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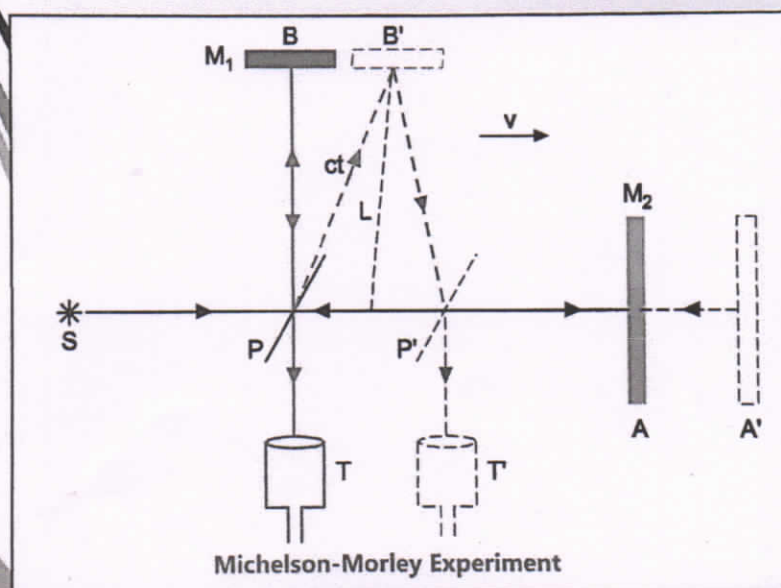
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B.Sc. Part-III : Semester-V

CLASSICAL MECHANICS AND CLASSICAL ELECTRODYNAMICS

(PHYSICS : DSE-E3 : PAPER-XI)

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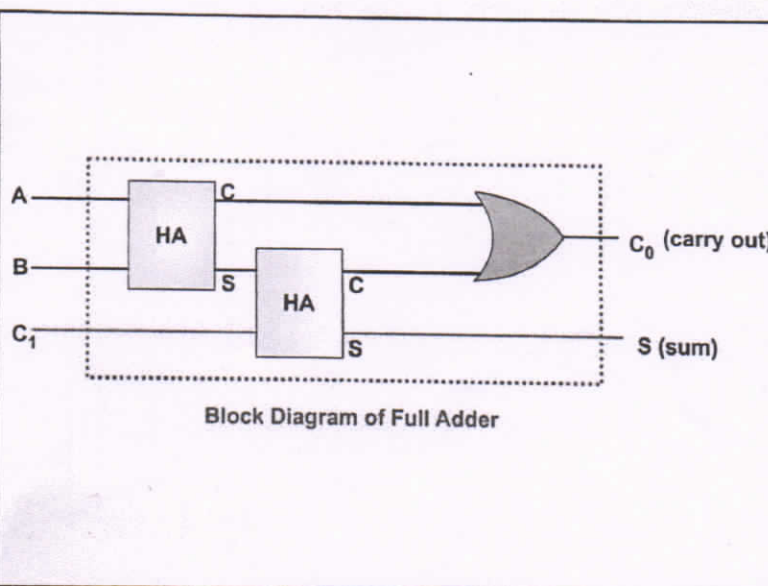


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DIGITAL & ANALOG CIRCUITS AND INSTRUMENTATION

(PHYSICS : DSE-E4 : PAPER-XII)

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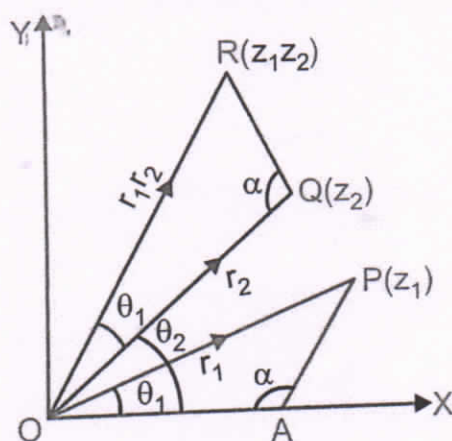


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MATHEMATICAL PHYSICS

(PHYSICS : DSE-E1 : PAPER-IX)

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Multiplication of Complex Numbers

