

FOREWORD

Dear reader!

We present to your attention this issue of the scientific and practical electronic journal of the Centre of Technologies of the Academy of Sciences of Turkmenistan.

This issue of the journal contains research works carried out by scientists of the country in accordance with the priority areas of science in Turkmenistan, covering various branches.

The article «Physical-chemical and microbiological studies of oil sludge» describes the results obtained on the basis of microbiological and mycological analysis of oil-contaminated soils and oil waste from oil refineries in Turkmenistan. As a result of physical-chemical, physical-mechanical and microbiological analysis, work is carried out to identify hydrocarbon-oxidizing microorganisms. Using the native microflora of Turkmenistan, the possibilities of restoring oil-contaminated soils by isolating pure samples of oil-oxidizing microorganisms are studied.

The article «Filtration of water from manganese and iron ions» examines the problem of purifying salt water from certain substances using local natural mineral resources. A method is developed for purifying water from manganese and iron ions using natural and thermally modified local dolomite.

The article «Method and innovative technology for producing potassium iodate» presents an environmentally friendly innovative technology for producing potassium iodide. A high-performance method for producing potassium iodide is based on the reaction of iodine with potassium hydroxide and oxidation of the resulting iodide-iodide mixture with chlorine in an alkaline medium. It is shown that the developed method allows increasing the product yield compared to the methods used in existing industries.

The article «Issues of using modified A5P-M1 nutrient medium for growing chlorella microalgae» presents the nutrient medium A5P-M1 as an improved version of the nutrient-balanced A5P medium for chlorella. It has been proven that this nutrient medium, containing organomineral substances such as carbamide, ammophos, K_2SO_4 , Mg_2SO_4 , completely satisfies the need of chlorella for chemical compounds.

The article «Programmable embedded logic controllers are an innovative product in the field of automation of technological devices» examines the problem of industrial production control based on specialized microcontroller structures that can bring quality indicators to a new level, unattainable in an analog system with the transition to a digital system. A specialized microcontroller structure is developed that combines reducing the volume and weight of controlled electronics, increasing reliability and service life, local and remote control, displaying information about the status of industrial equipment and monitored parameters on a built-in screen and the ability to quickly control from the destination.

In the article «Indicators of methods for diagnosing chronic periodontitis in patients with diabetes mellitus of II type» as the age of patients increases and the clinical level of diabetes mellitus deepens, a more severe course of the inflammatory process in the periodontium is determined. It has been proven that changes in metabolism and blood supply in the tissues of the alveolar bone of patients with

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diabetes mellitus affect the condition of the oral cavity, which will facilitate the diagnosis of clinical, functional, laboratory changes, safe treatment and timely implementation of preventive measures.

In the article «Determination of flavanoids in the raw materials of the endemic medicinal plant wormorum artemisia ciniformic», flavonoids in the surface raw materials of *Artemisia tsitvaroides* (*Artemisia ciniformis* Krasch. et M. Pop. ex Poljak.), an endemic medicinal plant of the Kopetdag, were quantified, and a scientific analysis of the possibilities of using this plant in medicinal industry was conducted.

The editors of the journal look forward to receiving your articles.

Editorial board of the journal