ANNEXURE – II

**SCHEME AND SYLLABUS FOR THE POST OF FOREST SECTION OFFICERS
IN A.P.FOREST SUBORDINATE SERVICE**

SCHEME FOR SCREENING TEST

PART	Subject	No. of Questions	Duration in Minutes	Maximum Marks
**Screening Test (Objective Type) - Degree Standard**				
A	General Studies & Mental Ability and Mathematics (SSC Standard)	75	150	75
B	General Forestry	75		75
Total				**150**

N.B: As per G.O.Ms. No.235, Finance (HR-1, Plg & Policy) Dept, Dt: 06/12/2016, each wrong answer will be penalized with 1/3rd of the marks prescribed for the question.

SYLLABUS FOR SCREENING TEST

PART – A (75 Marks)

GENERAL STUDIES & MENTAL ABILITY

1. General Science – Contemporary developments in Science and Technology and their implications including matters of every day observation and experience, as may be expected of a well-educated person who has not made a special study of any scientific discipline.

2. Current events of A.P state and national importance.

3. History of India – emphasis will be on broad general understanding of the subject in its social, economic, cultural and political aspects with a focus on AP and Indian National Movement.

4. Indian Geography with a focus on AP.

5. Indian polity and Economy – including the country's political system - Rural development – Planning and economic reforms in India.

6. Mental Ability – Reasoning & Inferences.

7. Sustainable Development and Environmental Protection.

8. Disaster Management:
   a) Concepts in disaster management and vulnerability profile of India and State of A.P.
   b) Causes and effects of Earthquakes, Cyclones, Tsunami, Floods and Drought.
   c) Manmade disasters - Prevention strategies, mitigation strategies and measures.

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MATHEMATICS (SSC Standard)

1. ARITHMETICS:

a) Number System-Natural numbers, Integers.
b) Rational and Real numbers.
c) Fundamental operations, addition, subtraction, multiplication, division, square roots, Decimal fractions.
d) Unitary method-time and distance, time and work, percentages, applications to simple and compound interest, profit and loss, ratio and proportion, variation.
e) Elementary Number Theory – Division algorithm, Prime and composite numbers. Tests of divisibility by 2, 3, 4, 5, 9 and 11.
f) Multiples and factors, factorisation Theorem. H.C.F. and L.C.M. Euclidean algorithm. Logarithms to base 10, laws of logarithms, use of logarithmic tables.

2. GEOMETRY:

i) Lines and angles, Plane and plane figures.

ii) Theorems on
    a) Properties of angles at a point.
    b) Parallel lines.
    c) Sides and angles of a triangle.
    d) Congruency of triangles.
    e) Similar triangles.
    f) Concurrence of medians and altitudes.
    g) Properties of angles, sides and diagonals of a parallelogram, rectangle and square.
    h) Circles and its properties including tangents and normals.
    i) Loci.

3. STATISTICS:

a) Collection and tabulation of statistical data,
b) Graphical representation - frequency polygons, histograms, bar charts, pie charts etc.
c) Measures of central tendency.

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PART – B (75 Marks)

GENERAL FORESTRY

1. **Plant Science:**
   a) Introduction to plant science, cell structure, and classification of plant kingdom.
   b) Principles of plant physiology with reference to plant nutrition, absorption, transactions and metabolism of nutrients.
   c) Diagnosis of nutrient deficiencies and their amelioration
   d) Photosynthesis and respiration, growth and development, auxins and hormones in plant growth.
   e) Significance of D.N.A and R.N.A in the cytology.
   f) Vegetative, asexual and sexual methods of reproduction. Pollination and fertilization, Sexual incompatibility.
   g) Principles and classification of plant propagation methods.
   h) Sexual propagation and its importance and the factors affecting germination and pre-germination treatments.
   i) Development, structure, dormancy and germination of seed.
   j) Seed production and seed collection techniques in forestry crops
   k) Plant Diseases - factors affecting infections.
   l) Chemical, biological and genetic methods of disease control. (including transgenic plants)
   m) Ecological adaptation.
   n) Types of vegetational - zones and forests of Andhra Pradesh.
   o) Deforestation, Afforestation, Wasteland reclamation.
   p) Plant Varieties: Origin, importance, export potential, varieties, climate, soil requirements, propagation and planting and after care.