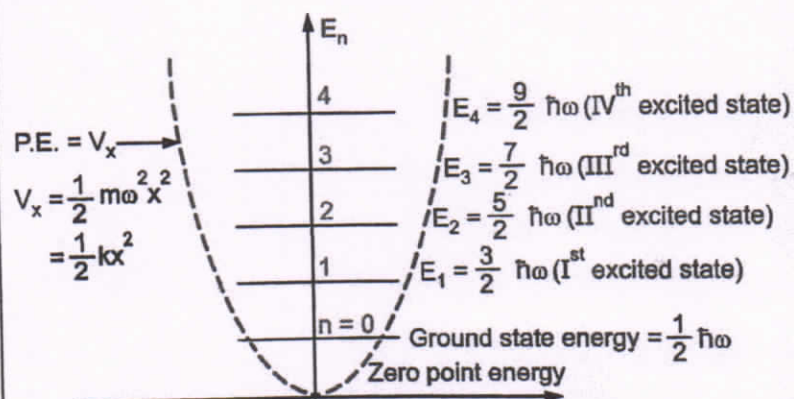
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QUANTUM MECHANICS

(PHYSICS : DSE-E2 : PAPER-X)

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Energy Level Diagram for
One Dimensional Harmonic Oscillator

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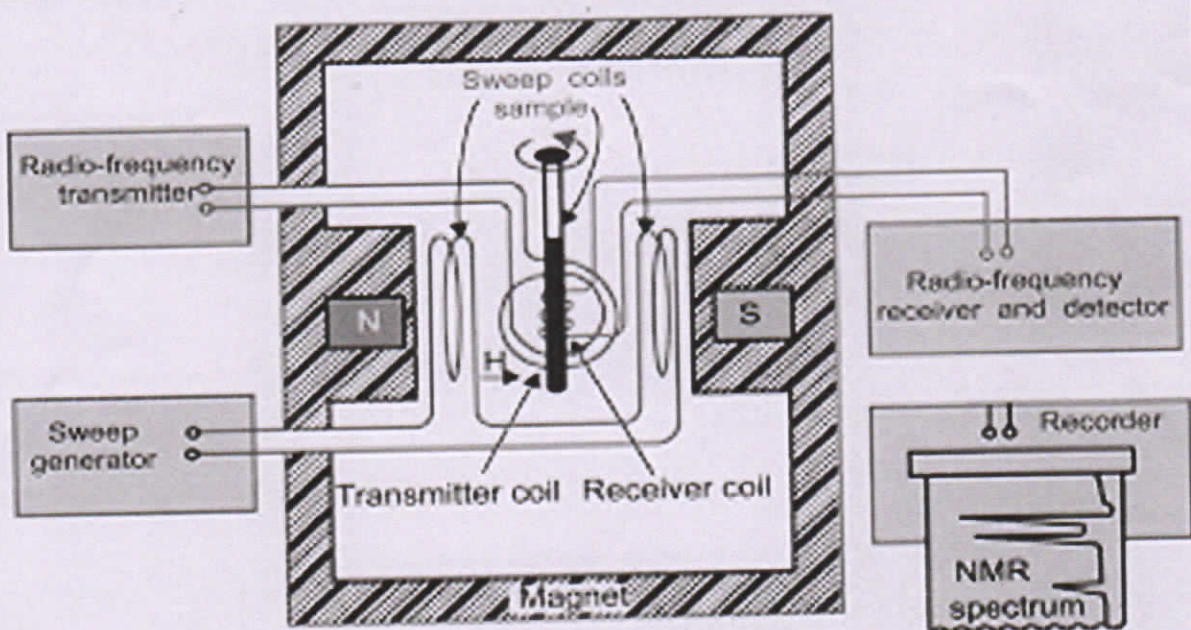
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Schematic diagram of a NMR spectrometer

