



University of Rajasthan Jaipur


SYLLABUS

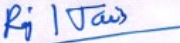
(Three/Four Year Under Graduate Programme in
Science/Arts/Commerce)

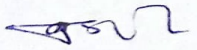
III to IV Semester

Examination-2024-25

As per NEP – 2020

डीन के हस्ताक्षर	BOS संयोजक के हस्ताक्षर	DR (अकादमिक - I) के हस्ताक्षर
		


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Structure of Four Year's Bachelor of Arts (Textile-craft)

Programme	UG9101	Programme Faculty	Arts	Programme Name	Four Year Bachelor of Arts (Textile-craft)
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Degree Name -Four Year Bachelor of Arts (Textile-craft)

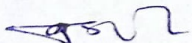
Entry and Exit Policy

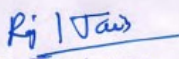
SEMESTER-III

Course Code	Course Title	Course Type	L	T	P	Credit
EXT-63T-201	Textile Spinning and Weaving (Theory-II)	Discipline Centric Core (Major)	4	0	0	4
EXT-63P-202	Textile Spinning and Weaving (Practical-II)	Discipline Centric Core (Major)	0	0	2	2
Total Credit						6

SEMESTER-IV

Course Code	Course Title	Course Type	L	T	P	Credit
EXT-64T-203	Textile Dyeing and Finishing (Theory-II)	Discipline Centric Core (Major)	4	0	0	4
EXT-64P-204	Textile Dyeing and Finishing (Practical-II)	Discipline Centric Core (Major)	0	0	2	2
Total Credit						6

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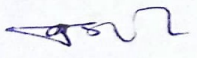
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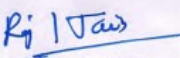
SEMESTER-III

Course Code	Course Title	Course Type	L	T	P	Credit
TEXT-63T-201	Textile Spinning and Weaving (Theory-II)	Discipline Centric Core (Major)	4	0	0	4
TEXT-63P-202	Textile Spinning and Weaving (Practical-II)	Discipline Centric Core (Major)	0	0	2	2
Total Credit						6

SEMESTER-IV

Course Code	Course Title	Course Type	L	T	P	Credit
TEXT-64T-203	Textile Dyeing and Finishing (Theory-II)	Discipline Centric Core (Major)	4	0	0	4
TEXT-64P-204	Textile Dyeing and Finishing (Practical-II)	Discipline Centric Core (Major)	0	0	2	2
Total Credit						6

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PROGRAMME CODE – UG9101

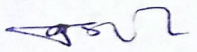
Programme Faculty – Arts

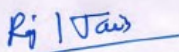
Programme Name-Four Year Bachelor of Arts (Textile-craft)

SEMESTER – III

CORE COURSE III

Code of the Course	Title of the Course	Level of Course	Credits of course
TEXT-63T-201	Textile Spinning and Weaving (Theory-II)	6	4
TEXT-63P-202	Textile Spinning and Weaving (Practical-II)	6	2
Type of Course		Delivery Type of the Course	
Major		Theory -Lecture, Sixty Lecture including diagnostic and formative assessments - during lecture hours Practical - Laboratory work and field visits (if any)	
Prerequisites	1-year certificate or equivalent.		
Objectives of the Course (Theory)	<ul style="list-style-type: none">• To understand the development of synthetic fibres: man-made fibres, chemical fibres their production& properties• To know about the complete mechanical spinning process• To understand the process of yarn winding, yarn numbering system• To understand the development of loom, different weaves		
Objectives of the Course (Practical)	<ul style="list-style-type: none">• To help students to understand elementary textile manufacture procedures, yarn twist, cone winding machine and fabric selvages.• To make students aware of different types of textile weaves, their common properties and methods of their production.		