2. **Forests & Ecology:**
   a) Definition of biodiversity.
   b) Genetic, species and ecosystem diversity.
   c) Structure and functions of an ecosystem-role of Producers, consumers and decomposers.
   d) Ecological succession, Food chains, food webs and ecological pyramids.
   e) Biogeographical classification of India and value of biodiversity.
   f) Biodiversity at global, National and local levels.
   g) Hot-spots of biodiversity.
   h) Threats to biodiversity such as habitat loss, poaching of wildlife, man-wildlife conflicts.
   i) Endangered and endemic species of India.
   j) In-situ and Ex-situ conservation of biodiversity and,
   k) Convention of Biological Diversity. (CBD)
   l) Threats and injuries to forests and the forest protection measures.
   m) Role of afforestation and forest regeneration in carbon sequestration.

3. **Horticulture:**
   a) Definition and different branches of horticulture.
   b) Importance of horticulture in terms of economy, production, employment generation, environmental protection and human resource development.
   c) Nutritional value of horticultural crops. Divisions of horticulture and their importance.
   d) Propagation of plants by cuttage, Types of cuttings, and the factors affecting regeneration of plants from cuttings.
   e) Propagation by layerage and the factors affecting regeneration of plants by layerage and the most common methods of layerage.
   f) Propagation by grafting, importance of graftage and the factors for successful grafting. Selection of rootstock and scion, methods of budding and grafting.
   g) Importance and scope, production of crops in greenhouse.

4. **Soil Science:**
   a) Basics of earth, rocks and minerals.
   b) Study of folds, joints, faults, foliation and lineation in geological formation.
   c) Use of clinometer compass in the field measurements of bed, foliation, folds joints, faults and lineations in the field.
   d) Types of soils, their field identification and classification.
   e) Forest soils and their classification, factors affecting soil formation.
   f) Physical, chemical and biological properties of soils.
   g) Soil conservation — definition and causes for erosion, types of erosion, agents of erosion.
   h) Conservation and management of eroded soils/areas.
   i) Role of wind breaks, shelter belts in arresting soil erosion, sand dunes.
   j) Reclamation of saline and alkaline soils, water logged and other waste lands.
   k) Role of forests in conserving soils.
   l) Importance of manures and fertilizers.

5. **Management of water resources and watersheds:**
   A) **Water Resource Management:**
      a) Surface and subsurface water resources.
      b) Predicting demand for water.
      c) Impurities of water and their significance.
      d) Physical, chemical and bacteriological analysis, water borne diseases.
      e) Standards for potable water.
      f) Pumping and gravity schemes.
   B) **Watershed Management:**
      a) Concepts of watershed.
      b) Role of mini-forests and forest trees in overall resource management.
      c) Forest hydrology.
      d) Watershed management and environmental functions of forests.
         Water-harvesting and Soil conservation.

6. **General Silviculture, Agro-forestry and Social forestry and Community participation:**
   A. **General Silviculture:**

      a) Definition and principles of General Silviculture.
      b) Ecological and physiological factors influencing vegetation, natural and artificial regeneration of forests.
      c) Economic importance of some of the forestry tree species of India such as Acacia Sundra, Acacia nilotica Albizzia lebbeck, Albizzia procera, Anthocephalus Cadamba, Anogeissus latifolia, Azadirachta indica, Bamboo spp, Butea monosperma, Casuarina equisetifolia, Dalbergia sisoo, Emblica officinalls, Eucalyptus spp, Gmelina arborea, Hardwickia binata, Lagerstoremia lanceolata, Pterocarpus marsupium, Pterocarpus santalinis, Santalum album, Tectona grandis, Terminalia tomentosa, Tamarindus indica.

   B. **Agro-forestry:**

      a) Agro forestry, its definition, scope and necessity.
      b) Role of agroforestry in the life of people and domestic animals and in integrated land use, planning especially related to soil and water conservation.
      c) Agro forestry systems under different agro-ecological zones, selection of species and role of multipurpose trees and NTFPs, techniques, food, fodder and fuel security.

   C. **Social Forestry:** The objectives, scope and necessity of social forestry including the urban forestry in Andhra Pradesh.

