word: Charles Dickens, Jane Austen or Henry James, and read their works in the original language. Start learning now, and very soon you will be able to read!

5. English improves memory and helps keep the brain in good shape

Another, perhaps somewhat unexpected, reason to learn English is a good memory! According to research, fluency in two languages (and just the process of learning a foreign language) can protect the brain from negative age-related changes. Some types of senile dementia in people who speak at least two languages are diagnosed up to five years later than those who speak only one language.

Why do teenagers need English?

In adolescence, learning English is necessary, first of all, as a stage of preparation for entering a university, choosing a profession and self-affirmation. And there is no need to talk about creative possibilities with knowledge of a foreign language.

And as a conclusion, we can say that personally I think that knowing foreign languages today is absolutely necessary for every educated person, for every good specialist. Therefore, let's learn foreign languages and discover many interesting things in our life with them!

Література:

1. https://www.ef.ru/englishfirst/english-study/articles/what_for2.aspx
2. https://www.study.ru/article/sovety/zachem-uchit-angliyskiy-yazyk
3. https://iloveenglish.ru/topics/anglijskij_mezhdynarodnij_yazik_obshcheniya/pochemy_eto_tak_vazhno_izychat_inostrannie_yaziki
4. https://www.busuu.com/ru/languages/reasons-to-learn-english

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DEVELOPMENT OF THE STRUCTURAL SCHEME OF ELECTROTECHNOLOGICAL INSTALLATION

(РОЗРОБКА СТРУКТУРНОЇ СХЕМИ ЕЛЕКТРОТЕХНОЛОГІЧНОГО УСТАНОВКИ)

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Стаття присвячена розробці блок-схеми електроустановки з двокамерним реактором (ДК) з метою підвищення продуктивності очищення в залежності від обсягу рідини, що надходить на переробку.

Ключові слова: *розробка блок-схеми, двокамерний реактор (DW), об'єм рідини.*

The article is devoted to the development of a block diagram of an electrical installation, with a two-chamber reactor (DW) in order to be able to increase the purification productivity depending on the volume of liquid received for processing.

Key words: *development of a block diagram, two-chamber reactor (DW), volume of liquid.*

The purpose of the work is the development of a block diagram of an electrical installation, with a two-chamber reactor (DW) in order to be able to increase the purification productivity depending on the volume of liquid received for processing.

The synthesis of the electrical schematic diagram will be carried out in accordance with the current rules of electrical installations (PUE). The main feature of the electrical installation is that it has two power supply channels in the charge system of capacitor banks and two discharge circuits, which come in accordance with the desired performance. The value of the required productivity is determined by the current volume of wastewater and the term of their processing [1,2].

The circuit contains a three-phase control choke DR with a switch and three taps, at the input and output of which are installed RC filters. After the adjustable inductor through the main pairs of contacts of the magnetic starter KM 2, KM2, KM2 the rectifier-transformer oil VTM is connected, the phases of the primary winding of the transformer (LV) are connected in a "triangle", the phases of the secondary winding (HV) - in the "star" (Fig. 1). The VTM rectifier is assembled according to the Larionov scheme with six high-voltage rectifier poles, two for each phase. Transformer-rectifier housing grounded. The mains voltage is controlled by a pH relay, which in the event of its values exceeding the allowable limits turns off the power to the coil of the magnetic starter, the main contacts of which are located in the power supply circuit of the primary winding VTM [3].

The capacitive energy storage devices C_1 and C_2 are charged from the output of the rectifier through the current-limiting elements (CE) Rz1 and Rz2, respectively. In addition to the specified elements, the charging circuit includes the primary winding of the current transformer, which is used in the circuit to connect the current relay PC, which disconnects the electrical installation from the primary power source (network) in case of exceeding the discharge current.

Two branches with electromagnetic interlocks are connected in parallel to the charging circuit, respectively the first (Eb_1) and the second stage (Eb_2). The first stage of electromagnetic blocking switches between the charging lines of the tanks of both electric discharge circuits of the electrical installation. It serves to short-circuit the positive output of the drive capacitor to ground through the ballast resistance RB when the electrical installation is turned off, or the operation of other electrical safety systems that open the power supply of the drive Eb1. The second stage closes

the poles of the capacitor with each other and on the ground briefly after a certain period of time after the operation of the first stage lock. The delay is realized by application of the time relay RVP22-3 with a possibility of adjustment of a delay of operation. The use of two stages is necessary to reduce peak currents when the protection system is triggered in the event of a full charge of the capacitors.

In addition to capacitive energy storage devices C_1 and C_2, the discharge circuits contain high-voltage switches VK_1 and VK_2 and two discharge (H1 and H2) intervals of the two-chamber DR reactor. Grounding of the power part of the electrical installation is carried out at one point as shown in the diagram. The load of the electrical installation is two bit gaps H1 and H2, which are significantly nonlinear loads - resistance of the second kind.

Energy transfer between capacitors C1 and C2 will not occur due to the presence of charging resistors with a nominal value of the order of hundreds of kO [3].

For input or output of the second channel of the generator, which serves the second chamber of the two-chamber reactor, as well as to stabilize the frequency of the discharge pulses on both channels in the circuit provides two high-voltage initiation units of the high-voltage switch. They are the same and consist (for 1 channel) of a capacitive drive C6, which is charged from the network through the rectifier VDP and its own charging resistance R3. Discharge C6 to the primary winding of the pulse transformer IT1 is carried out when the thyristor VS1. Switching is carried out by means of capacitor C4 (VD1 and R2 - protective diodes and resistance, non-functional elements). On the "control" signal, after switching, from the secondary winding IT1 through the separating capacitors C_{p1} and C_{p2} receives a high-voltage pulse to initiate VK1. The pulse "control" unit comes constantly with a certain frequency from, for example, the generator of rectangular pulses G5-63. On the second unit, which is made according to the same scheme, the pulse "control" comes after the operation of WOK_2.

