

employer on the date of Document Verification for consideration of the claim under Ex-Serviceman category.

(NOTE: Border Security Force, Indian Coast Guard, CRPF and other Para Military Forces are not within the definition of Ex-Servicemen.)

- d. The persons in Defence Forces who are to retire within six months from the last date of Online Application form are eligible to apply on obtaining NOC from the Appropriate Authority indicating there in the date of enrolment and expected date of discharge and year of service rendered in Defence Forces. They should note that they must submit the discharge certificate on the date of certificate verification.
- e. Sports person candidates claiming reservation must submit sports ID Card issued by Director of Sports & Youth Service Department, Government of Odisha.
- f. Date of Birth entered in the High School Certificate Examination by the Board of Secondary Education, Odisha or equivalent Certificate issued by the recognised Board/Council/ by an Indian University as equivalent there to shall be acceptable by the Commission.
- g. A candidate who claims change in her/his name after having passed the High School Certificate Examination is required to furnish copy of publication of the changed name in local leading daily newspaper as well as copy of notification in the Odisha Gazette in support of her/his change of name.

4. a. Plan and Pattern of Examination:

The Recruitment process for the posts consists of the following three stages.

Stages of Examination	Type of Examination	No. of Paper & Marks	Total Marks	Remarks
Stage-I	Preliminary Examination	<u>One Paper</u> <ul style="list-style-type: none"> • Arithmetic– 10th standard • Data Interpretation (Chart, Graph, Table, Data Sufficiency etc.) – 10th standard • Logical Reasoning and Analytical Ability, General Mental Ability. • Current Events of National and International Importance. • Computer / Internet Awareness 	150	<ul style="list-style-type: none"> • The question will be of MCQ type. • There shall be negative marking @ 0.25 marks for each wrong answer. • Approximately 5 times of number of vacancies category wise and post wise shall be shortlisted for the Main Written Examination. • The Commission at their discretion may fix minimum qualifying mark in Preliminary Examination in different categories for different Technical Posts/Services

Stages of Examination	Type of Examination	No. of Paper & Marks	Total Marks	Remarks
Stage-II	Main Written Examination	Technical Paper- There shall be different Technical Papers for different posts/services as per qualification prescribed for the post. Detail Syllabus (Regulation 1 of 2023) annexed in annexure 'C'	200	Candidates approximately 2(two) times the vacancies advertised in each category, in each post in order of merit basing on the marks in Written Examination shall be shortlisted for the verification of original documents.
Stage-III	Certificate Verification			The candidate who fails to attend the document verification, his/her name will not be considered for the post.

NOTE: In pursuance of GA & PG Department Notification No-29246, dated 18th October 2022, the Preliminary and Main examination, shall be conducted both in Odia and English. The Candidate who desires to answer the paper in English shall exercise his option in the application form. **All may note that the option once given cannot be changed.** Options are available in the online application form.

- (I) There shall be no provision for re-evaluation/ re-checking of the scores. No correspondence in this regard shall be entertained.
- (II) There will be a penalty (Negative marking) for wrong answers marked by the candidate in examinations consisting of Multiple Choice Questions. The Quantum of penalty/ negative marking will be **1/4 of total** mark for each wrong answer.
- (III) The Commission shall prepare a list of candidates who obtain minimum qualifying marks in the Preliminary written examination as fixed by this Commission in their discretion, for the next stage of the main written examination. The commission may fix different minimum qualifying marks for different category candidates (UR, SC, ST, SEBC etc.) and different posts/ services. Approximately **five times** the number of vacancies may be called for Main written examination basing on the marks secured in preliminary examination. However, minimum 20 (twenty) candidates will be called to appear the Main Examination in each post/ Service even if number of vacancy is less than 4.
- (IV) Based on the performance in the Main written examination candidates approximately 02 times will be shortlisted for certificate verification.

The candidature of the candidates will be rejected /not considered for selection if she/he fails to attend any of the tests/examinations/Certificate Verification.

- b. The candidates who fail to appear at any stage of the recruitment process will not be considered for final selection and their names will not be included in the merit list.