   D. Aim and objectives, principles, methodology and benefits of AP community forest management.

7. **Animal health & nutrition:**
   a) Role of nutrition in animal health and production.
   b) Conservation of feeds and fodder and utilization of agro by-products.
   c) Feed supplements and additives.
   d) Nutrition deficiencies and their management.
   e) Major contagious diseases affecting cattle, buffaloes, sheep and goats.
   f) Etiology, symptoms, pathogenicity, diagnosis, treatment and control of major bacterial, viral, rickettsia and parasitic infections.
   g) Animal Feed management in Zoological parks.

8. **Economic Zoology:**
   a) Beneficial and harmful insects including insect vectors of human diseases, Industrial fish, prawn and molluscs of India, Non-poisonous and poisonous snakes of India, Venomous animals-centipede, wasp, honey bee.
   b) Basics on the diseases caused by aberrant chromosomes/genes in man.
   c) Genetic counseling.
   d) DNA as a tool for forensic investigation.

9. **Forest Administration:**

   The structure and activities of the AP State Forest department:
   - The genesis and objectives of Indian Forest Services.
   - AP State Forest Services.
   - AP State Forest Subordinate Services.

10. **Remote sensing-satellite communication:**

    a) Forest cover monitoring through remote sensing.
    b) Geographic information Systems for management and modeling.
    c) Usage of wireless sets & walky-talkies for communication and their basics.

11. **A. Environmental science:**

    a) Definition, scope and importance of environmental science and the need for public awareness on it.
    b) Definition, Causes, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution &Nuclear hazards.
    c) Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
    d) Environmental ethics: Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, Wasteland reclamation, Consumerism and waste products.

    B. Renewable and non-renewable resources:

Natural resources and the problems associated with the natural resources such as forests, water, soil, land, minerals and energy.

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SCHEME FOR MAIN EXAMINATION

(As per G.O.Ms.No.3, General Administration (Ser-A) Dept., dated: 04.01.2019)

PAPER	Subject	No. of Questions	Duration Minutes	Maximum Marks
MAIN WRITTEN EXAMINATION (OBJECTIVE TYPE)- Degree Standard				
Qualifying Test	General English (50 marks) & General Telugu (50 marks) **(To be Qualified in English & Telugu individually) -** (SSC Standard)	100	100	100
PAPER-I	General Studies & Mental Ability	150	150	150
PAPER-II	Mathematics (SSC standard)	150	150	150
PAPER-III	General Forestry	150	150	150
TOTAL				**450**
NEGATIVE MARKS: As per G.O.Ms. No.235, Finance (HR-I, Plg & Policy) Dept.,Dt.06/12/2016, each wrong answer will be penalized with 1/3rd of the marks prescribed for the question.				

N.B.: 1. Candidates are required to undergo a walking test and also a Medical Examination (conducted by a Medical Board). Both the tests shall be arranged by the Forest Department, duly taking concurrence of A.P.P.S.C. For this purpose, the Commission will pick up eligible candidates in the ratio of 1:2 with reference to total number of vacancies as per General Rule 22 & 22A.

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SYLLABUS FOR MAIN WRITTEN EXAMINATION

QUALIFYING TEST (100 Marks)

GENERAL ENGLISH AND GENERAL TELUGU (SSC Standard)

General English Test (50 Marks)

a) Comprehension
b) Phrases and idioms
c) Vocabulary and punctuation
d) Logical re-arrangement of sentences

General Telugu Test (50 Marks)

a) Synonyms & Vocabulary
b) Grammar
c) Telugu to English meanings
d) English to Telugu meanings

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PAPER – I (150 Marks)

GENERAL STUDIES AND MENTAL ABILITY

1. General Science – Contemporary developments in Science and Technology and their implications including matters of every day observation and experience, as may be expected of a well-educated person who has not made a special study of any scientific discipline.
2. Current events of A.P state and national importance.
3. History of India – emphasis will be on broad general understanding of the subject in its social, economic, cultural and political aspects with a focus on AP and Indian National Movement.
4. Indian Geography with a focus on AP.
5. Indian polity and Economy – including the country's political system - Rural development – Planning and economic reforms in India.
6. Mental Ability – Reasoning & Inferences.
7. Sustainable Development and Environmental Protection.
8. Disaster Management:
   a) Concepts in disaster management and vulnerability profile of India and State of A.P.
   b) Causes and effects of Earthquakes, Cyclones, Tsunami, Floods and Drought.
   c) Manmade disasters - Prevention strategies, mitigation strategies and measures.