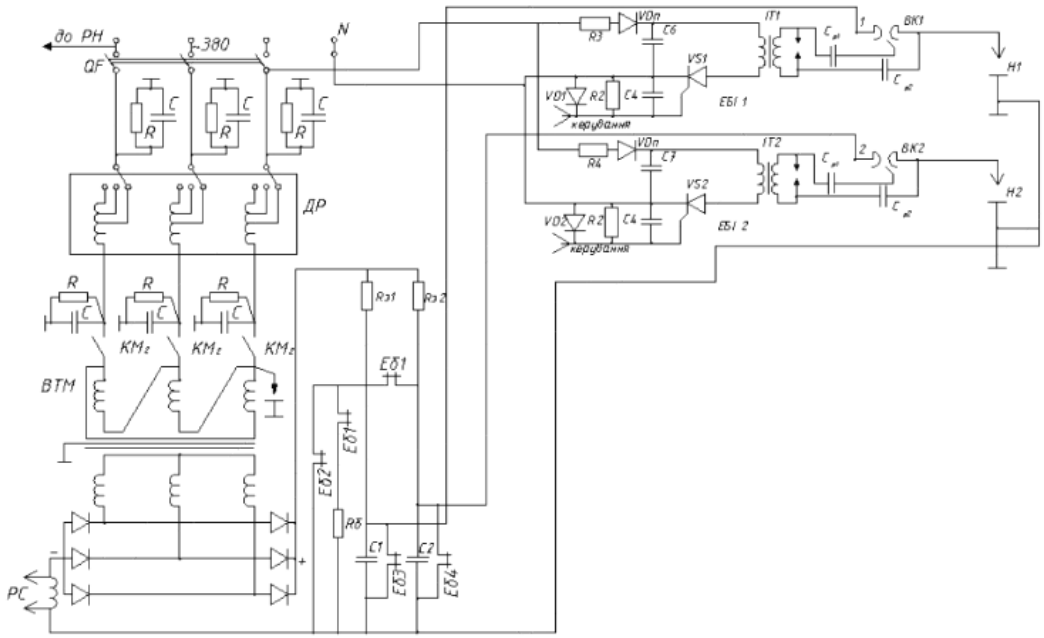

Figure 1 - Schematic diagram of the electrical installation

In the circuit, in addition to the common for both channels of the generator electromagnetic interlocks, it is advisable to increase the safety of the use of separate devices that short each capacitor and located directly next to the respective drives. In the diagram, these devices are denoted as Eb3 and Eb4, they can be made in a closed oil-filled housing, which can significantly reduce their weight and place them near the condensers in the case of both distributed and compact design (in the General housing) of an electrical plant for wastewater treatment.

Conclusion: 1. The main factor of disinfection by electric discharge in the liquid is ultraviolet radiation and products of thermolysis and electrolysis of water. The role of shock wave and cavitation processes is reduced to the strengthening of the above factors. 2. The effective decontamination zone is quite small and is related to the size of the plasma channel. 3. It should be expected that radiation disinfection can be subjected to relatively clean (transparent) water. The main disinfecting factor for wastewater with the ability to maximize the absorption of radiation, obviously, should be considered the presence of active components of the decomposition of both the water itself and its impurities. 4. The main disadvantage of the known devices for water disinfection by underwater spark discharge is the low life of the electrode system, due to the relatively high aggressiveness of the environment.

Література:

1. Сытник И.А. Электрогидравлическое действие на микроорганизмы. Киев: Здоровье, 1982. 94 с.

2. Кожинов В.Ф. Озонирование питьевой воды. М.: МКХ РСФСР, 1961. 209 с.

3. Рязанов Н.Д. Установка для обеззараживания питьевой воды импульсными электрическими разрядами. Электрический разряд в жидкости и его применение в промышленности. Тез. IV Всес. науч. техн. конф. Николаев, 1988 г. Ч.П. С. 225–226.
4. Шиектор Я.Б. О стерилизации пищевых отходов электрогидроимпульсными разрядами. Электронная обработка материалов. 1971. № 4. С. 52-57.

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TYPES OF FUEL FOR CARS
(ВИДИ ПАЛИВА ДЛЯ АВТОМОБІЛІВ)

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У статті розглянуті розглянуті основні види палива їх переваги та недоліки , а також альтернативні.

Ключові слова: *паливо, альтернативне паливо, коефіцієнт корисної дії, вуглець.*

This article examines the main types of fuel, their advantages and disadvantages, as well as alternative fuels.

Keywords: *fuel oil, alternative fuel oil, energy conversion efficiency, carbon.*

Since the appearance of internal combustion engines and up to the present day, products of oil refining have been actively used: petrol, diesel fuel and scrapped gas. We describe the main types of fuel and also compare their environmental, energy and price aspects.

Gasoline is a liquid which is obtained through processing of crude oil. natural (derived from oil) or individually obtained carbohydrate composition composition which boils at most often between 33 °C and 205 °C. A petrol engine has the lowest energy conversion efficiency - 25%.

Advantages: gasoline has high energy capacity gasoline engines (GE) have great power in relation to their volume and weight; GE are reliable (with proper care can operate for tens of years); can operate over a wide range of temperatures, humidity levels and atmospheric pressure to suit most of the climatic conditions encountered.

The disadvantages: When gasoline is combusted, carbon dioxide ($C0_2$) - a greenhouse gas - is produced; when gasoline is not fully combusted (it occurs during engine operation), carbon monoxide (CO) is produced. CO is a lethal gas; petrol is flammable; inoperative operation.