**ESTIMATION OF NUTRITIONAL AND PHYTOCHEMICAL COMPOSITION OF DIOSCOREA DUMENTORUM COMMONLY CULTIVATED IN SOUTH EARSTERN NIGERIA (ENUGU)**

**BY**

**EMEDOM, CHINENYE PRAISE**

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**DEPARTMENT OF BIOCHEMISTRY**

**CHEMICAL SCIENCES**

**FACULTY OF NATURAL AND APPLIED SCIENCES**

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**APPROVAL PAGE**

The Project Has Been Approved By The Department Of Chemical Sciences In The Faculty Of Natural And Applied Sciences, Godfrey Okoye University, Ugwuomu-Nike, Enugu.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **DR. UHUO EMMANUEL DATE**

**(SUPERVISOR)**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**MR AYUK EUGENE DATE**

**(HEAD OF DEPARTMENT)**

**CHEMICAL SCIENCES**

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**PROF. CHIDI UHUEGBU DATE**

**(DEAN, FACULTY OF NAS)**

**CERTIFICATION**

The project was written under the direction of the candidate project supervisor and has been presented and accepted by the department of Chemical Sciences of Godfrey Okoye University in partial fulfillment of the requirement for the award of a Bachelor Degree in Biochemistry.

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**(HEAD OF DEPARTMENT)**

**CHEMICAL SCIENCES**

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**(EXTERNAL SUPERVISOR) DATE**

**DEDICATION**

This Thesis is dedicated to God Almighty who, out of His infinite mercy made it possible and granted me good health, wisdom and ability to produce this work and the entire members of my family.

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I sincerely wish to express my profound gratitude to my supervisor, Dr. Uhuo Emmanuel, for his immense contributions, guidance, tolerance and assistance throughout the course of this study. My appreciation goes to the Head of Department, Mr Ayuk Eugene and all the lecturers of the Department of Biochemistry for their wonderful interactions with me all these years of my academic sojourn in the department.

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**ABSTRACT**

Bitter yam (*Dioscorea dumentorum* pax) can also be called trifoliate yam which belongs to the genus *Dioscorea* and family *Dioscoreacea*. It is an annual plant with an underground storage tuber in which starch is deposited. This work was aimed at assessing the nutritional and phytochemical compositions of *Dioscorea dumentorum* commonly cultivated in south eastern Nigeria. *Dioscorea dumentorum* was washed and shade dried for 6 days. The dried yam was ground using a milling machine and then stored in a plastic container for further analysis. Qualitative and quantitative analysis was carried out to test for tannin, saponins, alkaloid etc. The result obtained in phytochemicals are alkaloid (++), phenol (++) and flavonoids (++) were present, steroids and tannin were absent while saponins was relatively low (+).and phytochemical results showed that the quantity of alkaloid, flavonoid and phenol were 0.5%, 11.6% and 1.89% respectively. The results for proximate analysis shows that moisture content is 61.6%, ash content 8%, crude fiber 10.45% etc. In conclusion, the present study has shown that *Dioscorea dumentorum* contains appreciable activities commonly consumed tubers. The study further revealed that it contains phytochemicals such as flavonoids, alkaloids and saponins which could be extracted for human use and may be responsible for its anti-diabetic and other pharmacological activities. And it is clear from this study that, these tuber owe their anti-diabetic and analgesic properties to their selective chemical composition, and that proper knowledge of the proximate and phytochemical composition is fundamental to understanding their presence and nutritive capabilities.

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