

## Major Botanical gardens of India –

### A) Indian Botanical Garden, Howrah:

- The garden is one of the largest and oldest green reserves in South East Asia.
- Its founding father was Lieutenant Colonel Robert Kyd and it was established in the year 1787, the garden is considered to be one of the most amazing landscaped gardens, which are split into sections on the basis of trees sourced from various parts of country and world. The artificial lakes are just the bonus here.
- The main purpose of establishing the garden was to cash in on the commercial value of the plants and grow spices of commercial value.
- Apart from Robert Kyd as the first honorary superintendent, the contributions by Dr. George King, Thomas Anderson and William Roxburgh have been significant in deciding what the garden is being hailed as today.
- The present title **The Acharya Jagadish Chandra Bose Indian Botanic Garden** was given on June 25, 2009, to honour the Bengali genius and scientist, Jagdish Chandra Bose.
- The garden has many attractive plants, medicinal plants and food plants to ensure the economic benefit of Indian demographics as well.
- The dried plant specimen was evolved to an extent of having 2,500,000 plants and became the Central National Herbarium.
- As of now, the garden is home to over 12,000 perennial plant species. The latest census was conducted in the year 2007 and according to figures revealed; there are 14,000 species of trees and 13,722 species of plants. Out of these 500 species are considered endangered or rare.
- **The Great Banyan Tree** remains the prime attraction of the garden. It is the biggest banyan tree in the world and forms the second largest canopy.
- The garden brings a rare water lily, *Victoria Amazonica*.
- Here one can find trees from all over the world. The garden boasts from exotic species from Nepal, Penang, Java, Sumatra and Brazil find a place to stay. It has dedicated space to orchids and cactus.
- Coconut tree from Sicily, the mad tree, collection of aquatic plants and exotic selection of bamboo, citrus, jasmine, water lilies, ferns, creepers, hibiscus, ficus and bougainvillea can be found here in their pristine state.
- Exotic plants such as giant water lilies, bread fruit tree, double coconut, Krishnabot, the Shivalinga tree and water lilies have found a home in Kolkata Botanical Garden.
- Serpentine Lake for boating is also open for the visitors.
- The library section here offers large collection of books including the history of fauna and flora and the garden.
- It has conservatories, glass houses, greenhouses and 25 divisions of herbaceous plants. The garden is the major centre of horticultural and botanical research in India.

- The greenery and plants are a major inspiration for educational and development research. Apart from students and researchers, the garden also seems to attract photo walkers and tourists from all over the world due to its natural opulence it offers.

### **B) National Botanical Garden (NBRI) Lucknow:**

- It was originally the garden of Nawab of Ayodhya. Later it was converted into a Botanic Garden under the control of Council of Scientific and Industrial Research.
- The site of the National Botanic Gardens is popularly known to the public of Lucknow as Sikandar Bagh. Sikandar Bagh, however, is an old garden situated at the South-eastern corner of the present National Botanic Gardens. It was built by Nawab Saadat Ali Khan (1789-1814) and adapted by Wajid Ali Shah, the last King of Oudh, who named it after his queen, Sikandar Mahal Begum.
- The present National Botanic Gardens is spread over about 75 acres on the south bank of the river Gomti. It is bounded on the south of Rana Pratap Marg and on the east by Ashok Marg which runs through the old Sikandar Bagh. As we enter the garden from Ashok Marg, we shall see a large orchard on both the sides of the road.
- That on the left is the Citrus orchard and on the right mango orchard with “dasehri”, “safeda” and other famous varieties of mangoes. Passing through the Palm avenue there is Banyan Point occupied by an ancient giant Banyan tree with its trunk covered by huge leaves of Pothos.
- Moving towards right from this spot we pass through the Rosarium with large and beautiful collections of roses, and reach the “Vanasthali” or Woodland, which is a large area, thickly planted with trees and forming a favourite picnic spot.
- At the north end of Banyan Point is the Aquatic Garden including a beautiful lake with islands connected by a rustic bridge and stepping stones. Within the lake is a very good collection of aquatic plants including lotus and several varieties of *Nymphaea*.
- The Conservatory with large number of shade-loving species is situated in the south-western portion of the garden. The space outside to its left and on the front side has been used in planting bulbous plants.
- Three plant houses are situated on the *Polyalthia* Avenue. The one in front of the fountain is the Palm House in which a large number of species palm from different parts of the world are grown. A little apart from it is the Fern House having ferns from different parts of the world. Opposite the Fern House is the Orchid House. Cactus House containing large collection of cacti and other succulents.
- Adjoining the Palm house is the Hydroponicum where several varieties of vegetables, fruits and flowering plants are grown in water – and – gravel cultures (soil-less cultures).
- On the west of the Fern House are the Portable and Vertical gardens where ornamental plants, vegetables, and fruit plants are grown in baskets, pouches supported on poles, in trays and wooden boxes, on tree-trunks, rocks and all kinds of odd objects.
- It has well equipped laboratories of Tissue culture, Virology, Polynology, Physiology, Morphology, Aromatics, Cytogenetics, etc.