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PAPER-II (150 Marks)

MATHEMATICS (SSC Standard)

1. ARITHMETICS:

a) Number System-Natural numbers, Integers.
b) Rational and Real numbers.
c) Fundamental operations, addition, subtraction, multiplication, division, square roots, Decimal fractions.
d) Unitary method-time and distance, time and work, percentages, applications to simple and compound interest, profit and loss, ratio and proportion, variation.
e) Elementary Number Theory – Division algorithm, Prime and composite numbers. Tests of divisibility by 2, 3, 4, 5, 9 and 11.
f) Multiples and factors, factorisation Theorem. H.C.F. and L.C.M. Euclidean algorithm. Logarithms to base 10, laws of logarithms, use of logarithmic tables.

2. ALGEBRA:

a) Basic Operations, simple factors, Remainder Theorem, H.C.F., L.C.M.
b) Theory of polynomials, solutions of quadratic equations, relation between its roots and coefficients (Only real roots to be considered). Simultaneous linear equations in two unknowns – analytical and Graphical solutions. Simultaneous linear in equations in two variables and their solutions.
c) Practical problems leading to two simultaneous linear equations or in equations in two variables or quadratic equations in one variable and their solutions.
d) Set language and set notation, rational expressions and conditional identities, laws of indices.

3. TRIGONOMETRY:

Sine x, Cosine x, Tangent x when $O^\circ = x = 90^\circ$ values of sin x, cos x and tan x, for $x = O^\circ$, 30°, 45°, 60° and 90°, Simple trigonometric identities. Use of trigonometric tables, Simple cases of heights and distances.

4. GEOMETRY:

i) Lines and angles, Plane and plane figures.

ii) Theorems on
   a) Properties of angles at a point.
   b) Parallel lines.
   c) Sides and angles of a triangle.
   d) Congruency of triangles.
   e) Similar triangles.
   f) Concurrence of medians and altitudes.
   g) Properties of angles, sides and diagonals of a parallelogram, rectangle and square.
   h) Circles and its properties including tangents and normals.
   i) Loci.

5. MENSURATION:

a) Areas of squares, rectangles, parallelograms, triangle and circle.
b) Areas of figures which can be split up into the figures (Field Book).
c) Surface area and volume of cuboids, lateral surface and volume of right circular cones and cylinders, surface area and volume of spheres.

6. STATISTICS:

a) Collection and tabulation of statistical data.
b) Graphical representation - frequency polygons, histograms, bar charts, pie charts etc.
c) Measures of central tendency.

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PAPER-III (150 Marks)

GENERAL FORESTRY

1. **Plant Science:**

   a) Introduction to plant science, cell structure, and classification of plant kingdom.
   b) Principles of plant physiology with reference to plant nutrition, absorption, transactions and metabolism of nutrients.
   c) Diagnosis of nutrient deficiencies and their amelioration
   d) Photosynthesis and respiration, growth and development, auxins and hormones in plant growth.
   e) Significance of D.N.A and R.N.A in the cytology.
   f) Vegetative, asexual and sexual methods of reproduction. Pollination and fertilization, Sexual incompatibility.
   g) Principles and classification of plant propagation methods.
   h) Sexual propagation and its importance and the factors affecting germination and pre-germination treatments.
   i) Development, structure, dormancy and germination of seed.
   j) Seed production and seed collection techniques in forestry crops
   k) Plant Diseases - factors affecting infections.
   l) Chemical, biological and genetic methods of disease control(including transgenic plants).
   m) Ecological adaptation.
   n) Types of vegetational - zones and forests of Andhra Pradesh.
   o) Deforestation, Afforestation, Wasteland reclamation.
   p) Plant Varieties: Origin, importance, export potential, varieties, climate, soil requirements, propagation and planting and after care.

