		
Name of the Course	Advance Apparel Construction		
Course Code	M24- CLT -102		
Course Type	CC-2		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO 1: Use industry terminology and equipment used for apparel construction techniques in appropriate ways. CLO 2: Understand different apparel making techniques and their implementation as designer. CLO 3: Understand the fitting sessions for best fitted garments. Improve fitting techniques. CLO 4: Understand the buying criteria of different types of fabrics.		
Credits	Theory	Practical	Total
	4	0	4
Teaching Hours per week	4	0	4
Internal Assessment Marks	30	0	30
End Term Exam Marks	70	0	70
Max. Marks	100	0	100
Examination Time	3 hours		

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.

Unit	Topics	Contact Hours
I	**1. Detailed study of industrial mechanism and equipment used for:** 1.1 Cutting 1.2 Sewing 1.3 Finishing 1.4 Embellishment **2. Study the interrelationship of needles, thread, stitches length & fabric** **3. Buying Criteria for:** 3.1 Knits, silks, denim & other special fabrics 3.2 Readymade garments.	15
II	**4. Methods of pattern making** 4.1 Drafting	

	4.2 Flat pattern 4.3 Draping **5. Developing paper patterns:** 5.1 Understanding the commercial paper pattern	15
III	**6. Fitting – factors affecting good fit, common problems encountered and remedies for fitting defects (upper and lower garments)** **7. Clothing for people with special needs.** 7.1 Maternity and lactation period 7.2 Old age 7.3 Physically challenged.	15
IV	**8. Overview of the Apparel Industry** 8.1 History of apparel industry 8.2 Mass – Production process 8.3 Costing **9. Evaluating the quality of apparel:** 9.1 Testing & Inspection 9.2 Quality specifications and standards in cutting, sewing, supplies, finishing & packing	15
	Total Contact Hours	60

Suggested Evaluation Methods

Internal Assessment: 30		**End Term Examination: 70**	
➢ **Theory**	**30**	➢ **Theory:**	70
• Class Participation:	5	Written Examination	
• Seminar/presentation/assignment/quiz/class test etc.:	10		
• Mid-Term Exam:	15		

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Armstrong, Pattern Making for/Fashion Design
2. Gioello and Berke: Figure Type and Size Ramnge, Fairchild Publications, New York.
3. Grate and Storm: Concepts in Clothing, McGraw Hill Book Co. New York. Bina Abling, Fashion Sketch Book, Fairchild Publications, New York Claire Shaeffers: Fabric Swing Guide, Chilton Book Company, Radnot, Pennsylvania.
4. Harold Carr and Barbara Lathan: The Technology of Clothing Manufacture, Oxford BSP Professional Book London.
5. Slampler, Sharp &Donnell: Evaluating Apparel, Quality - Fairchild Publications, New York.
6. NataleeBray: Dress Fitting Published by Blackwell Science Ltd.
7. Margohs Design Your Own Dress Pattern Published By Double Day And Co. Inc., New York.

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Session: 2024-25			
Part A - Introduction			
Name of Programme	M.Sc. Clothing and Textiles		
Semester	I		
Name of the Course	Textile Chemistry		
Course Code	M24- CLT -103		
Course Type	CC-3		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO1: Understand the polymers and polymerization process of textile Fibers. CLO2: Understand the system of molecular arrangement to determine the fiber properties CLO3: Understand the processes, chemical properties of cellulosic, Protein, manmade, synthetic fibers. CLO4: Understand different dye class and applied on various types of historic and modified fibers.		
Credits	Theory	Practical	Total
	4	0	4
Teaching Hours per week	4	0	4
Internal Assessment Marks	30	0	30
End Term Exam Marks	70	0	70
Max. Marks	100	0	100
Examination Time	3 hours		

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.

Unit	Topics	Contact Hours
I	1. **Introduction**: Why study of textile chemistry is needed. Why this subject is related to textile and clothing. **2. Polymer Chemistry:** 2.1 Polymer, methods of polymerization, polymerization process. 2.2 Definition of co-polymer, oligomer, graft-co-polymer. 2.3 Degree of Polymerization, use of X-Ray diffraction method in investigating molecular structure of textile fibers. 2.4 Orientation and crystallinity of polymers their influence on fiber properties.	15

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II	**3. Chemistry of Natural Fibers:** 3.1 Cellulosic fibers: Introduction to cotton, varieties, properties, longitudinal and cross sectional view. Molecular structure, action of acids and alkalis. 3.2 Regenerated Cellulosic fibers: - Viscose-rayon, cuprammenium-rayon, cellulose acetate, Polynosic - their manufacture properties and uses. 3.3 Protein fibers: - Wool & silk Chemical composition, molecular structure, physical & chemical properties action of acids & alkalis and other chemicals. Felting of wool, degumming and weighting of silk, shrink proofing of wool. 3.4 Synthetic Fibers: - Polyester (Terylene, Dacron) Polyamide (Nylon 6, Nylon 66) and acrylonitrile fibers. Chemistry of fibers: - Raw material, manufacturing process from polymer to fiber stage. Physical & chemical properties their uses in textile & clothing. Comparison of wet, dry and melt spinning methods.	15
III	**4. Natural and synthetic fibers:** 4.1Chemical composition, properties and uses namely: - Jute flax, polyethylene, polypropylene, polycarbonate, metallic glass fiber, and polyurethane fibers. 4.2Scientific basis of scouring and bleaching of textile fibers and fabrics. Role of soaps and detergents, scouring agents, bleaching agents, surface-active compounds, optical brightening agents, methods of application of bleaching agents to different fibers like cotton, wood, silk and rayon.	15
IV	**5. Finishes:** 5.1 Importance & classification Mechanical finishes: Singeing, calendering, tentering, crabbing, decating, glazing, schreinerizing, embossing, moiring, cireing, beetling, raising, napping, sanding, crepe, shearing, weighting. 5.2 Chemical finishes: - Mercerization, parchmentisation, wrinkle resistant finishes, chlorination, burnt-out effect. Resins, their application and chemistry. 5.3 Special purpose finishes: - Flame retardant, water repellant, antistatic, stain & soil release, moth proofing, mildew proofing, antimicrobial, absorbency finishes. 5.4 New developments in Fiber Manufacture Bi-component and Bi-constituent fibers special purpose fibers	15
	Total Contact Hours	60