### **C) Lloyd Botanical Garden, Darjeeling:**

- The Lloyd Botanic Garden is situated in the district of Darjeeling.

- It is situated at a distance of 386 miles by rail from Calcutta. The garden is situated at an elevation of about 6,000 feet in the East Himalayas. The indigenous plants represent more or less the characteristic flora of the Sikkim, Himalayas. The position of the garden in the heart of the Himalayas is unique of its kind in the east.
- The land of the present garden was donated by Mr. William Lloyd in 1878, it was named after his name as Lloyd Botanic Garden. The progress of the garden was slow in the beginning.
- The activities of this garden from 1910 onwards reached a high standard and the collection and distribution of seeds, plants and bulbs came to be a special feature of the work undertaken by its officers. In 1930 Mr. S. N. Basu became the permanent Curator of the garden.
- The area of the garden is 40 acres. This area is roughly divided into three main sections (1) Upper indigenous section; (2) Lower exotic section representing many species from the temperate parts of the world; (3) Miscellaneous section with predominating species of the plants of the Eastern Himalayas and some of the species of hill plants of North Western India, Eastern India and Burma and of the Nilgiris in Southern India.
- The permanent stock of a little more than one thousand five-hundred plants under cultivation represents the temperate floras of thirteen different countries of the world, arranged in 20 divisions into which the garden has roughly been divided.
- The garden has an endless variety of evergreen and deciduous plants. Its charming terraces and slopes and beautiful combination of plants from various countries of the world leave an indelible impression on the minds of visitors. The beautiful alpine plants, geraniums, composites, rhododendrons, conifers as well as rock gardens, the conservatories, the herbaceous borders and the annual beds of flowering plants are some of the colourful features of the garden.
- The spacious orchidarium contains over 12,000 specimens of beautiful orchids representing all habitats. In the coniferous section, the most attractive is the Australian Collitris with its evergreen bluish foliage. There are also tulip trees (*Liriodendron elatus*) and a collection of exotic oaks (*Quereus* species). Living fossil of *Metasiquosia* has been grown here.
- Herbarium of over 30,000 common species of Eastern Himalayas are classical according to Bentham and Hooker's *Genera Plantarum*. Rosary and Herbarium are its major attractions.

#### **D) Lalbagh or Mysore State Botanical Garden Bangalore:**

- This garden has won a privileged place among the garden of the world and is regarded as one of the best in the east for its lay out, grandeur, maintenance, botanical interest and scenic beauty. Marshall Tito when visited India in 1955 commented "India is a garden and Lalbagh is the heart of it".
- This garden houses and nurses plants from Australia, Africa and South and North America. It has introduced, accommodated and multiplied edible, medicinal, industrial, ornamental and other economic plants from most of the parts of the world.
- The name Lalbagh was first given to the garden by Hyder Ali in 1760; because of roses and other red flowers. In 1799 this garden was taken over by Military Botanist Major Waugh an employee of East India Company. In 1831 when the British occupied the province of Mysore, the charge of the garden was taken over by Chief Commissioner.
- The greatest service to the garden was done by John Cameron who took its charge from 1874 onwards. Mn H. C. Jayaraja became the first Indian Director of the garden. In 1951 Dr. M. H.