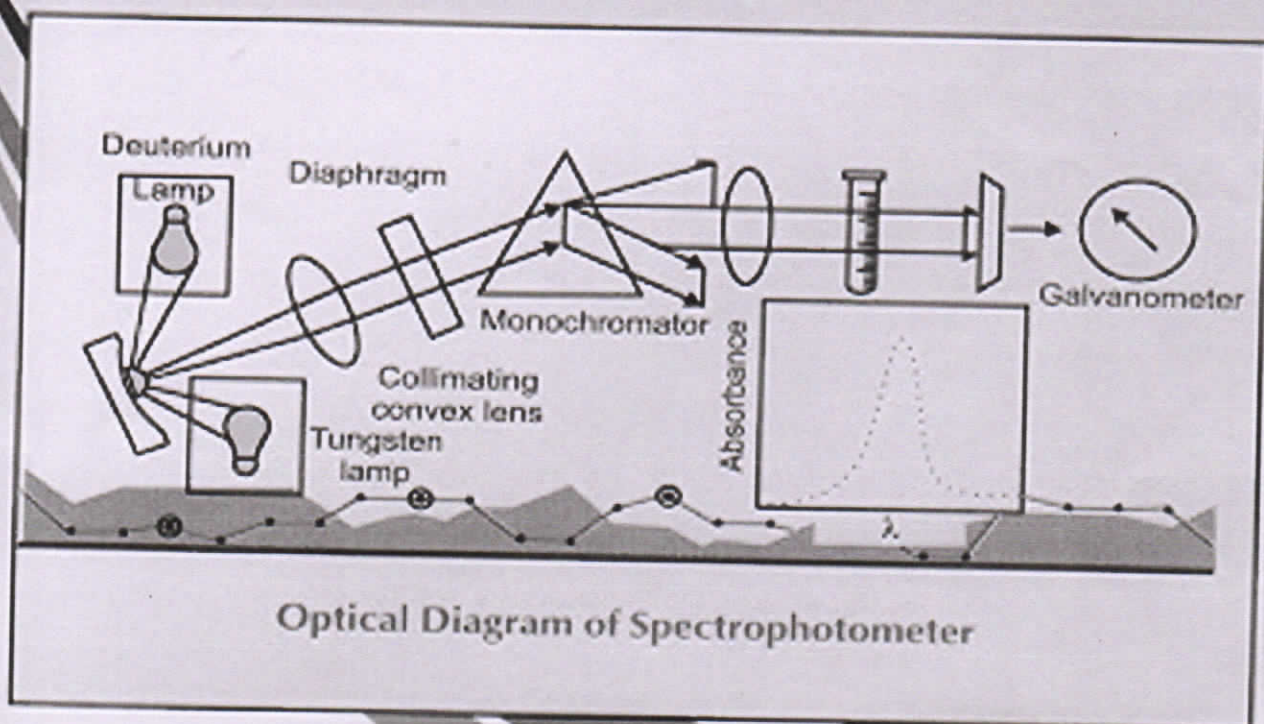
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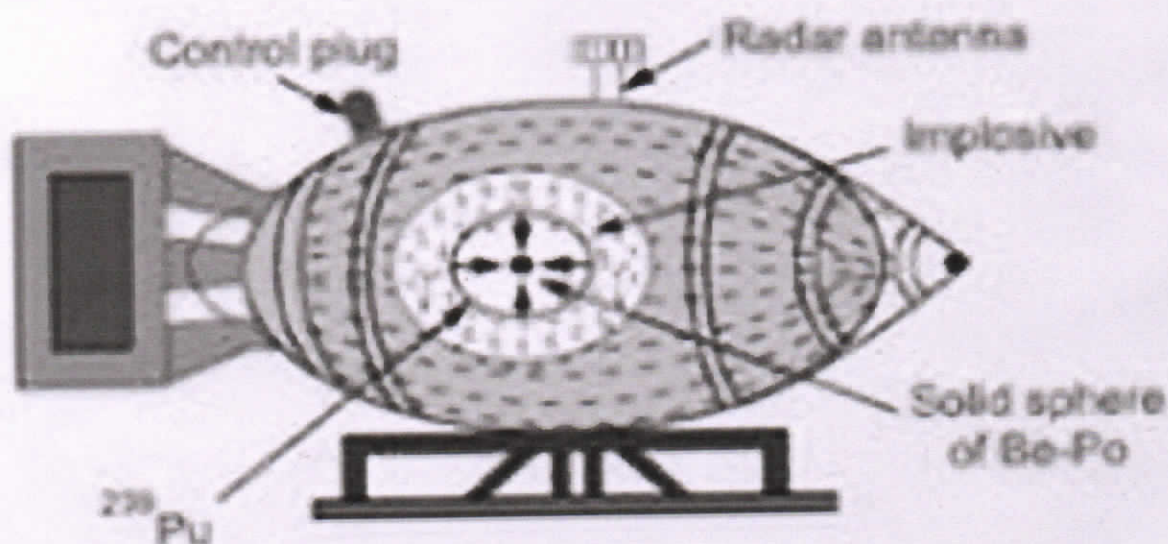
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(CHEMISTRY : DSE-F5 : PAPER-XIII)



Hollow Sphere of Plutonium (A Little Boy)