Suggested Evaluation Methods			
Internal Assessment: 30		**End Term Examination: 70**	
➢ **Theory**	**30**	➢ **Theory:**	**70**

• Class Participation:	5	Written Examination
• Seminar/presentation/assignment/quiz/class test etc.:	10	
• Mid-Term Exam:	15	

Part C-Learning Resources

Recommended Books/e-resources/LMS:

Shenai, V.A. (1984): Technology of Textile Processing, Vol.-IX, Sevak Publication

Cook, J. Gordon, Hand Book of Textile Fibers, Man-Made Fibers, Merrow Publishing Co. Ltd. England.

Monenef: RW Manmade Fibers, John Willey & Sons New York. Trotman, E.R. (1975): Dyeing and Chemical Technology of Textile Fibers Charles Griffino Company Ltd., London.

Marsh; J.T. (1979): An Introduction to Textile Finishing, B.I., Publications, Mark H., wooding N.S. & Atlas, Smeeds, (1970): Chemical after Treatment of Textiles, John Willey & Sons Inc., NY.

Lewin, M. and Sello, Stephen B. (1983): Handbook of Fiber Science and Technology. Vol. II. Chemical Process of Fibers and Fabrics, Functional Finishes- Part A, Marcel Deker, Inc., NY and Basel.

Shenai, V.A. (1991): Introduction to the Chemistry of Dyestuffs, Sevak, Prakashan.

Gulrajani M.L. and Gupta, D (1992): Natural Dyes and their Application to Textiles, IIT Delhi.

Mohanty, Chandramouli, Naik, (1987): Natural dyeing process of India, Ahmedabad, Calico Museum of Textiles.

India Horti business on the.http://www.agroindia.org/1HOL

Session: 2024-25			
Part A - Introduction			
Name of Programme	M.Sc. Clothing and Textiles		
Semester	I		
Name of the Course	Fabric Construction and Woven Analysis		
Course Code	M24- CLT -104		
Course Type	CC-4		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO1: Understand the contemporary and new spinning system. CLO2: Understand the modern yarn production technology. CLO3: Understand different weave designs details and know the various fabric structures according to their construction techniques. CLO4: Understand the Various looms and weaving operations.		
Credits	Theory	Practical	Total
	4	0	4
Teaching Hours per week	4	0	4
Internal Assessment Marks	30	0	30
End Term Exam Marks	70	0	70
Max. Marks	100	0	100
Examination Time	3 hours		

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.

Unit	Topics	Contact Hours
I	**1. Principles of Yarn Manufacture:** 1.1 Yarn processing formaturalfiberscotton,woolandworsted,jute,linenbyconventionaland nonconventional systems - 1.1.1 OE Spinning- Rotar, Vortex, Friction, Air jet electrostatic.Twisters (Bob, Signal, twilo) 1.1.2 Self-Twisting 1.1.3 Yarn from Fibers	15
II	**2. Yarn Nomenclature and Measurement yarn numbering systems.** **3. Geometry of yarns and its relationship to fabric properties.**	15

	4. Principles of spinning in production of man-made fiber: 4.1 Hot and cold drawing 4.2 Spun yarn, bi-constituent and bi-component yarn. 4.3 Blending: principles, types &technology. 4.4 Modern development in yarns and at their manufacture. 4.5FabricFaults-yarnandfabricdefectsand their remedies.	
III	**5. Principles of fabric manufacture** 5.1 Basic principles, characteristics and significancesofdifferentprocesswovenknitted,non-woven,laces,braidsetc. 5.2 Fabric classification **6. Weaving** 6.1 Parts and functions of handloom 6.2 Sequence of operation in warp and weft preparations. 6.3 Various types of looms and their drive. 6.4 Advantages & disadvantages of shuttle less, projectile, rapier, air jet & water jetlooms. 6.5 Basic & decorative weaves - plain, Twill and satin derivatives. Dobby & Jacquard shedding & weaving terry, pile, leno, bird's eye, mock leno, spot, swivel and lappet, double weaving, etc.	15
IV	**7. Knitting** 7.1 Knitting machines, Types of knitting 7.2 Properties 7.3 Production of special knits and integral garments. 7.4 Felts & Non-Woven 7.5 Braiding & Lace making 7.6 Textile design centers and their functions 7.7 Defects of Knit Wear	15
	Total Contact Hours	60

Suggested Evaluation Methods

Internal Assessment: 30		**End Term Examination: 70**	
➢ **Theory**	**30**	➢ **Theory:**	**70**
• Class Participation:	5	Written Examination	
• Seminar/presentation/assignment/quiz/class test etc.:	10		
• Mid-Term Exam:	15		

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Spun Yarn Technology-EricOxtobyButterworthPublication.American Cotton Handbook - Merrill