2. **Forests & Ecology:**

   a) Definition of biodiversity.
   b) Genetic, species and ecosystem diversity.
   c) Structure and functions of an ecosystem-role of Producers, consumers and decomposers.
   d) Ecological succession, Food chains, food webs and ecological pyramids.
   e) Biogeographical classification of India and value of biodiversity.
   f) Biodiversity at global, National and local levels.
   g) Hot-spots of biodiversity.
   h) Threats to biodiversity such as habitat loss, poaching of wildlife, man-wildlife conflicts.
   i) Endangered and endemic species of India.
   j) In-situ and Ex-situ conservation of biodiversity and,
   k) Convention of Biological Diversity. (CBD)
   l) Threats and injuries to forests and the forest protection measures.
   m) Role of afforestation and forest regeneration in carbon sequestration.

3. **Horticulture:**

   a) Definition and different branches of horticulture.
   b) Importance of horticulture in terms of economy, production, employment generation, environmental protection and human resource development.
   c) Nutritional value of horticultural crops. Divisions of horticulture and their importance.
   d) Propagation of plants by cuttage, Types of cuttings, and the factors affecting regeneration of plants from cuttings.
   e) Propagation by layerage and the factors affecting regeneration of plants by layerage and the most common methods of layerage.
   f) Propagation by grafting, importance of graftage and the factors for successful grafting. Selection of rootstock and scion, methods of budding and grafting.
   g) Importance and scope, production of crops in greenhouse.

4. **Soil Science:**

   a) Basics of earth, rocks and minerals.
   b) Study of folds, joints, faults, foliation and lineation in geological formation.
   c) Use of clinometer compass in the field measurements of bed, foliation, folds joints, faults and lineations in the field.
   d) Types of soils, their field identification and classification.
   e) Forest soils and their classification, factors affecting soil formation.
   f) Physical, chemical and biological properties of soils.
   g) Soil conservation — definition and causes for erosion, types of erosion, agents of erosion.
   h) Conservation and management of eroded soils/areas.
   i) Role of wind breaks, shelter belts in arresting soil erosion, sand dunes.

j) Reclamation of saline and alkaline soils, water logged and other waste lands.
k) Role of forests in conserving soils.
l) Importance of manures and fertilizers.

5. **Management of water resources and watersheds:**
   A) Water Resource Management:
   a) Surface and subsurface water resources.
   b) Predicting demand for water.
   c) Impurities of water and their significance.
   d) Physical, chemical and bacteriological analysis, water borne diseases.
   e) Standards for potable water.
   f) Pumping and gravity schemes.

   B) Watershed Management:
   a) Concepts of watershed.
   b) Role of mini-forests and forest trees in overall resource management.
   c) Forest hydrology.
   d) Watershed management and environmental functions of forests.
      Water-harvesting and Soil conservation.

6. **General Silviculture, Agro-forestry and Social forestry and Community participation:**

   A. General Silviculture:
   a) Definition and principles of General Silviculture.
   b) Ecological and physiological factors influencing vegetation, natural and artificial regeneration of forests.
   c) Economic importance of some of the forestry tree species of India such as Acacia Sundra, Acacia nilotica Albizzia lebbeck, Albizzia procera, Anthocephalus Cadamba, Anogeissus latifolia, Azadirachta indica, Bamboo spp, Butea monosperma, Casuarina equisetifolia, Dalbergia sisoo, Emblica officinalls, Eucalyptus spp, Gmelina arborea, Hardwickia binata, Lagerstoremia lanceolata, Pterocarpus marsupium, Pterocarpus santalinis, Santalum album, Tectona grandis, Terminalia tomentosa, Tamarindus indica.

   B. Agro-forestry:
   a) Agro forestry, its definition, scope and necessity.
   b) Role of agroforestry in the life of people and domestic animals and in integrated land use, planning especially related to soil and water conservation.
   c) Agro forestry systems under different agro-ecological zones, selection of species and role of multipurpose trees and NTFPs, techniques, food, fodder and fuel security.

   C. Social Forestry: The objectives, scope and necessity of social forestry including the urban forestry in Andhra Pradesh.

   D. Aim and objectives, principles, methodology and benefits of AP community forest management.

7. **Animal health & nutrition:**
   a) Role of nutrition in animal health and production.
   b) Conservation of feeds and fodder and utilization of agro by-products.
   c) Feed supplements and additives.
   d) Nutrition deficiencies and their management.
   e) Major contagious diseases affecting cattle, buffaloes, sheep and goats.
   f) Etiology, symptoms, pathogenicity, diagnosis, treatment and control of major bacterial, viral, rickettsia and parasitic infections.
   g) Animal Feed management in Zoological parks.

