S.No. : **Date:**

Botany Labs

The Botany Labs of Shri Bhawani Niketan P.G. College are furnished with the best equipment to facilitate learning by observing, performing, and comprehending the plant kingdom. The Botany department contains two laboratories for conducting practical classes for students. It offers facilities to familiarize students with common experiments and principles necessary for a sound foundation in the plant sciences.

In the botany practical lab, various equipment and materials are used to study plant structures, functions, and classifications. Common tools include microscopes for observing plant cells and tissues, dissecting kits for examining internal parts, test tubes, beakers, slides, and forceps. One important practical activity is the preparation of a herbarium, which involves collecting plant specimens, drying and pressing them, and then mounting them on sheets with proper labelling for identification and study. This practice helps students learn about plant taxonomy and the preservation of plant diversity. Other experiments may include examining stomata under a microscope, studying plant pigments through chromatography, and understanding plant anatomy through sectioning and staining.

Various types of plants have been planted within about 1.2 hectare area of land. Based on their similar characteristics, many of these plants have been grouped accordingly and preserved on multiple herbarium sheets. This collection serves as a valuable resource for scientific study and research, aiding in the identification, classification (Bentham and hooker), and understanding of plant species and their features.

In the botany practical lab, plant biotechnology is used to study and improve plant growth, development, and genetic makeup. Students perform experiments such as plant tissue culture, where small parts of a plant are grown in sterile conditions to produce new plants. This helps in cloning and conserving rare or endangered species. The lab is equipped with instruments like laminar airflow cabinets, autoclaves, microscopes, and incubators, which are essential for maintaining sterile environments and growing cultures. DNA extraction, gel electrophoresis, and genetic transformation are also practiced to understand plant genetics and develop improved crop varieties with desirable traits like disease resistance or higher yield.

In the botany lab, plant pathology practicals help students understand plant diseases and their causes. Students learn to identify symptoms caused by fungi, bacteria, viruses, and nematodes. The lab is equipped with microscopes, slides, petri dishes, and culture media for

(Dr. Manjeet Singh Shekhawat)
H.O.D.

Dr. Mahesh Hapawat, Principal
Digitally signed by Dr. Mahesh Hapawat, Principal
Date: 2025.05.05 13:00:07 +05'30'

(Dr. Mahesh Hapawat)
Principal

S.No. : **Date:**

observing pathogens and isolating them from infected plant samples. Experiments may include preparing fungal cultures, studying disease cycles, and examining plant tissues under a microscope to detect infections. These practicals are important for learning how to diagnose plant diseases and develop methods for their control, which is essential in agriculture and plant protection.

The labs are completely fire resistant and are well equipped with first aid kits to deal with any mishaps. The laboratories are well maintained with expert laboratory assistants and attendants. For the conduction of practical classes, whiteboards and projection systems are available. Additionally, there are diverse instruments, chemicals, and glassware that are utilized in the practice. Some of the important instruments include centrifuge machines, colorimeter/spectrophotometer, digital anemometers, digital thermometers, lux meters, microscopes (compound, dissecting, binocular), pH meters, photometers, psychrometers, water baths, etc. Further, there are many specimens and fixed materials of plants kept in the laboratories.

(Dr. Manjeet Singh Shekhawat)
H.O.D.

(Dr. Mahesh Hapawat)
Principal

S.No. : **Date:**

(Dr. Manjeet Singh Shekhawat)
H.O.D.

(Dr. Mahesh Hapawat)
Principal

Tel: 0141-2233863, 2233890 Fax: 0141-2230730
Email: sbncollege24@gmail.com Website: sbnboyscollege.com

Shri Bhawani Niketan PG College

(Run by Shri Bhawani Niketan Shiksha Samiti)

Sikar Road, Jaipur

Department of Botany

S.No. : **Date:**

Dr. Mahesh Hapawat, Principal

Digitally signed by Dr. Mahesh Hapawat, Principal
Date: 2025.05.05 13:00:40 +05'30'

(Dr. Manjeet Singh Shekhawat)
H.O.D.

(Dr. Mahesh Hapawat)
Principal

Tel: 0141-2233863, 2233890 Fax: 0141-2230730
Email: sbncollege24@gmail.com Website: sbnboyscollege.com