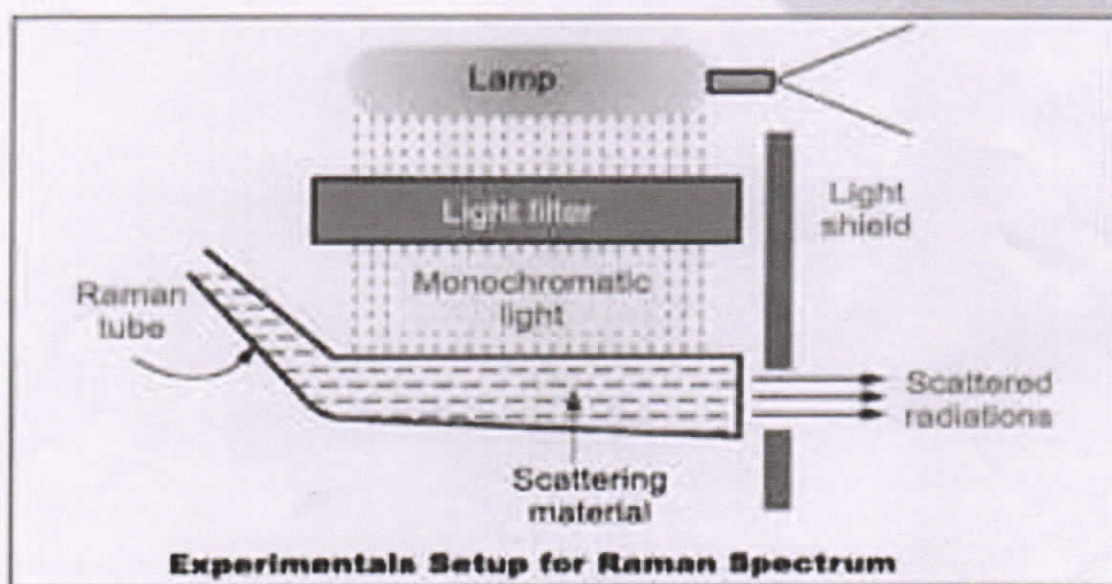
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**Shivaji University - B.Sc. Part-III
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PHYSICAL CHEMISTRY

(PAPER-IX)