ANNEXURE-C

SYLLABUS OF TECHNICAL PAPER FOR MAIN WRITTEN EXAMINATION FOR THE POST OF WEAVING SUPERVISOR

A. FIBRE SCIENCE

Classification, Manufacturing, Properties, Uses and Identification of both Natural and Synthetic Fibres. Melt, Wet and Dry Spinning

B. YARN MANUFACTURE

Objectives and Mechanism of Ginning, Carding, Drawing, Doubling, Drafting, Combing and Compact Spinning Machineries used and their functions, maintenance of machineries, Yarn defects with remedial measures.

C. FABRIC MANUFACTURE

Objectives of Warp & Weft Winding. Types, Features & Mechanism of different Winding Machines, Fabric Defects and remedial measures. Sizing, Parts of different looms and their functions with working principle. Fabric Designs, Drafting, Lifting and Denting.

D. TEXTILE CHEMICAL PROCESSING:

Objectives of various pre-treatment like Singeing, De sizing, Scouring, Souring, Bleaching, Mercerising and their Methodologies using different machineries. Classification of Dyestuffs. Dyeing & Printing. Dyeing Recipes, Working principles of Dyeing Machineries. Colour Fastness, Printing Pastes. Different Finishes like Calendaring, Heat Setting, Anti Crease, Water Proof, Flame Retardant, Softening, Stiffening, Moth Proof, Optical Whitening, Antimicrobial.

E. TEXTILE TESTING:

Factors influencing Testing of Fibre, Yarn and Fabric. Fibre. Yarn and Fabric Quality. Principle of Testing. Air & Water Permeability, Tensile, Tearing, Bursting Strength, Evenness, Fibre Maturity, Impurities, Abrasion Resistance and Pilling. Machineries used in Textile Testing and their functions.

Syllabus for Textile Testing

Brief idea on sampling, Explain Humidity and its Relation to Textile materials, processes & machines, Absolute and relative humidity, Standard atmospheric condition, Describe Moisture content and Moisture regain and their measurement, Moisture hysteresis curve analysis. Describe purpose of Measurement, uses and classification of different fibre dimensions, Explain different types of Length of fibres, State measurement of fibre length by Baer Sorter, Fibro-graph etc, Fibre fineness and maturity, State measurement of fibre fineness and maturity by Caustic Soda method and air flow method. Brief ideas on HVI (High Volume Instrument) & AFIS (Advance fibre Instruments System), Define the terms - stress, strain, tenacity, breaking length, elastic limit creep, crimp, initial modulus etc., Methods of measurement of strength of single fibre, Bundle fibre, Explain the working principle of Stelometer, Define yarn count & various yarn numbering system, Determination yarn count, State the twist in single and ply yarns, Explain factor and its relation to yarn structure, Describe yarn diameter measurement and its relation with yarn count, Brief idea on CRT, CRL & CRE. State & Explain different principles of Textile Testing, Discuss Short term, long term and medium

term variation and their causes, Define Index of irregularity, Nature and causes of irregularities, Explain methods of assessing yarn irregularity by Visual cutting and weighting, photoelectric and capacitance methods, Define Yarn Hairiness & Explain ASTM Yarn grading. Classimat yarn faults. Explain measurement of Dimensions and Physical Properties of Fabrics, Determination of fabric dimension properties like Thickness, weight, shrinkage, air permeability, water permeability, crimp, stiffness and crease recovery, drape, fabric handle, fabric cover. Determination of tensile strength(Strip & Grab test), Tearing strength, Bursting Strength of cloth, Explain abrasion resistance and pilling.