Mavi Gowda became the Superintendent of the garden and developed it into a place of beauty and scientific interest. Now the garden occupying an approximate area of 240 acres.

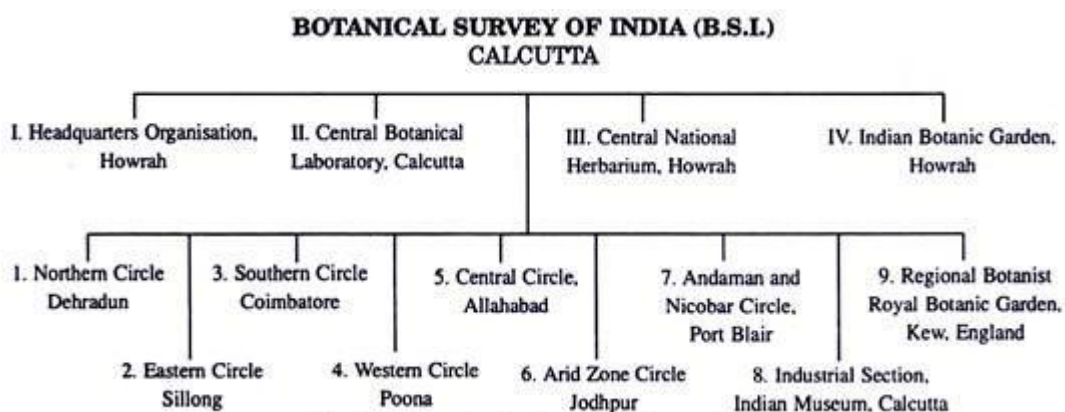
- It is now a big centre of horticulture activities. It has well-equipped laboratories for soil and seed testings, and tree nursery, fruit nursery, school garden, herbal garden and economic garden.

### **E) Botanical survey of India and regional branches of India:**

- **Botanical Survey of India (BSI)**, founded 13 February 1890, is [Government of India Ministry of Environment, Forest and Climate Change](#)'s organization for [survey](#), research and conservation of [plant resources](#), [flora](#) and [endangered species](#) of India, including by collecting and maintaining [germplasm](#) and [gene bank](#) of [endangered](#), [patent](#) and [vulnerable](#) plant species.
- The Botanical Survey of India (BSI) is engaged in the survey, study, utilization and conservation of plant wealth of the country. Its headquarters, are at Central National Herbarium, Central Botanical Laboratory, main Garden at Howrah, the Botanical Museum at Calcutta and nine regional circles or stations in different parts of the country-Dehradun, Coimbatore, Shillong, Pune, Allahabad, Jodhpur, Port Blair, Gangtok and New Itanagar.
- These stations also have regional herbaria with about 2,000,000 specimens. Nearly 250 new plants (genera and species) have so far been discovered and described while more than 500 new records of plants have been found for our country.
- The Botanical Survey of India is a government organisation. The main programme of the survey is the preparation of a detailed account of the plant resources of the country in the form of national, district and regional floras. It has started publishing the new Flora of India in the form of Fascicles for higher plants.
- **Headquarters:** Apart from the Directorate, the Headquarter consists of Flora Cell, Cryptogamic Section, Palynology Section, Central Library, Publication Section, Technical Section, Pharmacognosy Section, Ecology and Plant Chemistry Section. The Central library is with about 54,500 accessioned books and subscribes more than 62 National and International journals. The Pharmacognosy Section possess about 700 crude drug samples, while Cryptogamic section has more than 70,000 specimens of Pteridophytes, 5,000 of mosses, 2,000 of liverworts, 4,500 fungi, 3,000 lichens and 1,500 algal specimens.
- **AJC Bose Indian Botanic Garden, Howrah:** AJC Bose Indian Botanic Garden, established in 1790 by Robert Kyd on the bank of River Hooghly, and formerly known as Indian Botanic Garden, is one of the best landscaped gardens in the world. At present, the garden has an area of 273 acres and is a living repository of more than 14,000 plants belonging to 1,405 species. The garden has 25 different sections with 24 interconnected artificial lakes and recognized as a unique place of learning and has attractions such as the 'Great Banyan Tree: a living wonder in the plant kingdom; the Large Palm House containing rich collection of palms, including the Double Coconut Palm (*Lodoicea maldivica*); Branching Palm (*Hyphaene thebaica*) introduced from Egypt; the Century Palm (*Corypha macropoda*); the Giant Water Lily (*Victoria amazonica*) brought from Amazon River; the Queen of flowering trees (*Amherstia nobilis*), a