2. SubodhKumarAggarwal(1980):TextileProcessingandAuxiliaries. Textiles - Burker - (1988) Abhishek Publication.
3. EssentialsofTextiles-M. Joseph,HolfRinechants,WinstonPublications. Irene Wallen Designing with Threads.
4. EdwardMiller(1992)Textiles.Corbman,B.FibertoFabric.BookTextiles Year 1998 By A.F. Barker Chapter-7, Principles of Weaving Pg., 154-171
5. Book-FromFiberstoFabrics,Gale,E.,1968,p.54ColorandWeave- Margaret & Thomas, Winderkuechd.
6. Grociki,Z.J.:TextilesDesignandColour,London,LongmansGreenand Co. Ltd.
7. WilliamWatson: AdvancedTextilesDesign,London,LongmansGreen and Co. Bombay.
8. Nisbet,H: GrammarofTextileDesign,TarapoprewaleSonsandCo. Bombay.
9. Aswani,K.T.: WeavingCalculations-TaraporewaleSonsandCo.Ltd., London.
10. Sengupta, R.: Weaving Calculations - Taraporewale Sons and Co. Bombay.
11. RobinsonandMakr: Wovenclothconstruction-ButterWorthand Co. Ltd. London.
12. Thorpe.Azaba: ElementsofWeaving-DoubledayandCo.Inc., New York.
13. Singh, R.B: Modern Weaving, Mahajan Book Distributors, Ahmedabad.
14. Kulkami,M.M:WeavingTechnology;VinindaPublication,Jalgaon.
15. Amalsar,D.M.:YarnandClothCalculation.
16. Amalsar,D.M.:HandloomWeaving
17. Amalsar,D.M.:FabricStructureandClothAnalysis.
18. Ajgaonkar, D.B: Knitting technology, Universal Publishing Corp. Mumbai
19. Ingold, T.S. & Miller, K.S.: Geotextiles Hand book- Thomas Telford, London.
20. Book - Textiles Year 1998 By A.F. Barker Chapter 7, Principles of WeavingPg-154 -171

Session: 2024-25			
Part A–Introduction			
Name of the Programme	M.Sc. Clothing and Textiles		
Semester	I		
Name of the Course	Garment Construction Techniques		
Course Code	M24- CLT -105		
Course Type	PC-1		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO1: Construct garment details in modified way. CLO2: Construct tailored garments, in correct sequence of operations CLO3: Construct and draft various types of plackets, collars, sleeves and different garment decoration techniques. CLO4: Identify the components and evaluate quality of apparel.		
Credits	Theory	Practical	Total
	0	4	4
Teaching Hours per week	0	8	8
Internal Assessment Marks	0	30	30
End Term Exam Marks	0	70	70
Max. Marks	0	100	100
Examination Time	0	4 hours (or as decided by PGBOS)	

Part B-Contents of the Course

	Practicals	Contact Hours
	1. Designing through flat pattern- Dart manipulation **2. Development of variation in sleeves, sleeves and bodice combination.** **3. Plackets** 3.1 Centre button closing 3.2 Asymmetrical Closing 3.3 Double breasted 3.4 Fly front opening 3.5 Zipper in seam 3.6 Without seam. **4. Development of paper pattern and construction of garments (using checks, stripes)** 4.1 Unidirectional & novelty fabrics	120

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	5. Development of slopers for skirt variation 5.1 Low & High Waist 5.2 ALine, Flared, Circular, Pleated, Yoked. **6. Pockets** 6.1 Slashed pockets-welt, bound flaps 6.2 Inseam pockets–closed and open **7. Designing, drafting and construction of skirt, top, lady's trousers, gown and designer lady's suit.**	

Suggested Evaluation Methods			
Internal Assessment: 30		**End Term Examination: 70**	
➢ **Practicum**	**30**	➢ **Practicum**	**70**
• Class Participation:	5	Lab record, Viva-Voce, write-up and execution of the practical	
• Seminar/Demonstration/Viva-voce/Lab records etc.:	10		
• Mid-Term Exam:	15		

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Armstrong, Pattern Making for/Fashion Design
2. Gioello and Berke: Figure Type and Size Ramnge, Fairchild Publications, New York.
3. Grate and Storm: Concepts in Clothing, McGraw Hill Book Co, New York. Bina Abling, Fashion Sketch Book, Fairchild Publications, New York Claire Shaeffers: Fabric Swing Guide, Chilton Book Company, Radnot, Pennsylvania.
4. Harold Carr and Barbara Lathan: The Technology of Clothing Manufacture, Oxford BSP Professional Book London.
5. Slampler, Sharp & Donnell: Evaluating Apparel, Quality - Fairchild Publications, New York.
6. Natalle Bray: Dress Fitting Published by Blackwell Science Ltd.
7. Margohs Design Your Own Dress Pattern Published By Double Day And Co. Inc., New York.