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Syllabus

TEXT-63T-201 : Textile Spinning and Weaving (Theory-II)

Max. Marks: 20+80marks

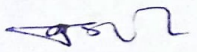
Min. Marks: 8+32marks

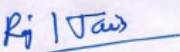
UNIT-I (Textile fibres)

1. Development of synthetic fibres
2. Manmade fibres: Rayon fibre
3. Production method, properties and uses of Nitro-cellulose rayon, Cuprammonium rayon, Viscose rayon and Cellulose acetate rayon
4. Chemical fibres: Polyester, Nylon, Acrylic and Polypropylene
5. Production method, properties and uses of chemical fibres

UNIT-II (Yarn manufacture)

1. Mechanical spinning process: Picking, Ginning, Opening of bales, Mixing, Blending, Lap formation on blow room machine,

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Carding/Combing, Drawing on draw frame, Roving formation on roving frame and spinning of yarn on ring frame machine.

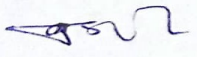
2. Winding: Precision and non precision winding
Cone and Cheese winding machine
3. Yarn numbering system: Indirect and Direct system
4. Yarn twist, Types of yarn twist

UNIT-III (Fabric manufacture)

1. Development of loom: Handloom, Treadle loom, Power loom, Shuttle less loom
2. Functions of Harness and Reed in a loom
3. Motions of loom: Primary, Secondary and Auxiliary motions of loom
4. Fabric selvedge, types of selvedge, advantages of selvedge in a fabric.

UNIT-IV (Classification of weaves)

1. Objective and importance of Draft, Peg plan, Denting plan and Repeat in the design of a weave on a loom
2. Derivatives of Plain weave- Rib weave (Warp rib, Weft rib) and Basket weave

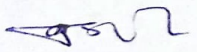
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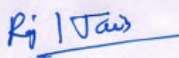

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3. Derivative of twill weave- Regular twill, Irregular twill, Left hand twill, Right hand twill weave, Herringbone and Diamond weave.
4. Regular- Irregular Satin and Sateen weave

Suggested books, references, journals and links to e-resources:

1. Fundamental of Textiles : Susheela Damyanti; Orient Blackswan pvt ltd
2. Principles of Textile Testing : J E Booth; CBS Publishers & Distributers
3. Cotton Spinning : William Scott Taggart; Macmillan and co. Ltd
4. Textile Mechanics : William Scott Taggart; Macmillan and co. Ltd;
5. Vastra-vigyan ke mool Siddhant : Vijay Kumar; Aastha publications, Jaipur
6. Vastra vigyan ki rooprekha Avam siddhant : Vijay Kumar; Baba publications, Jaipur
7. Weaving Mechanism: N N Banerjee ; Textile Book House
8. Clothing and Textiles Research Journal
9. Journal of textile design, research and practice
10. Textile: the journal of cloth and culture
11. <https://www.textilesciences.com>

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12 <http://www.textilesphere.com>

13 <https://www.textilebook.com>

Learning Outcome of the Course –

- Students will be able to learn about different synthetic fibres, their production, properties and end use.
- Students will also be able to understand the procedure of mechanical yarn manufacture process, winding process of yarn, yarn twist etc.
- Also the students will learn the process of fabric manufacture on loom and basic designs being imparted while weaving.
- Students will also analyze and understand the development of loom, motions of loom, types of selvedge, different derivatives of plain and twill weave; satin and sateen weave.

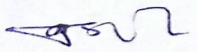
Syllabus

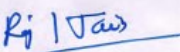
TEXT-63P-202: Textile Spinning and Weaving (Practical-II)

Max. Marks: 50

Min. Marks: 20

- To find the yarn twist in different yarn samples:
 - S type
 - Z type
- Understanding Cone winding machine process by diagram.
- To understand function of Harness and Reed in loom using diagram.
- Study of fabric selvedge: Types and uses

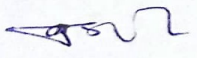
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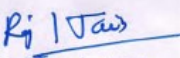

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- (v) Draw and study the weaves on graph paper:
- Left hand and right hand twill weave
 - Herringbone weave
 - Diamond weave
 - Regular and irregular satin/sateen weave

Suggested books, references, journals and links to e-resources:

