

**ANDHRA PRADESH PUBLIC SERVICE COMMISSION: VIJAYAWADA**

**SCHEME OF MAIN EXAMINATION FOR RECRUITMENT TO THE POST OF FOREST BEAT OFFICERS &  
ASSISTANT BEAT OFFICERS IN A.P. FOREST SUBORDINATE SERVICES**

**WRITTEN EXAMINATION**

<b>Sl No.</b>	<b>Subject</b>	<b>Marks</b>	<b>Questions</b>	<b>Minutes</b>
1.	Writing an essay in English or Telugu or Urdu (Descriptive type)	50 Marks (Qualifying Test )	1 Question	30 Minutes
2.	Paper-1 General Studies & Mental Ability (Objective type)	100 Marks	100 Questions	100 Minutes
3.	Paper-2 General Science & General Mathematics (SSC standard) (Objective type)	100 Marks	100 Questions	100 Minutes
	<b>Total</b>	<b>200 Marks</b>		

**N.B.:** 1. Candidates are required to undergo a walking test and also a Medical Examination (conducted by a Medical Board). The walking tests shall be arranged by the Forest Department, in presence of official 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.

2. Appearance at all the above tests is compulsory. Absence at any or all of the papers will render the candidature invalid.

3. As per G.O.Ms. No.235 Finance (HR-1, Plg & Policy) Dept, Dt:06/12/2016, for each wrong answer will be penalized @ 1/3<sup>rd</sup> of the marks prescribed for the question in all objective type papers.

4. The minimum qualifying Marks for selection is 40% for OCs; 35% for BCs and 30% for SCs & STs.

5. For Qualified candidates, Weightage shall be given to the NCC Certificate holders having requisite qualifications, Physical measurements at the time of selection, as follows:

NCC – “C” Certificate holder – 5 bonus marks.  
NCC – “B” Certificate holder – 3 bonus marks.  
NCC – “A” Certificate holder – 1 bonus marks.

**Syllabus**

**Writing an essay in English or Telugu or Urdu (Descriptive type)**

**Essay Writing in English or Telugu or Urdu. This examination will be of 30 minutes duration and maximum marks 50.**

**PAPER-I**

**GENERAL STUDIES & MENTAL ABILITY (Objective type)**

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 national and international 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 Indian National Movement.
4. World Geography and Geography of India 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 (Source : CBSE Publications)  
Concepts in disaster management and vulnerability profile of India / State of A.P.  
Earth quakes / Cyclones / Tsunami / Floods / Drought – causes and effects.  
Man made disasters - Prevention strategies.  
Mitigation strategies / Mitigation measures

**Paper – II**  
**General Science (SSC standard)**  
**(Objective type)**

1) Source of Energy :-

Renewable and Non-renewable sources, Renewable sources : Solar energy (Solar Cooker, Solar water heater, Solar Cell); Wind energy, Hydro energy (Tides of Ocean, Hydroelectric), Geothermal wood, Biogas, Hydrogen and Alcohol.

Non renewable source :- Fossil fuel (Coal, Petroleum and Natural gas). Conditions for Combustion choice of a good Fuel, Fuel efficiency, nuclear fusion and nuclear fission, chain reaction, Nuclear reactor (Basic principles; Safety measures). Advantages and hazards of nuclear energy, uses of energy. Mangal Turbine (Fuel less turbine). Principle, working and uses.

2) Living world :- Life Processes :-

Nutrition, Modes of nutrition : Autotrophic, heterotrophic, Parasitic and saprophytic. Nutrition of plants : - Photosynthesis factors affecting the photosynthesis: Nutrition in animals : Ameba grasshopper, digestive system of human. Respiration :- Respiration and Breathing Respiration in Plants and animals type of respiration : Aerobic and anerobic respiration; Respiration through Skin, gills, trachea lungs. (Earthworm, Fishes, Grasshopper and Human). Knowledge of structure and function of respiratory system of human.

3) Transportation, Excretion

Transportation :- Transportation in Plants and animals. (Water, minerals, food). Transportation in Human, Composition and function of blood, Clotting of blood, Blood Groups. Transfusion of blood, Heart, structure and functions of blood vessel (elementary knowledge). Lymphatic system. Excretion :- Excretion in animals (Amoeba and earth worm), excretion in Human, Osmoregulation. Control and co-ordination :- Coordination, Plants and animals. Nervous system and hormones in Human. Reflex action.

4) Reproduction, growth, Heredity and Evolution Reproduction and growth :- Types of Reproduction

Asexual : Fission budding, regeneration vegetative propagation in plants, cutting, grafting and layering, Parthenogenesis. Sexual reproduction and its significance Reproductive parts of plants, pollination and fertilization. Human reproductive system, Mental and physical change during human development. Heredity and Evolution :- Heredity and Variations, Physical basis of Heredity - chromosomes; D.N.A. (elementary knowledge), Genes, Sex determination. Elementary knowledge of evolution.