Session: 2024-25			
Part A - Introduction			
Name of the Programme	M.Sc. Clothing and Textiles		
Semester	I		
Name of the Course	Fiber Identification and Its Analysis		
Course Code	M24- CLT -106		
Course Type	PC-2		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO1: Identify fiber properties CLO2: Know the dyeing Procedures of natural dyes CLO3: Analyze quantitative analysis of blends. CLO4: Gain knowledge of modified and special Purpose fibers.		
Credits	Theory	Practical	Total
	0	4	4
Teaching Hours per week	0	8	8
Internal Assessment Marks	0	30	30
End Term Exam Marks	0	70	70
Max. Marks	0	100	100
Examination Time	0	4 hours (or as decided by PGBOS)	

Part B- Contents of the Course

Practicals	Contact Hours
1. Identification of fibers: - (Cotton, Polyester, Viscose, Polyamide, silk, Wool etc.) Use of burning test, Microscopic examination, chemical test &solubility. 2. Qualitative & Quantitative analysis of binary blends - Polyester/ cotton, Polyester/viscose, polyester/wool, cotton/ wool. 3. Bleaching & Scouring of Cotton. 4. (a)Dyeing of cotton with direct, reactive and azoic dyes. (b)Dyeing of wool & silk with acid dyes, basic dyes. 5. Effect of degumming on silk. 6. Dyeing of Cotton with direct dye. 7. Dyeing of Cotton & Silk with Acid dye & basic dye. 8. Different styles of Printing (Block & Screen)	120

Suggested Evaluation Methods

Internal Assessment: 30		End Term Examination: 70	
➢ Practicum	30	➢ Practicum	70
• Class Participation:	5	Lab record, Viva-Voce, write-up and execution of the practical	
• Seminar/Demonstration/Viva-voce/Lab records etc.:	10		
• Mid-Term Exam:	15		

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Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. Shenai, V.A. (1984): Technology of Textile Processing, Vol.-IX, Sevak Publication 2. Cook, J. Gordon, Hand Book of Textile Fibers, Man-Made Fibers, Merrow Publishing Co. Ltd. England. 3. Moncnef: RW Manmade Fibers, John Willey & Sons New York. Trotman, E.R. (1975): Dyeing and Chemical Technology of Textile Fibers Charles Griffino Company Ltd., London. 4. Marsh; J.T. (1979): An Introduction to Textile Finishing, B.I., Publications. Mark H., wooding N.S. & Atlas, Smeeds, (1970): Chemical after Treatment of Textiles, John Willey & Sons Inc., NY. 5. Lewin, M. and Sello, Stephen B. (1983): Handbook of Fiber Science and Technology. Vol. II, Chemical Process of Fibers and Fabrics, Functional Finishes- Part A, Marcel Deker, Inc., NY and Basel. 6. Shenai, V.A. (1991): Introduction to the Chemistry of Dyestuffs, Sevak, Prakashan. 7. Gulrajani M.L. and Gupta, D (1992): Natural Dyes and their Application to Textiles, IIT Delhi. 8. Mohanty, Chandramouli, Naik, (1987): Natural dyeing process of India, Ahmedabad, Calico Museum of Textiles. 9. India Horti business on the.http://www.agroindia.org/HOL

Session: 2024-25	
Name of the Programme	M.Sc. Clothing and Textiles
Semester	I
Name of the Course	Seminar
Course Code	M24-CLT-107
Course Type: (CC/DEC/PC/Seminar/CHM/OEC/EEC)	Seminar
Level of the course	400-499
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO1: To enhance the communication skill of students toexpress the subject effectively during academic and professional discourse. CLO2 : To improve their ability to comprehend and integrate academic text.
Credits	Seminar
	2
Teaching Hours per week	2
Max. Marks	50
Internal Assessment Marks	0
End Term Exam Marks	50
Examination Time	1 hour
Instructions for Examiner: Evaluation of the seminar will be done by the internal examiner(s) on the parameters as decided by staff council of the department. There will be no external examination/viva-voce examination.	

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Session: 2024-25			
Part A - Introduction			
Name of Programme	M.Sc. Clothing &Textiles		
Semester	II		
Name of the Course	Textile Industry In India		
Course Code	M24- CLT -201		
Course Type	CC-5		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO 1: Understand the textile supply chain, associated sustainability issues and the effect of industrial revolution on current fashion scenario CLO 2: Understand the National textile policy and foreign trade policy. CLO 3: Understand the textile and clothing industry in relation to various aspects. CLO 4: Help students understand the process of setting up a textile industry.		
Credits	Theory	Practical	Total
	4	0	4
Teaching Hours per week	4	0	4
Internal Assessment Marks	30	0	30
End Term Exam Marks	70	0	70
Max. Marks	100	0	100
Examination Time	3 hours		

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.

Unit	Topics	Contact Hours
I	**1. Importance of textile and clothing industry in the Indian economy in terms of domestic consumption, employment and per-capita income, gross national product and international trade.** **2. National textile policy 1986 and latest policy** 2.1 Changes in focus over the years in terms of objective 2.2 Function ability 2.3 Regulatory mechanism 2.4 Futuristic trends.	15
II	**3. Status of textile and clothing Industry over a decade**	15

	3.1 Production and consumptions pattern 3.2 Locale & employment potential 3.3 R & D, problems and prospects 3.4 Research associations & institutes 3.5 Cotton, wool, silk, jute, rayon and synthetic industry, Handloom industry, readymade garment industry, hosiery industry.	
III	**4. Status of textile & apparel industry in global scenario** 4.1 Gatt / WTO ISO 9000-2000 series and ISO 14000 series 4.2 SWOT analysis 4.3 Key Factors Fueling the Growth of the Textile Industry in India.	15
IV	**5. Export and Import policies of textiles & apparels** 5.1 Problems in export and import of textiles 5.2 Trends in Indian Exports 5.3 Export infrastructural facilities & ncentives.	15
Total Contact Hours		60

Suggested Evaluation Methods

Internal Assessment: 30		**End Term Examination: 70**	
➢ **Theory**	**30**	➢ **Theory:**	**70**
• Class Participation:	5	Written Examination	
• Seminar/presentation/assignment/quiz/class test etc.:	10		
• Mid-Term Exam:	15		