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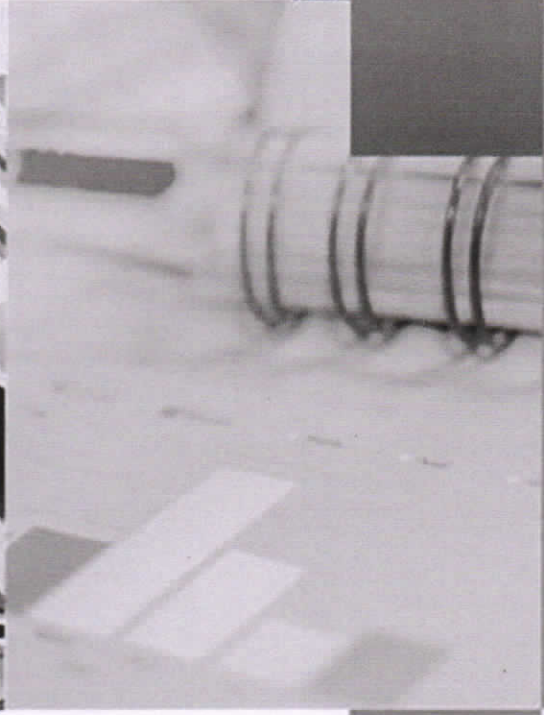
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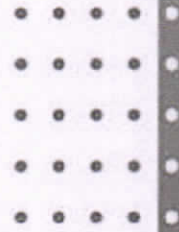
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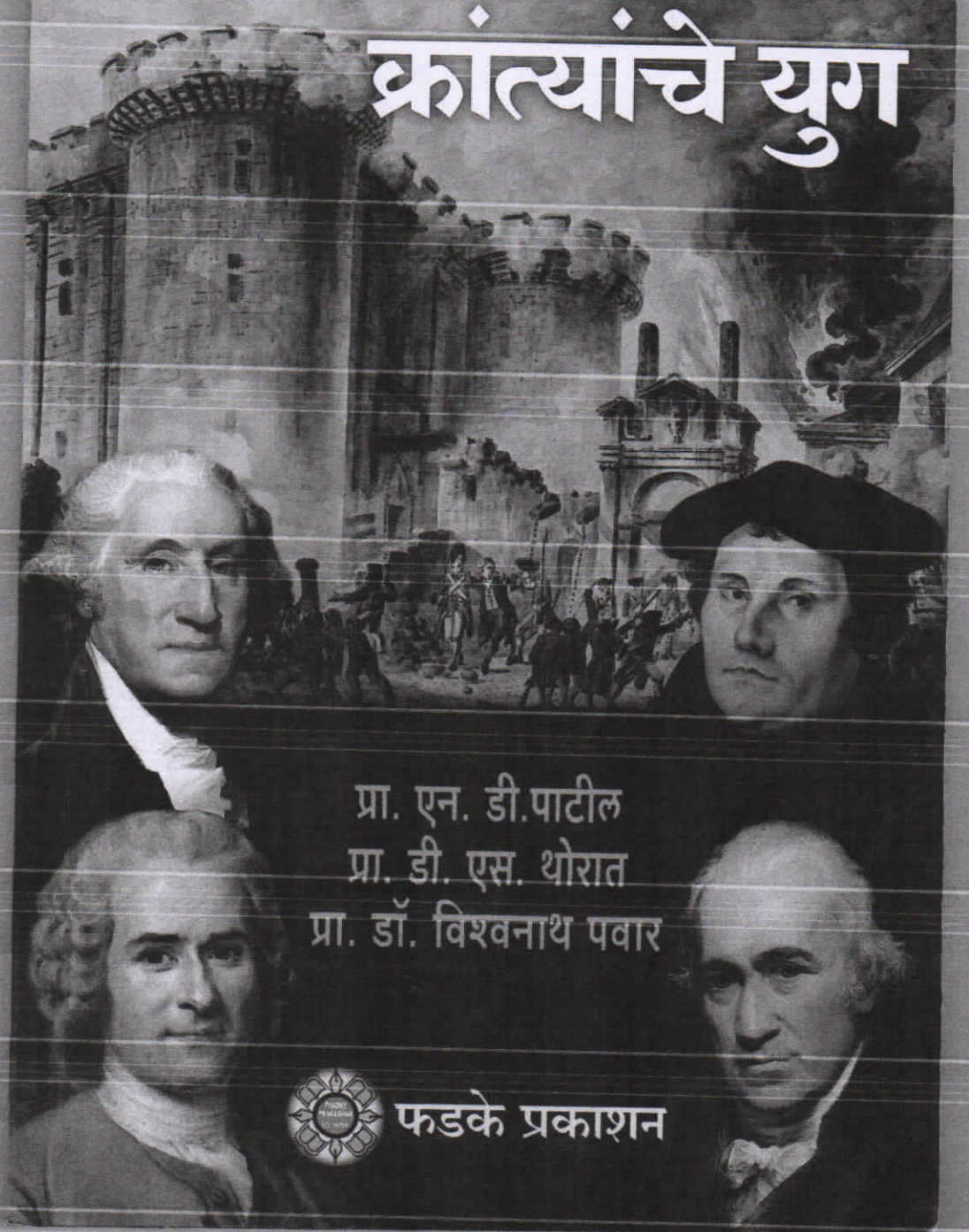