5) Natural Resources

Metals and non-metals :- Ores and minerals, metallurgy, Enrichment of ores, extraction of metal from ores, refinement and purification of metal with reference to Iron and aluminium, Activity series of metals, general properties and corrosion of metals, Alloys, Components, properties and uses of steel; stainless steel, Brass, magnesium. Alloys of gold.

Non-metals :- Importance and general. Properties, method of preparation of hydrogen, properties and its uses. Manufacturing of ammonia (Only reactions). its properties and uses, sulphur - occurrence, extraction, properties (allotropy and effect of heat) and uses. Properties and use of Sulphur dioxide. Manufacture of sulphuric acid (Only reactions), its properties and uses.

6) Carbon Compounds

Functional groups (only oxygen containing) Alcohols - preparation, properties and uses, preparation methods, properties and uses of formaldehyde, Acetone and Acetic acid. Some common synthetic polymers, soaps and detergents.

### 7) Environment

Environment and Environmental Problems :- Causes, prevention and control of environmental problems, Land, water, Air, noise pollution and accumulation of waste materials. Biodegradable and Non biodegradable materials, Interaction, between biotic and non biotic component of ecosystem. Ecological balance, efforts and measures for conservation of environment.

Process of water management and conservation :- Rain water harvesting Ground water recharging, conservation of forests; Land management and conservation Public awareness for environmental protection, Green House effect, Global warming, ozone layer depletion, Acid rain. Morphological study of medicinal plants. Their classification on the basis of their use and life span. Study of botanical names and medicinal use of the following plants. Seasonal plants Malkangni, Ashwaganda, Ginger, Turmeric, Garlic, Fenugreek, Touch-me-not, Soya, Shatawar, Sarpagandha, Isabgol, Dioscorea, Mustard, Cumin, Fennel, Ajwayin, Marua, Tulsi, Vacha, Adusa, Giloy, Harjor, Bryophyllum, Bhui Aonla, Castor. Trees and perennial plants Harad, Baheda, Aonla, Nirgundi, Babool, Oak, Neem, Sheesham, Catechu, Karanj, Sweet Neem, Molshree, Kachnar, Peepal, Harshinagar, Amaltash, Pomegranate, Sandal, Nuxvom, Paras peepal, Arjuna, Eucalyptus, Bel, Apamargh, Bhiringraj, Kaner.

### 8) The Universe

Solar system and exploring space - Exploring space - Solar System, planets, asteroids, comets and meteors; Earth origin, evolution and structure stars, Constellations, milky way, galaxy, structure of universe and its theories. Brief history of space explorations :- Elementary ideas about space crafts Different types of artificial satellites and their orbits. Uses of artificial satellites in Communication, weather forecasting, remote sensing and space exploration.

## **General Mathematics (SSC standard)** **(Objective type)**

1. **ARITHMETIC:** Number System-Natural numbers, Integers, Rational and Real numbers, Fundamental operations, addition, subtraction, multiplication, division, Square roots, Decimal fractions.  
Unitary method-time and distance, time and work, percentages, applications to simple and compound interest, profit and loss, ratio and proportion, variation.  
Elementary Number Theory – Division algorithm. Prime and composite numbers. Tests of divisibility by 2,3,4,5,9 and 11. 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:** Basic Operations, simple factors, Remainder Theorem, H.C.F., L.C.M. 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 inequations in two variables and their solutions. Practical problems leading to two simultaneous linear equations or inequations in two variables or quadratic equations in one variable and their solutions. Set language and set notation, Rational expressions and conditional identities, laws of indices.
3. **TRIGONOMETRY:** Sine x, Cosine x, Tangent x when  $0^\circ < x < 90^\circ$  values of sin x, cos x and tan x, for  $x = 0^\circ, 30^\circ, 45^\circ, 60^\circ$  and  $90^\circ$ .  
Simple trigonometric identities. Use of trigonometric tables.  
Simple cases of heights and distances.
4. **GEOMETRY:** Lines and angles, Plane and plane figures, Theorems on (i) Properties of angles at a point, (ii) Parallel lines, (iii) Sides and angles of a triangle, (iv) Congruency of triangles, (v) Similar triangles, (vi) Concurrence of medians and altitudes, (vii) Properties of angles, sides and diagonals of a parallelogram, rectangle and square, (viii) Circles and its properties including tangents and normals, (ix) Loci.

5. **MENSURATION:** Areas of squares, rectangles, parallelograms, triangle and circle. Areas of figures which can be split up into these figures (Field Book), Surface area and volume of cuboids, lateral surface and volume of right circular cones and cylinders, surface area and volume of spheres.
6. **STATISTICS:** Collection and tabulation of statistical data, Graphical representation frequency polygons, histograms, bar charts, pie charts etc. Measures of central tendency.