Part C- Learning Resources

Recommended Books/e-resources/LMS:

1. Textile Industry in India: Changing Trends and Employment Challenges- Bindu Oberoi; UK ed-2016; ISBN-13: 978-0199469352
2. Textile Industry in the 21st century- Asiya Chaudhary- April 2014
3. The Textile Industry and Exports in Post Liberalization India- Rahul Dhiman- July 2020
4. Indian Textile Industry- Shuji Uchikawa
5. Textile and Fashion Education Internationalization: A Promising Discipline from South Asia- Xinfeng Yan; Lihong Chen
6. Indian textile industry: liberalization and world market- JayantaBagchi

Session: 2024-25			
Part A – Introduction			
Name of Programme	M.Sc. Clothing & Textiles		
Semester	II		
Name of the Course	Dyeing & Printing in Textiles		
Course Code	M24- CLT -202		
Course Type	CC-6		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO 1: Explain the effect of dyes and chemicals on the properties of textile materials, in both aesthetic and functional terms. CLO 2: Independently carry out different types of dyeing, printing and processing of textile materials. CLO 3: Describe the methods and styles of printing. CLO 4: Apply of dyeing technique on different types of fabric.		
Credits	Theory	Practical	Total
	4	0	4
Teaching Hours per week	4	0	4
Internal Assessment Marks	30	0	30
End Term Exam Marks	70	0	70
Max. Marks	100	0	100
Examination Time	3 hours		

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.

Unit	Topics	Contact Hours
I	**1. Printing** 1.1 Introduction 1.2 Difference between dyeing and printing. 1.3 Methods of printing 1.4 Historicaldevelopmentofprintingmethods–block,stencil,screenroller and rotary screens used at cottage and industrial level. 1.5 Printingpastes– thickeningagentsandauxiliariesforprintingandtheir suitability to various classes of dyes and fibers.	15

II	**2. Styles of Printing** 2.1 Direct style, resist or resource style, discharge style and raised style. 2.2 Styles and methods of printing traditionally used in India. 2.3 Special Printing Procedures: Polychromatic dyeing, transfer printing, carpet printing, flock printing. **3. Finishing and after treatment of printed goods at cottage and industrial level.** **4. Advances in printing technology**	15
III	**5. Preparation of fabric for dyeing and printing** 5.1 Scouring 5.2 Bleaching 5.3 Desizing **6. Reagents used in dyeing and printing, and their application** **7. Specific preparatory steps for cotton, wool, silk and man-made fibers.** **8. Equipments used at cottage and industrial level for yarn, fabric and price goods.** **9. Dyes** 9.1 Classification, definition, components. 9.2 Colour and chemical constitution of dyes. 9.3 Dyeing with chemical dyes. 9.4 Direct, reactive, vat, Sulphur, azo (for cellulosic). 9.5 Acid, metal complex, chrome mordant (for proteins). 9.6 Basic, disperse (forman-made). 9.7 Dyeing auxiliaries	15
IV	**10. Dyeing with Natural dyes** 10.1 Useof pigments 10.2 Dyeing machines for fiber, yarn and fibers. 10.3 Industrial dyeing practices. 10.4 Dyeing auxiliaries. **11. Textile design through dyeing** 11.1 Tie and Dye 11.2 Batik	15

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	11.3 Level & Cross dyeing 11.4 Dyeing defects and remedies.	
Total Contact Hours		60

Suggested Evaluation Methods			
Internal Assessment: 30		**End Term Examination: 70**	
➢ **Theory**	**30**	➢ **Theory:**	**70**
• Class Participation:	5	Written Examination	
• Seminar/presentation/assignment/quiz/class test etc.:	10		
• Mid-Term Exam:	15		

PartC-Learning Resources

Recommended Books/e-resources/LMS:

1. A.Shenai(1987),ChemistryofDyesandPrinciplesofDyeingSevakPrakashan. Mumbai.
2. H.A.Lubs,RobertE.TheChemistryofSyntheticDyesandpigments. Krieger Publishing Company, New York.
3. V.A.Shenai(1999),AzoDyes–FactsandFigures–SevakPrakashan, Mumbai.
4. R.S.Prayag,TechnologyTextilePrinting–Noyes Data Corporation.
5. V.A.Shenai(1977),TechnologyofPrinting–TechnologyofTextile Processing, Vol. IV, Sevak Publication.
6. M.L.GulrajaniandDeeptiGupta(1990),NaturaldyesandtheirApplication to Textiles", ed. I.T.I. Delhi Publications.
7. JohnandMargarotCannow(1994),DyePlantsandDyeing,TheHerbert Press (UK).
8. ASTMandISIStandards.
9. K.Venkatrama(1970),ChemistryofSynthetic Dyes,PartIandII.

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Session: 2024-25			
Part A – Introduction			
Name of Programme	M.Sc Clothing & Textiles		
Semester	II		
Name of the Course	Textile Testing & Quality Control		
Course Code	M24- CLT -203		
Course Type	CC-7		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO 1: Employ various sampling techniques in textile testing. CLO 2: Test different types of textile fibers using the relevant instrument. CLO 3: Measure yarn count, twist and irregularity using the relevant instrument. CLO 4: Measure yarn count, twist and irregularity using the relevant instrument.		
Credits	Theory	Practical	Total
	4	0	4
Teaching Hours per week	4	0	4
Internal Assessment Marks	30	0	30
End Term Exam Marks	70	0	70
Max. Marks	100	0	100
Examination Time	3 hours		

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.