native of Myanmar; the Mountain Rose or Venezuelan Rose (*Brownea macrophylla*); the Baobab Tree (*Adansonia digitata*), a native of Africa; the Rosogolla Tree (*Chrysophyllum cainio*); The Cannon ball tree (*Couroupita guianensis*); the African Sausage Tree (*Kigelia pinnata*); the Mad Tree (*Pterygota alata*) and the 'Candle Stick Tree' (*Parmeniera cereifera*), are a few to mention. Its germplasm collections cover Bamboos, *Bougainvillea*, *Citrus*, Jasmine, *Pandanus*, Water Lilies, Palms, and besides a Medicinal Plant Garden.

- **The Central National Herbarium:** The Central National Herbarium (CAL) is one of the oldest and largest herbaria in the world. Presently, the Central National Herbarium possesses about 2.6 million herbarium specimens belonging to nearly 350 families of angiosperms. Apart from these collections, good collection of drawings of Indian plants painted by natural dyes and many archival collections are in possession of CAL. This centre has also appreciable cryptogamic collections that include fungi, lichens, algae, bryophytes and pteridophytes. It is the hub of taxonomic work of our country serving as a centre for the correct identity including distribution mapping of plants, national reference for literature and specimens to plant taxonomists. It also renders services of varied nature for diverse institutions for the last two centuries. The states of Bihar, Jharkhand and West Bengal come under its jurisdiction, covering an area of 2,62,627 sq. km.
- **Central Botanical Laboratory:** The Central Botanical Laboratory, established on 13 April 1954, is a Centre of research in the field of Ethnobotany and Economic Botany. The laboratory maintains Economic Botany Section with about 6,500 ethnobotanical specimens and its museum with 4233 exhibits.
- **The Industrial Section, Indian Museum, Kolkata :** Established on 1 April 1887, showcase the first-hand information on both wild and cultivated economic plants and plant products of India in eight Bays in the Botanical Gallery of Indian Museum. The Botanical Gallery with about 20,000 exhibits is a repository of diverse collection of economic and useful plant materials,



- **Regional Centres –**
- **The Eastern Regional Centre, Shillong :** Concerned with exploration and inventory of the flora of Northeast India, comprising the states of Assam, Manipur, Meghalaya Mizoram Nagaland and Tripura. This Centre's herbarium (ASSAM) has a holding of about 2,60,000 specimens of flowering plants and about 11,000 specimens of non-flowering plants, including about 600 type specimens. The Centre also has a Library, Museum, National Orchidarium and

a Tissue Culture Laboratory, besides an Experimental Botanic Garden at Barapani, where a total of 756 species of angiosperms, 13 gymnosperms, 49 pteridophytes and 53 bryophytes of Northeast India are conserved.