1. Fundamental of Textiles : Susheela Damyanti; Orient Blackswan pvt ltd
2. Principles of Textile Testing : J E Booth; CBS Publishers & Distributers
3. Cotton Spinning : William Scott Taggart; Macmillan and co. Ltd
4. Textile Mechanics : William Scott Taggart; Macmillan and co. Ltd;
5. Vastra-vigyan ke mool Siddhant : Vijay Kumar; Aastha publications, Jaipur
- 6 Vastra vigyan ki rooprekha Avam siddhant : Vijay Kumar; Baba publications, Jaipur
- 7 Weaving Mechanism: N N Banerjee ; Textile Book House
- 8 Clothing and Textiles Research Journal

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9 Journal of textile design, research and practice

10 Textile: the journal of cloth and culture

11 <https://www.fibre2fashion.com>

12 <http://www.textilesciences.com>

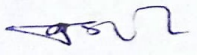
13 <https://www.textileebook.com>

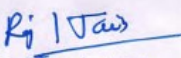
Learning Outcome of the Course :

- Students will be able to learn about yarn twist and different types of yarn twist.
- Students will also be able to understand the procedure of yarn winding on cone.
- Also the students will learn the process of fabric manufacture on loom and function and importance of harness and reed while weaving.
- Students will also analyze and understand the different types and uses of fabric selvages.
- Students will be able to learn about different fabric weaves and their structure as per the requirement for different purposes.

SEMESTER – IV

CORE COURSE IV

Code of the Course	Title of the Course	Level of Course	Credits of course
TEXT-64T-203	Textile Dyeing and Finishing (Theory-1I)	6	4
TEXT-64P-204	Textile Dyeing and Finishing(Practical-1I)	6	2
Type of Course		Delivery Type of the Course	
Major		Theory-Lecture, Sixty Lecture including diagnostic and formative assessments - during lecture hours	
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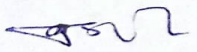
	Practical- Laboratory work and field visits (if any)
Prerequisites	1-year certificate or equivalent.
Objectives of the Course (Theory)	<ul style="list-style-type: none"> • To know about classification of dyes, fastness properties of dyes, stages of dyeing, dyeing machines, wool and silk dyeing. • To understand the different steps and styles of printing, different wetting agents and thickeners used in printing paste. • To understand the basic concept of pre treatment process, role and steps followed in textile pre treatment process. • Introduction to yarn and fabric finishing process, importance and role of finishing, determinants of finishes, mechanical finishes.
Objectives of the Course(Practical)	<ul style="list-style-type: none"> • To help students to understand about fibre, yarn and fabric dyeing. • To understand jigger and winch dyeing machine • To make students aware of different steps of textile printing, resist printing, procedure of roller printing machine

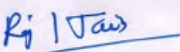
Syllabus

TEXT-64T-203 : Textile Dyeing and Finishing (Theory-II)

Max. Marks: 20+80marks

Min. Pass Marks: 8+32marks

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UNIT-I (Dyeing)

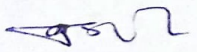
1. Water soluble and water insoluble dyes
2. Fastness properties of dyes
3. Stages of dyeing: fibre dyeing, yarn dyeing and fabric dyeing
4. Fabric dyeing machines- Jigger and winch dyeing machine
5. Wool and Silk dyeing process

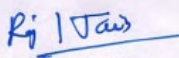
UNIT-II (Printing)

1. Steps of printing
 - (i) Preparation of fabric
 - (ii) Preparation of printing paste
 - (iii) Making an impression of the paste on the fabric
 - (iv) Drying of the printed fabric
 - (v) Steaming of the printed fabric
 - (vi) After treatments
2. Styles of printing
 - Direct style- Roller printing
 - Discharge printing- white and coloured discharge printing
 - Resist printing- white and coloured resist printing
3. Role of wetting agent and thickeners in a printing paste

UNIT-III (Pretreatment)

1. Pre-treatment processes of textile finishing
2. Role of pre-treatments

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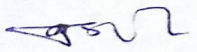
3. Steps followed in pre-treatment process in textile inspection and marking: Shearing or cropping, Singeing, Desizing, Scouring, Mercerizing, Bleaching
4. Factors of pre-treatment process in textile
 - Amount of various impurities present
 - Purity of water supply
 - Chemical used in various preparation processes
 - Machinery available for processing