Syllabus for Textile Chemical Processing

Pre-cleaning, Mending. Stamping, stitching, Shearing and cropping, Brief idea on Shearing and cropping M/c, Singeing. Different methods of singeing (Plate, Roller and Gas Singeing), drawbacks and advantages, Object, types, method details and mechanism of removal of starch. Efficiency of desizing Objectives, mechanism of removal of impurities, recipe and controlling parameters. Scouring of textiles, evaluation of scouring efficiency. Scouring of natural, man-made and blended textiles, Degumming of silk, Brief idea on Souring Objectives of bleaching, classification of bleaching agents, hypochlorite, peroxide and chlorite bleaching. Field of application - Bleaching of cotton, silk. wool, and man-made blended textiles by suitable bleaching agents. Controlling parameters and mechanism, Classify dyes and pigments used in textile industry, Compare between natural and synthetic dyes, Dyeing of textiles of natural fibres with suitable dyes. Working principles of Winch, Jet, Beam, Hank and Package Dyeing machine, Jigger, J-Box system, Dyes used for man made fibres, State Dyeing of polyester with disperse dyes by carrier, HTHP and Thermosol method, State the Dyeing of Polyester /Cotton and polyester/ Wool blended fabrics with suitable dyes, State the Dyeing of Nylon with acid ,State the Dyeing of Acrylic with basic dyes, State the Dyeing of acetate with disperse dyes. Discuss faults caused in dyeing and their remedies. Objects of printing, Differentiate between dyeing and printing, Preparation of printing paste, State the sequence of printing, Thickeners used in printing, Classify and state the functions and properties of thickeners, Discuss after treatments given to printed fabrics, Discuss Auxiliaries used in printing. Methods & Styles of printing, Differentiate between Dyes and printing, Discuss styles of printing - Direct, Discharge & Resist, Discuss Different methods of printing -Block printing, Screen Printing, Rotary screen Printing, Roller printing, Transfer printing. Brief idea about preparation of screens for printing. State the objects of finishing, Classify finishes, Discuss importance of mechanical finishes., State the objects of calendaring and working of different calendars, State

the objects of stentering and working of different stenters. Discuss principles of sanforizing, Objects and methods of heat setting, Discuss methods of application of soft finishes, stiff finishes, resin finish, water proof and water repellent finish, flame retardant finish, fire proof finish, anti pilling finish, carbonization, Moth proof finish, Optical whitening, anti mildew finishing, anti microbiale etc, objects of Mercerisation, Physical, Chemical & Structural Changes occurred after mercerization.

Syllabus for Fabric Manufacture

Objects of warp and weft winding. Different types of yarn packages, Types of winding M/C (specially precession & non precession), Features of warp and weft winding machine (anti patterning device, knotters, splicers, electronic clearers, slub catchers, yarn tensioners, waxing, different types of traverse mechanisms) Classification of yarn faults, Package defects and their remedies, Modern developments in winding machine, Calculations related to winding (related to traverse ratio, winding angle, winding speed, yarn tensioner. production of machines). Objects of warping, Types of warping machine (direct and sectional), Explain passage of yarns through sectional & beam warping M/C, Features of high speed direct and sectional warper (types of creel, stop motions, tensioners etc.), Package defects and their remedies, Recent developments in warping machine, Calculations related to warping, Objects of sizing, Sizing ingredients- their properties and functions, Preparation of size paste- formulation, cooking equipment and storing, slasher sizing machine- general description, Different types of creel, Design of size box, heating and temperature control, level control, immersion rollers and squeeze rollers, wet splitting. Basic motions of loom, Brief idea on Handloom and its different parts. Idea on Dobby & Jacquard. Fabric faults, Modern shuttle less looms and its working mechanism. Different fabric designs (simple, complex and compound structures), drafting, lifting, denting etc.

Syllabus for Yarn Manufacture

State the purpose of ginning: Describe working principles of roller & Saw Gin, Baling, objects of Mixing general consideration for preparation of cotton mixing, Methods of mixing and blending. Principal action in opening and cleaning. Study of various types of machinery arranged in the sequence of a single process Blowroom Line for the various type of mixing. Method of dust extraction in Blow Room. Study of lap forming unit and chute feed mechanism and their comparison. Process parameters of Blow Room. Waste control in Blow Room. Calculation relating to production and efficiency of machines. Maintenance schedules. Objects of Carding. Constructional Features of Carding Machine. Principles of carding & stripping actions, Study of different parts and function of a Carding Machine. Settings and gauging of different parts of Carding Machine. Mechanical and Actual draft. Mechanics of fibre entanglement and fibre transfer during carding, Mechanics of neps and hook formation and its effect on yarn quality. Card waste -types and control. Calculation of production, speed, draft etc related to carding machine. Maintenance schedules. Study of the function of Auto