8. **Economic Zoology:**
   a) Beneficial and harmful insects including insect vectors of human diseases, Industrial fish, prawn and molluscs of India, Non-poisonous and poisonous snakes of India, Venomous animals-centipede, wasp, honey bee.
   b) Basics on the diseases caused by aberrant chromosomes/genes in man.
   c) Genetic counseling.
   d) DNA as a tool for forensic investigation.

9. **Forest Economics, Legislation & Administration:**

   A. **Forest economics:**
   - a) Basic fundamental principles of forest economics.
   - b) Cost-benefit analysis.
   - c) Estimation of demand and supply.
   - d) Role of private sector and cooperatives.
   - **e)** Role of corporate financing.

   B. **Forest Legislation:**

   Basic objectives and essence of the following important Forest Laws:
   - AP Forest Act-1967.
   - Wildlife Protection Act-1972.
   - Forest Conservation Act-1980.
   - Forest rights Act-2006.

   C. **Forest Administration:**

   The structure and activities of the AP state Forest department:
   - The genesis and objectives of Indian Forest Services.
   - AP State Forest Services.
   - AP State Forest Subordinate Services.

10. **Forest Mensuration, Remote Sensing and Forest Working Plan:**

    A. **Forest mensuration:**
    - a) Methods of measuring diameter, girth, height and volume of trees.
    - b) Form-factor.
    - c) Volume estimation of stand.
    - d) Current annual increment versus mean annual increment.
    - e) Yield and stand tables.
    - f) Basics of forest engineering and surveying.

    B. **Remote sensing- satellite communication:**
    - a) Forest cover monitoring through remote sensing.
    - b) Geographic information Systems for management and modeling.
    - c) Usage of wireless sets & walky-talkies for communication and their basics.

    C. **Forest planning:**
    - a) Forest planning, evaluation and monitoring tools and approaches for integrated planning.
    - b) Multipurpose development of forest resources and forest industries development.

    D. **Forest Management plans:**
    - a) Working plans Versus Management plan.
    - b) Complete enumeration vs. sampling.
    - c) Sampling- need for sampling, basic concepts in sampling, designing large-scale sample surveys, sampling and non- sampling errors.
    - d) Simple random sampling and systematic sampling cluster sampling.
    - e) Ratio and regression methods of estimation under simple and stratified random sampling.

11. A. **Environmental science:**
    - a) Definition, scope and importance of environmental science and the need for public awareness on it.
    - b) Definition, Causes, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution &Nuclear hazards.
    - c) Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
    - d) Environmental ethics: Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, Wasteland reclamation, Consumerism and waste products.

    B. **Renewable and non-renewable resources:**

    Natural resources and the problems associated with the natural resources such as forests, water, soil, land, minerals and energy.

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SCHEME & SYLLABUS OF THE COMPUTER PROFICIENCY TEST (CPT)

Scheme for Computer Proficiency Test

(As per G.O.Ms.No.26, G.A. (Ser.B) Dept., dt: 24.02.2023)

Scheme of the examination (Practical Type)					
Test	Duration (Minutes)	Maximum Marks	Minimum Qualifying Marks		
			SC/ST	B.C's	O.C's
Proficiency in Office Automation with usage of Computers and Associated Software.	60	100	30	35	40

