

(iv) Candidates seeking reservation/ relaxation benefits available for SC/ST/OBC must ensure that they are entitled to such reservation/ relaxation as per eligibility prescribed in the rules/notice. They should also be in possession of all the requisite certificates in the prescribed format in support of their claim as stipulated in the rules/ notice for such benefits, and these certificates should be dated earlier than the due date (closing date) of the application for Examination.

13. Withdrawal of applications:

No request for withdrawal of candidature received from a candidate after he/she has submitted his/her application will be entertained under any circumstances.

14. Other Instructions:

(i) Department of Forests & Wildlife reserves the right to cancel/restrict/enlarge/modify/alter the recruitment process, if needed, without issuing any notice.

(ii) Legal jurisdiction will be Delhi in case of any dispute.

15. SYLLABUS

15.1 FORESTS RANGER:

I. General Aptitude

(A) **General Intelligence & Reasoning:** It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, Visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non- verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, Symbolic/Number Analogy, Figural Analogy, Semantic Classification, Symbolic/Number Classification, Figural Classification, Semantic Series, Number Series, Figural Series, Problem Solving, Word Building, Coding & de-coding, Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing inferences, Punched hole/pattern–folding & un-folding, Figural Pattern–folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

(B) **General Awareness:** Questions in this component will be aimed at testing the candidates general awareness of the environment around him and its application to society. Questions will also be designed to test knowledge of current events and of such matters of every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

(C) **Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of numbers and number sense of the candidate. The scope of the test will be computation of whole numbers, decimals, fractions and relationships between numbers, Percentage, Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra, Graphs of Linear Equations, Triangle and its various kinds of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle, common tangents to two or more circles, Triangle, Quadrilaterals, Heights and Distances, Histogram, Bar diagram & Pie chart.

(D) **English Language & Comprehension:** Questions in this components will be designed to test the candidate's understanding and knowledge of English Language and will be based on spot the error, fill in the blanks, synonyms, antonyms, spelling/detecting mis-spelt words, idioms & phrases, one word substitution, improvement of sentences, active/passive voice of verbs, conversion into direct/indirect narration, shuffling of sentence parts, shuffling of sentences in a passage, cloze passage & comprehension passage.

II. Science, Technology & Environment

1. Physics

Units & Dimension, Motion, Work, Energy, and Power, Gravitation, Pressure, Floatation, Surface Tension, Viscosity, Elasticity, Simple Harmonic Motion, Wave, Sound Wave, Heat & Thermodynamics, Light, Static Electricity, Current Electricity, Magnetism, Atomic and Nuclear Physics, Scientific Instruments, Inventions, Radioactivity, Nuclear fission and fusion, Electromagnetism, The four fundamental forces, The kinetic theory of matter, Magnetic effect of electric current, The Human eye and Defects.

2. Chemistry

Matter and its state, Atomic Structure, Chemical Bonding, Periodic Classification of Element, Oxidation and Reduction, Acids, Base and Salts; Behavior of Gases, Electrolysis, Carbon and its Compound, Fuels, Metallurgy, Metals and Non-metals, Chemical Reactions, Radioactivity, Electrochemistry, Catalyst, Hydrocarbons, List of important Drugs and Chemicals, Fertilizers, Concepts of pH scale.

3 (i): Biology (Optional)

Introduction, Classification of Organisms, Cytology, Genetic, Structure of Plant and Animal Cell, Classification of Plant Kingdom, Plant Morphology, Plant tissue, Photosynthesis, Plant Hormones, Plant Diseases, Mode of Nutrition in Plant, Control and Coordination in Plant, Sexual Reproduction in Flowering Plant, Asexual Reproduction in Plant, Transport system in Plant, Respiration and Excretion in plants, The Cell: The foundation of all living things, Cell: Structure and Functions, Control and Coordination in Human, Human Reproductive system, Excretory system in Humans, Respiratory system in Humans, Human Circulatory system, The Heart, Composition of Blood, Functions of Blood, Human Digestive system, Cell Division, Food and Nutrition, Human Diseases, Nuclear fission and nuclear fusion, Classification of Animal Kingdom, The five kingdoms of life, Mode of Nutrition in Animal, Nutrition in Animal, Sexual Reproduction in Animal, Respiration in Animals.

3 (ii): Mathematics: (Optional)

Real Numbers, Polynomials, Pair of Linear Equations in Two Variables, Quadratic expressions & Equations, Progressions, Triangles, Coordinate Geometry, Trigonometry, Circles, Constructions, Areas, Surface Areas, Volumes, Statistics, Probability, Graphs.