Unit	Topics	Contact Hours
I	**1. Objectives & importance of textile testing.** **2. Importance of standards, different types of standards** **3. Introduction to internal bodies such as ISI, ASTM, BIS etc.** **4. Quality control of textile products.** **5. Quality standards as applicable to various types of textiles (Garments yardage, knits, woven, carpets, processing, dyeing)**	15
II	**6. Fiber Testing** 6.1 Definition & objectives	15

	6.2 Method of testing staple length, mean length, short fiber percentage, fineness, evenness, maturity, tensile strength, elongation at break. 6.3 Interpretation of results. **7. Yarn Testing** 7.1 Definition &Objective 7.2 Methods of testing count, Denier twist, diameter, crimp, tensile strength, elongation at break, stress- strain curve, elastic recovery, yarn appearance &evenness, cloth cover 7.3 Interpretation of results.	
III	**8. Fabric Testing:** 8.1 Definition & objectives 8.2 Methods of testing length, width, bow & skewness, thread count, ends & picks, weight, thickness, breaking strength, tear strength, bursting strength, abrasion, resistance, stiffness, drapability, pilling, crease recovery, handle, flammability 8.3 Interpretations of results.	15
IV	**9. Thermal properties of textile fibers.** **10. Porosity, air and water permeability of fabrics, thermal conductivity.** **11. Garment finishing–colorfastness, shrinkage.** **12. Concept of fabric faults as related to stages of manufacture & their remedies.**	15
Total Contact Hours		60
		Contact Hours

Suggested Evaluation Methods			
Internal Assessment: 30		**End Term Examination: 70**	
➢ **Theory**	30	➢ **Theory:**	70
• Class Participation:	5	Written Examination	
• Seminar/presentation/assignment/quiz/class test etc.:	10		
• Mid-Term Exam:	15		

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Booth,J.E.:PrinciplesofTextileTesting–NewnessButterWorth,London.
2. Billie,J.CollierandHelerH.Epps–TextileTestingandAnalysis–Prentice Hall, New Jersey.
3. John.H.Skinkle–TextileTesting–Brooklyn, NewYork.
4. GroverandHareby–HandbookofTextileTestingandQualityControl, Wiles.
5. ISISpecifications,BISspecifications.
6. ASTMStandards

Session: 2024-25			
Part A - Introduction			
Name of Programme	MSc Clothing & Textiles		
Semester	II		
Name of the Course	Social & Psychological Aspects Of Clothing		
Course Code	M24- CLT -204		
Course Type	CC-8		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO1: understand the development of clothing from original stage to present era. CLO2: know different personality theories CLO3: understand the psychological aspects of clothing with reference to different criteria. CLO4: know about the relationship of clothing with physical and mental health.		
Credits	Theory	Practical	Total
	4	0	4
Teaching Hours per week	4	0	4
Internal Assessment Marks	30	0	30
End Term Exam Marks	70	0	70
Max. Marks	100	0	100
Examination Time	3 hours		

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.

Unit	Topics	Contact Hours
I	**1. Origin of Clothing** **2. Theories of clothing:** 2.1 Theory of modesty 2.2 Theory of immodesty 2.3 Theory of protection 2.4 Theory of adornment 2.5 Combined need theory, and other theories in fashion.	15
II	**3. Relation between clothing and other disciplines.** 3.1 Physical Health	15

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	3.2 Mental Health Clothing and first impressions	
III	**4. Relation between clothing and the wearer:** 4.1 Personality and self-concept. 4.2 Motivation in clothing choices. 4.3 Individual values, interests and attitudes related to clothing.	15
IV	**5. Behavior and clothing choices, practices and effect of clothing on the individual.** **6. Clothing and Society.** **7. Clothing and social behavior** **8. Clothing influenced by religion and culture** **9. Clothes and conformity** **10. Clothes and occupation** **11. Uniforms in schools and college.** **12. Clothes, color and its impact.**	15
Total Contact Hours		60

Suggested Evaluation Methods

Internal Assessment: 30		**End Term Examination: 70**	
➢ **Theory**	**30**	➢ **Theory:**	**70**
• Class Participation:	5	Written Examination	
• Seminar/presentation/assignment/quiz/class test etc.:	10		
• Mid-Term Exam:	15		

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Avis.M.Dry(1961):ThePsychology ofJung,Methuen&Co.,London.
2. Horn,MarilyuJ.(1968):TheSecondSkin,HoughtonMiffinCo.,USA.
3. Flugel, J.C. (1950): The psycho – analytical study of the family, The HograthPress & the Institute of Psycho Analysis, London.
4. RichardWollhein(1985):Frend,FontanaPress,London.
5. Vincent Brome (1978): Jung, Granada Publishing, London, Toronto Sydney,New York.