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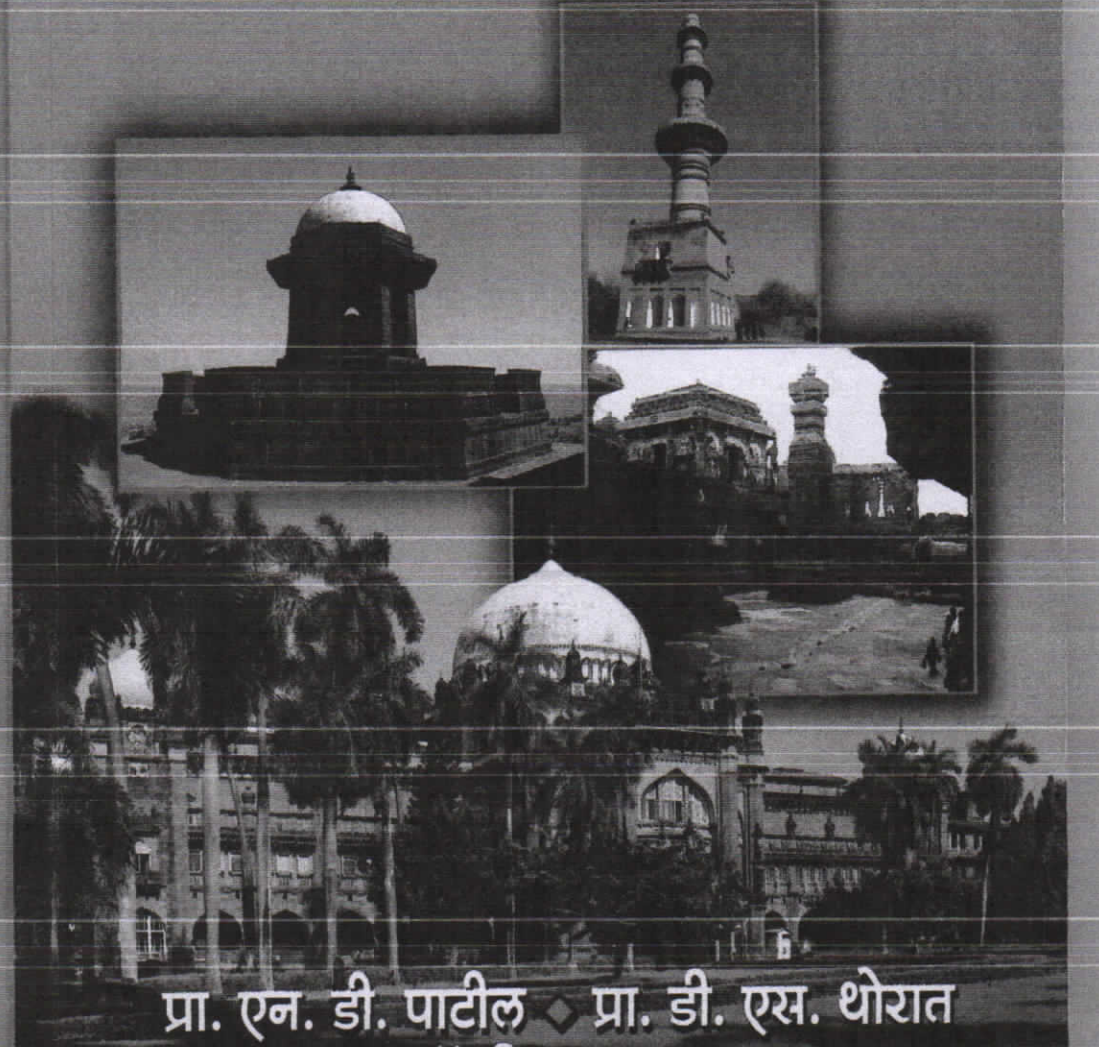
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INVESTIGATION ON POLLEN BIOLOGY OF *ADHATODA VASICA* NEES

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ABSTRACT:

Adhatoda vasica Nees, (Acanthaceae) commonly known as Adulasa, is a small, evergreen shrub found in many regions of India and throughout the world, with a multitude of uses in traditional Ayurveda. All the parts of *Adhatoda vasica* has been used for their curative effects from ancient times. It is most well-known for its effectiveness in treating respiratory conditions. The present study attempts were made to observe the various aspects of pollen biology of *Adhatoda vasica* viz, blooming phenology, pollen structure, pollen production, pollen viability, floral measurement, pollen ovule ratio and pollination. The significant Pollen production in *Adhatoda vasica* per flower was found to be 9135.66. The average percentage of pollen viability in 1% acetocarmine and pollen viability percentage by TTC (2, 3, 5-triphenyl tetrazolium chloride) were reported 73.26%. and 80.11% respectively. The total pollen: ovule ratio in *A. vasica* was found to be 2283.9.

Keywords: *Adhatoda vasica*, Flower, Pollen viability, Pollen ovule ratio, pollen production.

Introduction:

Adhatoda vasica Nees a member of medicinal family Acanthaceae, is a small, evergreen shrub with many long opposite branches of 1-3 feet in height, found many regions of India and widespread throughout the tropical regions (Chakrabarty and Brantner, 2001). It is economically and ecologically important medicinal plant, the species has received considerable attention. All the parts of *A. vasica* has been used for their curative effects from ancient times (Atal, 1980). Species of *Adhatoda* are widely explored in folk medicines to cure respiratory, gastrointestinal, inflammatory disorders, malaria, viral fever, epilepsy, rheumatism, headache, cancer, diabetes, mental disorders, arthritis and HIV (Correa and Alcantara, 2012). This genus has potent anti-periodic, astringent, diuretic and purgative

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