4. Technology

1. Role/impact of Science & Technology in Indian Development
2. Advancements in Life Sciences, Natural Sciences, Agriculture Science, and Energy sector
3. Issues/challenges of development on Ecology and Environment
4. Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
5. Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
6. Biotechnology: Definition and explanation, Transgenic and Cryogenic Organisms, Types, Bt Brinjal, Bt Cotton, Genetic Pollution, Concerns about GM food
7. Information Technology: Important terms in computers and IT

8. Nanotechnology: Definition and basic information
9. Space Technology: Space Research, Types of Orbits, Types of Satellites
10. Electromagnetic Spectrum: Important Terms, Types of EM Spectrum, Different generations in Wireless Telephony, 3G v/s 4G
11. Food and Nutrition: Important Terms, Hunger and Malnutrition, food resources and food problems, changes caused by agriculture and over-grazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, organic agriculture.

5. Environment:

1. Conservation, environmental pollution and degradation, environmental impact assessment
2. Biodiversity – importance for human survival, International Union for Conservation of Nature and Natural Resources, biodiversity hot spots, Red Data Book.
3. Basic components of an ecosystem-structure and functional aspects of an Ecosystem-Tropic structure-Ecological Niche-Ecological Dominance-Stability, Diversity rule. Homeostasis, aquatic Ecosystem-physico-chemical nature of lentic and lotic ecosystems. Types of aquatic ecosystem-structure and organization with examples of fresh water Ecosystem. Marine water ecosystem, estuarine water Ecosystem-Mangroves. Terrestrial Ecosystem: Tundra forest, Grassland, Desert ecosystem. Energy flow in ecosystems-Laws of Thermodynamics. Productivity-Biomass production, primary productivity and net productivity. Food Chain – Types of food chain with examples, Foodweb, Ecological pyramid of biomes.
4. Environmental ecology – terms, effects of environmental degradation
5. Pollution – types, impacts, solutions, acid rain, smog, greenhouse gases, algal bloom, ozone layer.
6. Waste management: Biochemical wastes, Municipal solid wastes, plastic wastes
7. Sustainable Development – concept, technologies, renewable energy sources, bio-fertilizers, bio-pesticides, biomass gasification.
8. Conservation – conservation of natural resources, wildlife conservation, national parks, wetlands, biosphere reserves.
9. Climate change – Kyoto Protocol, Montreal Protocol, climate change summits held.
10. Ecologically sensitive areas in India – Western Ghats, Himalayas, Aravallis etc.
11. Laws, regulatory bodies and policies at national and international level – Environment Protection Act, National Biodiversity Authority, Forest Right Act, protocols and summits like Nagoya Protocol, Cartagena Protocol and Lima Conference, etc.

12. UNEP, FAO, UNESCO

13. Ramsar Convention, Montreux Record, the three Rio Conventions— Convention on Biological Diversity (CoB), United Nations Framework Convention on Climate Change (UNFCCC) and United Nations Convention to Combat Desertification – from the 1992 Earth Summit, etc.

14. Carbon trading and leakage issues, Kyoto mechanism, emission trading, etc.

15.2 FORESTS GUARD & WILDLIFE GUARD:

i) **General Awareness:** Questions will be designed to test the ability of the candidate's General Awareness of the environment around him/her and its application to society. The questions will be designed to test knowledge of Current Events and of such matter of everyday observation as may be expected of an educated person. The test will also include questions relating to History, Polity, Constitution, Sports, Art & Culture, Geography, Economics, Everyday Science, Scientific Research, National/International Organizations /Institutions etc.

(ii) **General Intelligence & Reasoning Ability:** The syllabus of General Intelligence & Reasoning Ability includes questions of both verbal and non-verbal types. Test may include questions on analogies, similarities, differences, space visualization, problem solving, analysis, judgment, decision making, visual memory, discrimination, observation, relationship, concepts, arithmetical reasoning, verbal and figure classification, arithmetical number series etc

(iii) **Arithmetical & Numerical Ability :** The test of Arithmetical and Numerical Abilities will cover Number Systems including questions on Simplification, Decimals, Fractions, L.C.M., H.C.F., Ratio & Proportion, Percentage, Average, Profit & Loss, Discount, Simple & Compound Interest, Menstruation, Time & Work, Time & Distance, Tables & Graphs etc. of 10th level.

(iv) & (v) **Hindi Language & Comprehension and English Language & Comprehension:** In addition to the testing of candidate's understanding and comprehension of the English and Hindi Languages, questions on its Vocabulary, Grammar, Sentence Structure, Synonyms, Antonyms and its correct usage etc. would also be covered. Reasoning Ability