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Session: 2024-25			
Part A – Introduction			
Name of the Programme	M.Sc. Clothing & Textiles		
Semester	II		
Name of the Course	Textile Designing with Dyeing and Printing Techniques		
Course Code	M24- CLT -205		
Course Type	PC-3		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO1: Understand the different styles and methods involved in dyeing & printing Textiles. CLO2: Identify the correct method and style for dyeing Textiles. CLO3: Recognize the difference between different kinds of prints. CLO4: Apply dyeing techniques on different types of fabric.		
Credits	Theory	Practical	Total
	0	4	4
Teaching Hours per week	0	8	8
Internal Assessment Marks	0	30	30
End Term Exam Marks	0	70	70
Max. Marks	0	100	100
Examination Time	0	4 hours (or as decided by PGBOS)	

Part B- Contents of the Course

Practicals	Contact Hours
1. Preparation of fabric for dyeing and printing: 1.1 Scouring 1.2 Bleaching 1.3 Desizing, at cottage level for different and fiber blends. **2. Dyeing of yarns and fabrics with different fiber and fiber blend** 2.1 Shade matching. **3. Creating designs on fabrics through various dyeing process** 3.1Tie & Dye 3.2 Batik **4. Developing designs for block, stencil, screen printing and hand painting.** 4.1 Sources of design: sequel arrangements of unit, center line design, spot design border design and overall design (Sheet work). **5. Printing** 5.1preparation of screens and stencils for printing. 5.2 Making samples with stencil, block, screen printings and hand	120

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	painting on cotton, silk, wool, cotton cool, cotton silk and cotton polyester with different dye classes. 5.3 Make one article each of block, stencil, screen and hand painting.	

Suggested Evaluation Methods

Internal Assessment: 30		End Term Examination: 70	
➢ **Practicum**	**30**	➢ **Practicum**	**70**
• Class Participation:	5	Lab record, Viva-Voce, write-up and execution of the practical	
• Seminar/Demonstration/Viva-voce/Lab records etc.:	10		
• Mid-Term Exam:	15		

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. A.Shenai(1987),ChemistryofDyesandPrinciplesofDyeingSevakPrakashan, Mumbai.
2. H.A.Lubs,RobertE.TheChemistryofSyntheticDyesandpigments. Krieger Publishing Company, New York.
3. V.A.Shenai(1999),AzoDyes–FactsandFigures–SevakPrakashan, Mumbai.
4. R.S.Prayag,TechnologyTextilePrinting–Noyes Data Corporation.
5. V.A.Shenai(1977),TechnologyofPrinting–TechnologyofTextile Processing, Vol. IV, Sevak Publication.
6. M.L.GulrajaniandDeeptiGupta(1990),NaturaldyesandtheirApplication to Textiles", ed. I.T.I. Delhi Publications.
7. JohnandMargarotCannow(1994),DyePlantsandDyeing,TheHerbert Press (UK).
8. ASTMandISIStandards.
9. K.Venkatrama(1970),ChemistryofSynthetic Dyes,PartIandII.

Session: 2024-25			
Part A–Introduction			
Name of the Programme	M.Sc. Clothing and Textiles		
Semester	2		
Name of the Course	Apparel Quality Control, Standards and Implementation		
Course Code	M24- CLT -206		
Course Type	PC-4		
Level of the course	400-499		
Pre-requisite for the course (if any)	B.Sc. H.Sc./FD/FAD/FTD OR FD, AD, TD as one of the major subjects at UG Level		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO1: test different types of textile fibers using the relevant instrument. CLO2: measure yarn count, twist and irregularity using the relevant instrument. CLO3: test fabric based on different quality parameters using the relevant instruments. CLO4: know the tests for tensile strength of fibers and fabrics using the relevant instruments.		
Credits	Theory	Practical	Total
	0	4	4
Teaching Hours per week	0	8	8
Internal Assessment Marks	0	30	30
End Term Exam Marks	0	70	70
Max. Marks	0	100	100
Examination Time	0	4 hours (or as decided by PGBOS)	

Part B- Contents of the Course

	Practicals	Contact Hours
	1. Yarn Tests 1.1 Count 1.2 Breaking strength 1.3 Twist 1.4 Crimp **2. Fabric Analysis** 2.1 Thread count 2.2 Weight 2.3 Thickness 2.4 Abrasion 2.5 Strength (Tensile, Tear, Bursting) 2.6 Crease Recovery 2.7 Dimensional changes in laundering 2.8 Stiffness **3. Color Fasteners to** 3.1 Laundering 3.2 Crocking 3.3 Pressing Dry and Wet 3.4 Perspiration – Acid and Alkaline.	120

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Suggested Evaluation Methods			
Internal Assessment: 30		**End Term Examination: 70**	
➢ **Practicum**	**30**	➢ **Practicum**	**70**
• Class Participation:	5	Lab record, Viva-Voce, write-up and execution of the practical	
• Seminar/Demonstration/Viva-voce/Lab records etc.:	10		
• Mid-Term Exam:	15		

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Booth,J.E.:Principles of Textile Testing–NewnessButterWorth,London.
2. Billie,J.CollierandHelerH.Epps–TextileTestingandAnalysis–Prentice Hall, New Jersey.
3. John,H.Skinkle–TextileTesting–Brooklyn, NewYork.
4. GroverandHareby–HandbookofTextileTestingandQualityControl. Wiles.
5. ISISpecifications,BISspecifications.
6. ASTMStandards.

Session: 2024-25			
Part A - Introduction			
Name of the Programme	Common to all PG Programmes		
Semester	II		
Name of the Course	Constitutional, Human and Moral Values, and IPR		
Course Code	M24-CHM-201		
Course Type	CHM		
Level of the course	400-499		
Pre-requisite for the course (if any)	-		
Course Learning Outcomes (CLO) After completing this course, the learner will be able to:	CLO-1: Learn the different Constitutional Values, Fundamental rights and duties enshrined in the India Constitution. CLO-2: Understand humanism, human virtues and values, and idea of International peace. CLO-3: Grasp the basic concepts of Moral Values and Professional Conduct which are required to become a part of the civil society and for developing professionalism. CLO-4: Understand concepts of Intellectual Property Rights, Copyright, Patent, Trademark etc., and about threats of Plagiarism.		
Credits	Theory	Practical	Total
	2	0	2
Teaching Hours per week	2	0	2
Internal Assessment Marks	15	0	15
End Term Exam Marks	35	0	35
Max. Marks	50	0	50
Examination Time	3 hours		
Part B-Contents of the Course			
Instructions for Paper- Setter: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks.			