leveller in Card. Explain the objects of Drawing, Discuss principles of doubling and drafting, Explain the passage of material and function of different parts, Study various modern drafting system, Roller settings, Drafting wave, Roller slip, Top roller weighting, Electronic stop motion, Discuss the technological design change in modern draw frame, Explain drafting roller arrangement, auto levelling, suction arrangement and auto doffing. Objects and importance of combing, Explain the need for comber lap preparation, Discuss silver doubling and ribbon lap M/C, unilap M/C, Degree of combing, Combing cycle types of feed, Discuss Cylinder clothing, clamping line distance, increase in nips/min, concentric nipper movement, Explain the performance affecting quality of combed cycle. Explain the objects of speed frame, Discuss passage of material through S/F and function of important parts, Explain modern drafting system, Discuss principles of twisting winding & package formation., Explain Differential motion used in modern speed frame. Discuss modern developments in speed frame; drafting –builder; twisting-driving system, other features-creel, package size roving tension control, flyer, suction etc. State the purpose and principles of Ring Spinning Machine, State the passage of Material and function of various parts of the machine, Explain Modern drafting systems on Ring Spinning machine, Top roller weighting system, top covering & mounting, roller setting and spinning triangle, cots & aprons, Describe Rings and Travellers, State Function of rings & travelers, types of rings, ring size and flange number, running in of rings, types of traveler, traveler number, selection of traveller, Explain Twisting & Winding, Twist multiplier, Describe Build of bobbin, building motion, Describe Drives of Ring spinning machine, Explain balloon control ring, State causes & end breakages, yarn defects & remedies, Describe information in ring spinning needs and possibilities, Explain End break Aspirators, Monitoring, Piecing devices, Ring data, Automatic doffing, Describe special attachment such as Automatic doffing and pneumatic waste extraction, Explain Gearing Diagram, Calculation of speed, production and efficiency in Ring spinning machine, State lubrication and maintenance of High speed Ring spinning machine, Brief idea on Compact spinning.

Syllabus for Fibre Science

Basic concept on Polymer and classification, Degree of polymerization, Brief idea on different polymerization methods, Features of fibre forming polymers. Concept of fibre, Classification of textile grade fibres, Concept of staple fibre and filament, State the essential & desirable properties of Textile grade fibre. Brief idea of extraction of fibres from their natural resources like- cotton, silk, jute etc.; Morphological structure of Cotton, silk, wool and Jute fibres;

Physical, Chemical Properties of natural fibres like- Cotton, wool, Silk, jute, Flax etc. and end uses; Identification of natural fibres by physical & chemical processes. State the principles of Melt, Wet & Dry Spinning; Describe the manufacturing process & properties of Viscose rayon fibre from wood pulp. concept of high tenacity viscose rayon; Describe the manufacturing process of secondary & triacetate acetate rayon fibre; Describe manufacturing Process, Properties & end uses of – Nylon6, Nylon 66, Polyester, Acrylic & Mod-acrylic, etc.

SYLLABUS OF TECHNICAL PAPER FORMAIN WRITTEN EXAMINATION FOR THE POST OF TECHNICAL ASSISTANT

(Question Papers shall be of 10th standard passing the certificate course in Handloom, Weaving & Design)

01. FABRIC STRUCTURE & CLOTH ANALYSIS

- Classification of Textiles Design
- Study of Design, Draft and peg plan
- Preparation of Design for plain weave and Its derivatives
- Preparation of Design for Twill, Satin weaves & Its derivatives.
- Colour and weave effect.
- Towelling of cloth, Honey Comb, Huck a back, Terry weave
- Double cloth, Tubular cloth
- Leno weave, Mock leno weave
- Extra warp, Dobby, Jacquard
- Extra weft, Jalla Weave, Insertion of Buty
- Study on tradition product of Orissa, -Bomkoi, Habaspuri, Khandua, Dhalapathar Parada.
- Product diversification for export oriented
- Solid Border Design
- Property of Fibre.
- Natural and manmade fibre, staple length, TPI (Turn per inch), Twist, Moisturecontent, Strength, Single thread and lea, count