- **Western Regional Centre, Pune:** The jurisdiction of this regional Centre includes states of Maharashtra, Goa, Karnataka and the Union Territories of Dadra, Nagar Haveli, and Daman Diu. The herbarium (BSI) of the Centre has about 1,33,000 specimens, including 687 type specimens; mainly showcase the biodiversity of Western Ghats, including the adjacent regions of Rajasthan, Andhra Pradesh and Kerala. The associated garden at Mundhwa has about 400 species.
- **Southern Regional Centre, Coimbatore :** The Centre covers Kerala, Tamil Nadu and the Union Territories of Lakshadweep and Puducherry. The Centre's herbarium (MH) has more than 2,66,000 specimens, including 2,750 type specimens. The associated garden at Yercaud maintains about 1,100 species that include collections at National Orchidarium.
- **Northern Regional Centre, Dehradun :** The Centre covers Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab and Uttarakhand, including Trans-Himalayan Cold Deserts of Western Himalaya. The herbarium (BSD) of this Centre holding about 1,27,000 specimens of flowering plants, including 140 type specimens and 11,300 specimens of nonflowering plants showcasing the vast floristic diversity of the Northwest Himalaya, Indian Cold Desert, Shiwalik and part of Upper Gangetic Plains. The associated gardens at Pauri and Khirsoo maintain the national gymnosperm collections for Gymnosperms.
- **Central Regional Centre, Allahabad :** The Centre covers Chhattisgarh, Madhya Pradesh and Uttar Pradesh. The herbarium (BSA) of this regional Centre has about 79,000 herbarium specimens, including 4 type specimens. In addition, it houses about 1,700 pteridophytes and 5,000 lichens. The associated garden maintains about 450 species.
- **Arid Zone Regional Centre, Jodhpur :** This Centre was established on 18th February 1972 to explore and to carry out floristic studies on plant resources of the arid and semi-arid regions of the North-western India, viz. Rajasthan and Gujarat. The herbarium (BSJO) attached to the Centre has more than 33,500 specimens, including 18 type specimens displaying plant diversity of Rajasthan and Gujarat states. The associated Desert Botanic Garden located in the premise of the regional Centre has more than 250 species of arid region.
- **Andaman and Nicobar Regional Centre Port Blair:** Established at Port Blair on 30 March 1972 with an objective to document the plant diversity of the Andaman and Nicobar Islands. The herbarium (PBL) of the regional Centre has about 32,000 herbarium specimens, including 109 type specimens. Some of the remote areas that were surveyed by the Centre are Saddle Peak National Park, Mount Thullier, Campbell Bay National Park and little Nicobar Tribal Reserve. The associated Experimental Garden-cum-Arboretum at Dhannikhari maintains more than 200 plant species.
- **Arunachal Pradesh Regional Centre, Itanagar :** The Centre is exclusively devoted to the plant-rich Arunachal Pradesh and its herbarium (ARUN) has more than 30,000 specimens of vascular plants, including 22 type specimens, about 1,100 specimens of bryophytes and more than 3,500 specimens of pteridophytes. The botanic garden at Sankie View, has about 400 species.

- **Sikkim Himalayan Regional Centre, Gangtok :** The Centre is exclusively devoted to the state of Sikkim, and its herbarium (BSHC) has about 45,200 specimens, which include 22 type specimens, besides, there are about 3,700 pteridophytes, 1,757 lichens and 215 macrofungi. The associated garden in the campus has about 310 species, mostly orchids from Sikkim.
  - **Botanic Garden of Indian Republic, Noida :** Established in 2002 with a mandate to bringing about 35 per cent of the country's wild plant diversity under ex situ conservation. The garden is actively engaged in replicating the different forest types of India and also in developing different economic plant sections. Deccan Regional Centre, Hyderabad : Established in 2005 at Hyderabad, the Centre covers Andhra Pradesh and Odisha. The herbarium (BSID) of this Centre has about 16,400 herbarium specimens pertaining Andhra Pradesh and Odisha states, including about 900 mangrove specimens and about 6,500 Greater Hyderabad specimens. Presently, housed in ZSI premises, the Centre is engaged in exploring the flora of Greater Hyderabad.
-