Unit	Topics	Contact Hours
I	**Constitutional Values:** Historical Perspective of Indian Constitution; Basic Values enshrined in the Preamble of the Indian Constitution; Concept of Constitutional Morality; Patriotic Values and Ingredients Nation Building; Fundamental Rights and Duties ; Directive Principles of the State Policy.	8
II	**Humanistic Values:** Humanism, Human Virtues and Civic Sense; Social Responsibilities of Human Beings; Ethical ways to deal with human aspirations; Harmony with society and nature; Idea of International Peace and Brotherhood (Vasudhaiv Kutumbkam).	7
III	**Moral Values and Professional Conduct** Understanding Morality and Moral Values; Moral Education and Character Building; Ethics of Relations: Personal, Social and Professional; Introduction to Gender Sensitization; Affirmative approach towards Weaker Sections (SCs, STs, OBCs, EWS& DAs); Ethical Conduct in Higher Education Institutions; Professional Ethics.	8
IV	**Intellectual Property Rights:** Meaning, Origins and Nature of Intellectual Property Rights (IPRs);Different Kinds of IPRs – Copyright, Patent, Trademark, Trade Secret/Dress, Design, Traditional Knowledge; Infringement and Offences of IPRs – Remedies and Penalties; Basics of Plagiarism policy of UGC.	7
	Note: Scope of the syllabus shall be restricted to generic and introductory level of mentioned topics.	
	Total Contact Hours	30

Suggested Evaluation Methods			
Internal Assessment: 15		**End Term Examination: 35**	
➢ **Theory**	**15**	➢ **Theory**	**35**
• Class Participation:	4	Written Examination	
• Seminar/presentation/assignment/quiz/class test etc.:	4		
• Mid-Term Exam:	7		

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Part C-Learning Resources

Recommended Books/e-resources/LMS:

Ahuja, V K. (2017). *Law relating to Intellectual Property Rights*. India, IN: Lexis Nexis.

Bajpai, B. L., *Indian Ethos and Modern Management*, New Royal Book Co., Lucknow, 2004.

Basu, D.D., *Introduction to the Constitution of India* (Students Edition) Prentice Hall of India Pvt. Ltd., New Delhi, 20th ed., 2008.

Dhar, P.L. & R.R. Gaur, *Science and Humanism*, Commonwealth Publishers, New Delhi, 1990.

George, Sussan, *How the Other Half Dies*, Penguin Press, 1976.

Govindarajan, M., S. Natarajan, V.S. Sendilkumar (eds.), *Engineering Ethics (Including Human Values)*, Prentice Hall of India Private Ltd, New Delhi, 2004.

Harries, Charles E., Michael S. Pritchard & Michael J. Robins, *Engineering Ethics*, Thompson Asia, New Delhi, 2003.

Illich, Ivan, *Energy & Equity*, Trinity Press, Worcester, 1974.

Meadows, Donella H., Dennis L. Meadows, Jorgen Randers & William W. Behrens, *Limits to Growth: Club of Rome's Report*, Universe Books, 1972.

Myneni, S.R, Law of Intellectual Property, Asian Law House.

Narayanan, P, *IPRs*.

Neeraj, P., &Khusdeep, D. (2014). *Intellectual Property Rights*, India, IN: PHI learning Private Limited.

Nithyananda, K V. (2019). *Intellectual Property Rights: Protectionand Management*. India, IN: Cengage Learning India PrivateLimited.

Palekar, Subhas, *How to practice Natural Farming*, Pracheen (Vaidik) KrishiTantraShodh, Amravati, 2000.

Phaneesh, K.R., *Constitution of India and Professional Ethics*, New Delhi.

Pylee, M.V., *An Introduction to Constitution of India*, Vikas Publishing, New Delhi, 2002.

Raman, B.S., *Constitution of India*, New Delhi, 2002.

Reddy, B., Intellectual Property Rights and the Law, Gogia Law Agency.

Reddy, N.H., SantoshAjmera, *Ethics, Integrity and Aptitude*, McGraw Hill, New Delhi.

Sharma, Brij Kishore, *Introduction to the Constitution of India*, New Delhi.

Schumacher, E.F., *Small is Beautiful: A Study of Economics as if People Mattered*, Blond & Briggs, Britain, 1973.

Singles, Shubham et. al., *Constitution of India and Professional Ethics*, Cengage Learning India Pvt. Ltd., Latest Edition, New Delhi, 2018.

Tripathy, A.N., *Human Values*, New Age International Publishers, New Delhi, 2003.

Wadehra, B.L., Law relating to Intellectual Property, Universal Law Publishing Co.

Relevant Websites, Movies and Documentaries:

Value Education Websites, http://uhv.ac.in, http://www.uptu.ac.in.

Story of Stuff, http://www.storyofstuff.com

Cell for IPR Promotion and Management: http://cipam.gov.in/.

World Intellectual Property Organization: https://www.wipo.int/about-ip/en/

Office of the Controller General of Patents, Designs & Trademarks: http://www.ipindia.nic.in/

Al Gore, *An Inconvenient Truth*, Paramount Classics, USA.

Charlie Chaplin, *Modern Times*, United Artists, USA.

Modern Technology – The Untold Story, IIT, Delhi.

A. Gandhi, *Right Here Right Now*, Cyclewala Productions.

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