



Mittal Institute of Education

(Approved by NCTE, New Delhi & Affiliated to BU, Bhopal M.P.)
Opposite Bhopal Memorial Hospital & Research Center Nabi Bagh, Bhopal – 38
Ph. 0755-298003 E-mail: miebpl2009@gmail.com

Session 2022-23

WORKSHOP ON DRY TECHNIQUE

VENUE – MITTAL INSTITUTE OF EDUCATION

TIME – 11:00AM

Date – 16 Feb 2023

DRY TECHNIQUE

INTRODUCTION

Drying is a mass transfer process consisting of the removal of water or another solvent by evaporation from a solid, semi-solid or liquid. This process is often used as a final production step before selling or packaging products. To be considered "dried", the final product must be solid, in the form of particles, powder. A source of heat and an agent to remove the vapor produced by the process are often involved.



NATURAL PROCESS:

Natural air drying takes place when materials are dried with unheated forced air, taking advantage of its natural drying potential. The process is slow and weather-dependent, so a wise strategy "fan off-fan on" must be devised considering the following conditions: Air temperature, relative humidity and moisture content and temperature of the material being dried. Grains are increasingly dried with this technique, and the total time (including fan off and on periods) may last from one week to various months.

HOT AIR OVEN

Hot air ovens are electrical devices which use dry heat to sterilize. They were originally developed by Louis Pasteur. Generally, they use a thermostat to control the temperature. Their double walled insulation keeps the heat in and conserves energy, the inner layer being a poor conductor and outer layer being metallic. There is also an air filled space in between to aid insulation. An air circulating fan helps in uniform distribution of the heat. These are fitted with the adjustable wire mesh plated trays or aluminum trays and may have an on/off rocker switch, as well as indicators and controls for temperature and holding time. The capacities of these ovens vary. Power supply needs vary from country to country, depending on the voltage and frequency (hertz) used.

A complete cycle involves heating the oven to the required temperature, maintaining that temperature for the proper time interval for that temperature, turning the machine off and cooling the articles in the closed oven till they reach room temperature. The standard settings for a hot air oven are:

1.5 to 2 hours at 160 °C (320 °F)

6 to 12 minutes at 190 °C (374 °F)

Operating Procedure of Hot air oven / Hot air oven procedure

1. A hot air oven is a laboratory appliance that is used to dry, sterilize, or heat materials. Here is a general operating procedure for using a hot air oven:
2. Connect the power cable to the machine. Preheat the oven to the desired temperature. This can typically be done by turning the temperature dial to the desired setting and waiting for the oven to reach the desired temperature.

3. Place the materials to be heated or dried inside the oven. Make sure the materials are placed on a shelf or tray so that they are not in direct contact with the oven floor.
4. Use only materials compatible with dry heat sterilization.
5. Wrap the items or equipment in paper or newspaper and place them in a cardboard or metal container. Metal containers can also be used for wrapping. Test tubes, flasks, and pipettes can be plugged with cotton wool.
6. Arrange the objects in the chamber in a manner that permits the free flow of air.
7. After proper placement, close the door and turn on the hot air oven. The temperature will then begin to climb.
8. Check the time required to maintain the material at the proper temperature once it reaches the desired temperature. The sterilizing holding time is dependent on the temperature of the hot air oven. The typical time is 120 minutes at 160°C.
9. Close the oven door and allow the materials to heat or dry for the desired amount of time.
10. Once the materials have been heated or dried for the desired amount of time, turn off the oven and allow it to cool down before opening the door.
11. Carefully remove the materials from the oven using oven mitts or tongs to protect your hands from the heat.

Mittal institute of education organized a workshop from 14th to 16th Feb 2023, At MIE Life Science Laboratory.

It was started around 10:00 AM under the guidance of Dr. Malika Pal Principal MIE and Coordinated by Prof. kausar Amin, Prof. Kalpana Verma and Prof. Rohini Chaurasiya properly.

Schedule


Day	Date	Process to be undertaken
1	14/2/23	Introduction Collection of leaves Cleaning & Sun drying

2	15/2/23	Observation of Sun drying process Theoretical study of medicinal & other benefits of the product.
3	16/2/23	Drying in HAO Powder making Packaging

The leaves were washed using distilled water. During the drying process, the leaves were left under sunlight for three days. Then, the leaves were ground to powder form.

SN	Raw Material	Final Product
1	Tulsi leaves	Tulsi powder
2	Neem leaves	Neem powder
3	Rose petals	Rose powder
4	Palak leaves	Palak powder
5	Methi leaves	Methi powder
6	Drum sticks of munga	Drum sticks Powder
7	Tamato	Tamato powder



 GPS Map Camera

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Mittal Institute of Education, Bhopal
Department of Science


Attendance Sheet

Name of Activity... Key Techniques


Date of Activity... 16 Feb 2023

Date of Activity.....16 Feb 2023.....

S.No	Students Name	Class	Sign
1	Aashi	III rd year	Aashi
2	Kashan	III rd year	Ku
3	Shubham	III rd year	Su
4	Roshni	III rd year	Ru
5	Hasthika	III rd year	Hu
6	Vivek R.	III rd year	Vu
7	Arulshan	III rd year	Ar
8	Parkash	III rd year	Pa
9	Jyoti	III rd year	Jy
10	Sonika	III rd year	So
11	Jyotika	III rd year	Jy
12	Pragya R.	III rd year	Pr
13	Disha B.	III rd year	Di
14	Aparna R.	III rd year	Ap
15	Sheetalika	III rd year	Sh
16	Dhruvendra	III rd year	Dh
17	Ankit	III rd year	An
18	Aastha R.P	III rd year	Aa
19	Lipika	III rd year	Li
20	Praksha	III rd year	Pr
21	Simran.	III rd year	Si
22	Nilesh	III rd year	Ni
23	Dipanshu	III rd year	Di
24	Sachin	III rd year	Sa
25	Rishi	III rd year	Re
26	Renuka	III rd year	Re
27	Sachin Yadav	III rd year	Sa
28	Vikash Yadav	III rd year	Vi
29	Payal Yadav	III rd year	Pa
30	Anup Dwivedi	III rd year	An
31	Mohit	III rd year	Mo


Principal
Mittal Institute of Education
Bhopal (M.P.)



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