Cloth Analysis

- Equipment used for cloth analysis
- Various aspect of cloth analysis
- Quantity of yarn required per square meter of fabric

02. WEAVING MECHANISM:

Pre loom processing:

- Winding, Warping, Type of warp, Different parts of warping machine, Denting, Drafting of threads

Type of Loom:

- Study of various types of looms in the country,
- Classification of loom.

Types of motion

- Primary, Secondary, Auxiliary.
- Tie up arrangement
- Type of reed and heald and its uses
- Dobby- Types of Dobby- Tapped, Barrel, and lattice- Mounting of doobby
- Principle and working of Jacquard Machine-60 hooks, 100 Hooks, 200 hooks, Card cutting, lacing, harness building

03. TEXTILE CHEMISTRY

Use of water in handloom industry:

- Hardness of water, boiling
- Scouring and bleaching of cotton yarn

Various types of dyes: Direct, Azoic, Vat, Sulphur, Acid, Metal complex, Reactive, Disperse dyes

- Selection of Azo free eco- friendly synthetic dyes
- Fibre suitable for various dye stuff
- Effect of mercerization on cotton yarn
- Degumming of silk and tassar yarn
- Different types of natural dyes and its application
- Different types of fastness properties
- Common defects in dyeing and improvement of dye fastness

DIFFERENT TYPES OF FINISHES ON COTTON AND SILK:

Cotton: Sizing, Calendering and anti crease

Silk: Scrooping and weightening

04. TEXTILES CALCULATION

- Counting system of Yarn (Direct/ Indirect/ Universal)
- Conversion of count
- Average count and resultant
- Reed and Heald calculation
- Diameter of yarn- Fixation of ends/ inch & Picks /inch- cover factor
- Various aspects of yarn (Count, twist, strength etc)
- Warping calculation
- Take up motion calculation
- Costing of fabric

05. TIE & DYE (IKAT TECHNOLOGY)

Ornamentation of fabric

- Different methods and comparative study on fabric ornamentation
- Printing, Extra warp, Extra Weft, Tie & Dye
- Fancy yarn, Colour and weave, Count Variation
- Variation of tension, use of different machines (dobby, jacquard, jalla etc.)

Type of Ikat (Resist method)

Fabric- Fold resist, stitch resist, wrap resist, tensile resist, wax resist ((Batic), Mordant resist

Yarn Resist method (Yarn Tie & Dye)

This Card/Certificate is meant to certify the disability of the person and is not an instrument for ID/Address Proof for any purpose.

Preparatory process for yarn Tie & Dye)
Preparation of yarn (Scouring, bleaching), Winding, design & Colour selection, yarn set up for fabric.

- Weft Ikat preparation of sub group, preparation of group, tying and dyeing, washing and drying, untying, separation from groups to subgroups and subgroup to individual thread, winding of pirn
- Warp Ikat- Preparation of Yarn-set up for fabric, warping, selection of subgroups, selection of group, folding up to desired length, tying and dyeing, washing and drying, untying, separation of group to subgroup and subgroup to individual thread, fitting on loom.
- Double Ikat- Design selection- Yarn set up of formal process of warp and weft Ikat in repeat.
- Combined Ikat- Combination of warp/weft or double Ikat or any two selection of tied materials, design repeats, fabric set up, enlargement of paper design.
- Calculation of Raw material
- Weft yarn-Warp yarn-Boarder-Anchal-Extra warp-Extra weft- Yarn for the fabric
- Study of various traditional Tie & Dye Design of fabrics of Orissa
- Khundua, Tarabali, Nabakothari, Nabarangi, Saktapur, Bichitrapur, Bijayapuri, Aswani, Baghambari
- Comparative study of Ikat Fabric in India, Orissa Ikat, Puchamapalli, Ikat and Patola- Recent development in Tie & Dye.