Syllabus for Computer Proficiency Test

PART-A

1. **INTRODUCTION TO COMPUTERS:** Introduction to Computers - Components and their classification - Peripheral devices and their purpose. Input Devices - Keyboard, Mouse, Scanner, Lighten, Touch screens, Joystick, Micro phone, Scanner, Digital camera, Bar code reader, Biometric sensor Output Devices: Display devices, Printers, Monitor, Speaker, Plotter, Secondary Storage Devices – Feature- Driven Development (FDD), Magnetic tape, Universal Serial Bus(USB), Pen Drives, Disks - The Role of input Processing / output processing devices - Computing Concepts - Data - Information – Random Access Memory (RAM) – Read-Only Memory(ROM) - Control Unit - Memory Unit – Arithmetic Logic Unit(ALU).
2. **COMPUTER SOFTWARE TYPES:** System Software, Application Software, Embedded software, Proprietary Software, Open source software (their purpose and characteristics only).
3. **OPERATING SYSTEM:** Purpose of operating system, Single User and Multi User Operating Systems with Examples.
4. **WINDOWS OPERATING SYSTEM:** Interfacing Graphical User Interface (GUI), Differences between Character User Interface (CUI) and Graphical User Interface(GUI) - working With Files and Folders - More About Files - Running An Application Through The File Manager - Running an Application Through The Program Manager - Setting up of Printer, Webcam, Scanner and other peripheral devices.
5. **LINUX/MAC OS (only basic concepts):** Introduction to Linux - Features and advantages of Linux, File handling commands, directory handling commands - User Management - File permissions Macintosh Apple Computer (MAC) OS - Introduction - Advantages of Macintosh Apple Computer (MAC) OS. Basics commands.
6. **INTERNET CONCEPTS (only basic concepts):** Minimum Hardware and Software Requirements for a system to use internet, Communication Protocols and Facilities - Various browsers - What is Internet Protocol (IP) Address - Steps required in connecting system to network - Uploading and Downloading Files from Internet.
7. **ELECTRONIC MAIL (only basic concepts):** Sending and receiving mails, Basic E-Mail Functions, Using your word processor for E-mail, Finding E-Mail Address, Mailing Lists and lists Servers.
8. **WORLD WIDE WEB (only basic concepts):** WWW advantages of the Web - how to navigate with the Web - Web Searching.

PART – B

1. **OFFICE SUITE**: MSOFFICE or any open source office like Libre Office /Apache Open Office Neo office for Windows/Linux/Media Access Control Address (MAC)OS.
2. **GETTING STARTED WITH OFFICE:** Introduction to Office Software- Starting and Exiting the Office Applications - Introducing the Office Shortcut Bar - Customizing Office Shortcut Bar.
3. **FILE OPERATIONS IN THE OFFICE:** Common Office Tools and Techniques - Opening An Application - Creating Files - Entering And Editing Text - Saving Files - Opening Files - Closing a File - Exiting The Application - Managing Your files With The Office Applications.
4. **TOOLS IN THE OFFICE APPLICATIONS:** Key Combinations - Cut, Copy and Paste - Drag And Drop Editing - Menu Bars And Toolbars - Undo and - Redo - Spell Checking - Auto Correct - Find and Replace - Help And The Office Assistants - Templates and Wizards.
5. **WORD PROCESSING (MS WORD or its equivalent in Libre office** /Apache Open Office / Neo office for Windows/s/Linux/Mac OS): Starting Word
- Title Bar - Menu Bar - Format Bar - Standard Bar - Ruler - Workspace Area - Scroll Bar - Status Bar - Different Toolbars - Option a Menu Bar - Creating New Document When Word is Running - Opening Pre existing Documents When Word is Running - Designing Your Document - Typing Text - Selection text - Deleting Text - Formatting text and document - copying and moving - Saving Document - Page Setup - Properties of a document - Undo-Redo-Cut-Copy a Document - Pasting a Document - Print Preview - Printing - Select All - Find - Replace - Go To - Four Different View Of A Document - Normal, Web Layout, Print Layout, and Outline Layout- Document Map - Full Screen - Zoom - Objects - Page Break - Header and Footer - Page

Number - Auto Format - Auto Text - Inserting Date And Time - Working With Header, Footers-footnotes-Fields-Symbols-Caption Cross Reference-Index-Tabs-Table and Sorting - Working With Graphics - Inserting Pictures - Modifying Pictures - Word Art - Inserting Chart - Inserting Files - Hyper Linking - Bookmark - Using Different Fonts - Paragraph – Bullets Borders and Shading-Columns-Drop Cap-Theme-Change Case Background-Frames-Style-Spelling And Grammar - Set Language - Word Count - Auto Summarize - Auto Correct - Merge Document - Protect Document - Envelopes And Labels - - Templates, Wizards And Sample Documents - drawing Tables - Merge Cell - Spilt Cells - Spilt Table - Table Auto Format - Auto Fit - Sort - Formula - Arrange All-Split- Micro Soft Word Help - Macros - Custom Toolbars - Keyboard Shortcuts - Menus - Mail Merge.

