

A
MAJOR PROJECT REPORT
ON
EXTRACTION OF ESSENTIAL OIL FROM MINT AND HOLY BASIL LEAVES
BY ENFLEURAGE EXTRACTION METHOD WITH ETHANOL AND WATER
WASH

Submitted in partial fulfilment for the requirement of the degree of

BACHELOR OF TECHNOLOGY
IN
CHEMICAL ENGINEERING

SESSION 2024-25

Submitted by

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CERTIFICATE

Certified that the Minor Project Report entitled "*Extraction of Essential Oil from mint and holy basil leaf by enfleurage extraction method with ethanol and water wash*" submitted by Anjali Jangid of B.Tech 8th Semester, in partial fulfillment of the requirements for the award of degree in Bachelor of Technology (B. Tech) in Chemical Engineering, is according to the students their own investigation carried out by them in the Department of Chemical Engineering, School of Studies in Engineering & Technology, GGV, during the session 2024-25

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ABSTRACT

This study focuses on the extraction of bioactive compounds from mint (*Mentha*) and holy basil (*Ocimum tenuiflorum*) leaves using a combined oil-ethanol extraction method. Equal quantities of mint and holy basil leaves (10 g each) were weighed, chopped, and infused separately in 60 mL of olive oil. The mixtures were gently heated to 30–40°C to aid in the release of active constituents. The infusions were then allowed to sit for 24 hours, wrapped in aluminum foil to protect from light. Post-infusion, the plant residues were separated, and the oil extracts were mixed with 95 mL of ethanol and 25 mL of water. The mixture underwent phase separation using a separating funnel, yielding an upper aqueous-ethanol layer and a lower oil-rich layer. The aqueous-ethanol phase was then heated to approximately 78°C to facilitate the evaporation of ethanol and water. After 2–3 hours of heating, a concentrated final product was obtained. This extraction process aims to maximize the retention of essential oils and other phytochemicals, offering potential applications in pharmaceuticals, cosmetics, and natural health products.