06. MADE UP GARMENTS (THEORY)

- Basic tailoring, Cloth cutting, Stitching, Designing on patch work

07. HANDLOOM ECONOMICS AND MANAGEMENT

- Handloom Statistic of Orissa- Brief scenario of Indian Handloom Industry of Orissa
- Government Scheme policy for development of Handloom Industry in the state as well as the Country.
- Brief note on various Committee Reports on Handloom Industry.
- Various Important Handloom Clusters of India and its products.
- Various Important Handloom Clusters of Orissa and its products.
- Study on modern management.
- Total Quality Management (TQM)
- Economical Ordering Quantity (EOQ)
- Project Management-Constitution of S.H.Gs and S.M.Es
- Administration, Finance, Marketing Management related to S.H.Gs, S.M.E.s, Co-operatives etc.

08. COMPUTER-AIDED-DESIGNS

- Module 1- Computer Fundamental
- Module 2- Windows Xp
- Module 3-MS Words 2003
- Module 4-MS Excel-2003
- Preparation of Handloom Design and colour
- Computer aided Design
- Colour Cycle, Floral & all over Design, Colour Combination
Designs for Dobby, Jacquard, Jalla weave with the help of computer

SYLLABUS FOR TECHNICAL PAPER FOR MAIN WRITTEN EXAMINATION FOR THE POST OF AMIN

CONCEPTS OF GEOMETRY & MENSURATION

- Introduction to Geometry
2D Shapes: Line, Circle, Triangle, Quadrilateral, Rectangle, Square, Trapezium, Rhombus and Parallelogram
3D Shapes: Sphere, Hemi-Sphere, Cylinder, Cone, Cube, Pyramid, Cuboid
Important Theorems and Postulates
- Triangles:
Different types of Triangles
Various types of Centres
Congruence
Similarity
Perimeter and Area
- Quadrilaterals:
Different types of Quadrilaterals i.e. Rectangle, Square, Trapezium, Rhombus and Parallelogram
Perimeter and Area
- Circle:
Perimeter and Area
Radius, Diameter, Secant, Sector and Chords
Tangents
- Area tracing by using Coordinate Geometry
Height and Distance calculation by using Trigonometric formulae
- Volume, Curved Surface Area (CSA), Lateral Surface Area (LSA), Total Surface Area (TSA) of 3D objects i.e. Sphere, Hemi-Sphere, Cylinder, Cone, Cube, Pyramid, Cuboid
- Units of area Measurement and their conversion

INTERPRETATION OF MAPS

- Introduction to Maps.
- Map Scale and Ratio.
- Coordinates: Latitudes, Longitudes
- Types of Maps: Political maps, Physical maps, Topographical maps, Topological maps, nautical maps, thematic maps and Road maps.
- Properties of Maps: Distance, Symbol and Direction.
- Conventional Signs and symbols
- Interpretation of Topo-Sheets
- Index in maps

**SYLLABUS OF TECHNICAL PAPER FOR MAIN WRITTEN EXAMINATION
FOR THE POST OF SOIL CONSERVATION EXTENSION WORKER**

Syllabus of Technical Paper (Paper-II)

Part-I:

Mathematics- Arithmetic, Algebra, Geometry, Mensuration, Trigonometry and Statistics

Part-II:

a) Physics

b) Chemistry

c) Biology

d) Field Crops- cereals, pulses, oilseeds, Fibre crops, Commercial crops Fruits, Vegetables, Plantation crops, Floriculture Pasture & Fodder cultivation

Major soil types of Odisha

Manures and Fertilizers

Farm implements & uses

Agro climatic zones of Odisha

Brief knowledge about hydrology cycle

Soil and Water Conservation

**SYLLABUS OF TECHNICAL PAPER FOR MAIN WRITTEN EXAMINATION
FOR THE POST OF AYUSH ASSISTANT**

A. Physics

B. Chemistry

C. Biology

Questions shall be based on the (10+2) Science Syllabus of CHSE.