6. **SPREAD SHEET (MS Excel or its equivalent in Libre Office / Apache Open Office / Neo office for Windows/s/Linux/ Maa OS)**:
Features Of Excel - Excel worksheet - Selecting Cell - Navigating With The Mouse And Keyboard - Entering And Editing Text - Text Boxes - Text Notes - Checking Spelling - Undoing And Repeating Action - Entering And Editing Formulas - Referencing Cells - Order Of Evolution in Formulas - Copying Entries And Equations To Minimize Typing - More Auto Fill Examples - Creating Custom Fill Lists Protecting And Un Protecting Documents And Cell - Creating A New Worksheet - Excel Formatting Tips And Techniques - Moving cell - Copying Cells - Sorting Cell Data - Insertion Cells Inserting As You Paste - Deleting Parts Of Worksheet - Clearing Parts Of A Worksheet - Excel Page Setup - Changing Column Width And Row Heights - Auto Format - Manual Formatting - Using style - Format Code Alter A Number's Appearance - Format Painter Speeds-Up Format Copying - Changing Font Size And Attributes - Adjusting Alignments - Cantering Text Across Column - Using Border Buttons And Commands - Changing Color And Shading - Inserting And Removing Page Breaks - Hiding Rows And Columns - Rearranging Worksheet - Entering Formula - Excel Functions - Inserting Rows And Columns - Saving A Worksheet - Printing A Worksheet - Printing Tips For Large Excel Project - Parts Of A Function - Functions Requiring Add-ins - Function Wizard - Example Of Functions By Category - Organizing Your Data - Excel's Chart Features - Chart Parts And Terminology - Instant charts with The chart wizard - Creating Chart On Separating Worksheets - Resizing And Moving Charts - Adding Chart Notes And Arrows - Editing Charts - Rotating 3-D Charts - Printing Charts - Deleting Charts Setting The Default Chart Type - Creating Trend Lines Data Map - Working With Graphics in Excel - Creating And Pacing Graphic objects - Resizing Graphs - Possible Sources Of Excel Graphics - Creating and Running Macro - Sorting Excel Data - Adding Subtotals To Databases - Customizing Excel - Customizing Workspace – Comma Separated Value (CSV) File format - Using Worksheet As Databases.

7. **PRESENTATION SOFTWARE (MS Power Point or its equivalent in Libre Office/Apache Open office/Neo office for Windows/s/Linux/Mac Os):** Introduction - Starting Presentation Software - Views in Presentation Software - Slides - Terminology - Color Schemes - Formatting Slides - Creating a Presentation - Using the Auto Content Wizard - Masters- - Using a Template - Creating a Blank Presentation - Working with Text in Power Point - Adding Slides Editing And Working Text - Working in Outlaying view – Spell checking - Finding And Replacing Text - Formatting Text - Aligning Text - Developing Your Presentation - Importing images From The Outside World - The Clipart Gallery - Drawing in Presentation software- Bringing A Presentation to Life - Inserting Objects in Your Presentation - Inserting A Picture - Working With Graphics - Multimedia in Power Point - Animating The Objects, Pictures, Graphics, - Enhancements to the Slide Show Showing Slides Out Of Order Printing Presentation Elements - Finalizing The Presentation - Assigning Transitions And Timings - Setting The Master Slide - Setting Up The Slide Show - Running The Slide Show.

Assessment Pattern:

Part-A: Test may be designed to assess the candidate by means of MCQs.

(20 %of Total Marks)

Part-B: A computer based assessment test where they need to:

1. Prepare a model document and organize the same in a formatted manner. This should cover evaluating the typing speed, organizing the document and covering several other aspects such as inserting tables, inserting Images/WordArt, mail merge, etc.)

2. Evaluating typing speed **(25% of Total Marks)**
   (This may be made mandatory for qualifying based on the norms existing)

3. Organizing and inserting different objects **(15% of Total Marks)**

4. Prepare an Excel Sheet to fill with data and format the sheet, merging/splitting cells, formulae for calculation in the cells, conditional formatting, preparation of different graphs based on the data. **(20% of Total Marks)**

5. Prepare a Power Point presentation using the standard layouts available and filling different slides with content (Formatted text, images, tables, transition effects, animation etc.).

(20%of Total Marks)

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