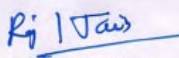
UNIT-IV (Finishing)

1. Finishing processes in textile
2. Objectives and role of fabric finishes
3. Determinants of finishes
4. Mechanical finishes:
 - Beating, Singeing
 - Shearing and brushing
 - Sizing
 - Tentering
 - Napping
 - Calendering, Moireing
 - Embossing, Sanforizing

Suggested books, references, journals and links to e-resources:

1. Fundamental of Textiles : Susheela Damyanti; Orient Blackswan pvt ltd

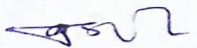
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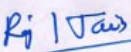

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2. Textile Science : Gohl, Vilensky; CBS Publishers & Distributors Pvt Ltd
3. Principles of Textile Testing : J E Booth; CBS Publishers & Distributors
4. Technology of Dyeing: V A Shenai
5. Vastra-vigyan ke mool Siddhant : Vijay Kumar; Aastha publications, Jaipur
6. Vastra vigyan ki rooprekha Avam siddhant : Vijay Kumar; Baba publications, Jaipur
7. Technology of Printing: V A Shenai
8. Technology of Textile Processing: V A Shenai
9. Clothing and Textiles Research Journal
10. Journal of textile design, research and practice
11. <https://textilefocus.com>
12. <http://kohantextilejournal.com>
13. <https://www.textileebook.com>

Learning Outcome of the Course :

- Students will be able to learn about different water soluble and water insoluble dyes.
- Students will also be able to understand the stages of dyeing; fabric dyeing machines
- Also the students will learn the process of textile printing: steps and styles
- Students will also understand the different types of pre treatment processes being applied according to the uses of end product.
- Students will also understand the different types of finishing processes being applied according to the uses of end product, objectives and role of finishing; concept and process of different mechanical finishes.

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SEMESTER- IV

CORE COURSE- IV

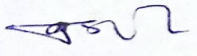
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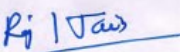
TEXT-64P-204: Textile Dyeing and Finishing (Practical-II)

Max. Marks: 50

Min. Marks: 20

- (i) Fibre dyeing
- (ii) Yarn dyeing
- (iii) Fabric dyeing
- (iv) Line diagram of Jigger and Winch dyeing machine
- (v) Steps of printing process
 - Preparation of fabric
 - Preparation of printing table
 - Preparation of printing paste
- (vi) Resist printing
- (vii) Block printing samples
- (viii) Line diagram of Roller printing machine

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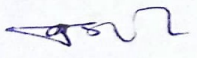

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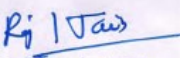
Suggested books, references, journals and links to e-resources:

1. Fundamental of Textiles : Susheela Damyanti; Orient Blackswan pvt ltd
2. Textile Science : Gohl, Vilensky; CBS Publishers & Distributers Pvt Ltd
3. Principles of Textile Testing : J E Booth; CBS Publishers & Distributers
4. Technology of Dyeing: V A Shenai
5. Textile Mechanics : William Scott Taggart; Macmillan and co. Ltd;
6. Vastra-vigyan ke mool Siddhant : Vijay Kumar; Aastha publications, Jaipur
- 7 Vastra vigyan ki rooprekha Avam siddhant : Vijay Kumar; Baba publications, Jaipur
- 8 Technology of Printing: V A Shenai
- 9 Clothing and Textiles Research Journal
- 10 Journal of textile design, research and practice
- 11 Textile: the journal of cloth and culture
- 12 <https://www.textilesciences.com>
- 13 <http://www.cottonworks.com>
- 14 <https://www.textilebook.com>

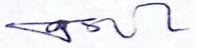
Learning Outcome of the Course:

- Students will be able to learn about fibre, yarn and fabric dyeing
- Students will also be able to understand the procedure of Jigger and Winch dyeing machine
- Also the students will learn the steps of textile printing, block printing process

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- Students will also understand the resist printing process and the procedure of roller printing machine.

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