



Electrical Airplane

Technical Lessons of Aeronautics

Secondary High School
DaneshParvaz Technical Aviation School

Under supervision: CAO.IRI

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اساتید ارجمند، اولیای گرامی و هنرجویان عزیز؛ شما می‌توانید، پیشنهادات و نظرات اصلاحی خود را درباره مطالب این کتاب به آدرس سایت آموزشگاه ارسال فرمایید.

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«حق چاپ برای هنرستان هوانوردی دانش پرواز مشهد محفوظ می‌باشد»

Introduction

"Aviation" as an international discipline in the field of training the highly qualified and dedicated forces required by the industry in a variety of countries including :

1- Pilot 2- Aircraft maintenance Engineering 3- Avionics 4- Airhostess
5- Dispatcher 6 - Airport ground safety Definition and foundation for teaching interested students.

Students in this field, in addition to passing general classes, will acquire relevant skills in accordance with the standards announced by the CAO.IRI (technical language and English conversation, aircraft modeling, Aircraft's electric , Sheet metal and practical flight period) In order to acquire the necessary skills and abilities, then after graduating from high school, they can continue their studies at the undergraduate and then undergraduate level at the applied university in one of the fields, and after graduating in one of the Airlines and the national aviation organization (CAO.IRI) To work.

The field of aeronautics is now in accordance with the common standards announced by the Ministry of Education and the Civil Aviation Organization with 1770 hours of technical training that is theoretical and practical during the third secondary year of secondary education at the tenth, eleventh and twelfth grades Gets

Aviation Courses with approval and approval from the Ministry of Education and Monitoring and Coordination of the Civil Aviation Organization since the establishment of the first aeronautical astronomy in the country, established in 2000 in the country named " Danesh Parvaz Technical Aviation School ", was established in Mashhad and began to operate They made

Danesh Parvaz Technical Aviation School has been operating since 2000, with the selection of prominent professors in courses related to the science and technology of the day in the aeronautics industry and So far, many graduates have been trained and graduated, and now they are employed at various centers related to the aerospace industry and domestic airlines, and even some in other countries and in all the fields mentioned.

At the end of the board of the founders and the administrative staff of the school (Mr. Esmati, Bozorgzadeh Razavi, Khaghani, Ghafari, Kishi Garmoudi) and technical staff (gentlemen Fathi, Alizadeh, Akrami, Beheshti Rooy, Askarizadeh, Rafiei, Rashidi, Pendar, Soroush) is grateful and appreciated

((Better days for our children))

Summer of 1397

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“FUNDAMENTAL OF ELECTRICITY”

1. INTROUCTION:

You use electricity many times every day in lights, fans, radios shavers and various other devices. Each of these devices operates because an electric current flows through it. The same type of current is used in many aircraft subsystem. It is used to provide power for airborne radio and radar equipment. To operate lights and motors and perform many other jobs.

2.ELECTRICITY DEFINED:

Electricity is an invisible force, that can produce light, heat, magnetism and other physical effects.

1. MATTER:

Matter is defined as anything that occupies space and has weight. Examples of matter are water and air. Matter may be found in any one of the three states, namely, solids, liquids and gases.

2. MOLECULE:

A: Molecule is defined as the smallest particle of matter. Which can exist by itself and still retain all the properties of the original substance.

3. ELEMENTS:

An element is a substance that cannot be broken up in to a number of other substances. Copper, iron, aluminum and gold are examples of metallic elements. Oxygen, hydrogen are examples of non metallic.

4. *ATOM:*

An atom is defined as the smallest particle of an element that can take part in ordinary chemical changes. The atoms of one element however differ from the atom of all other elements. Thousand of deferent substances can be made by chemically combining the proper atoms.

The atoms of each element are made up of electrons, protons and in most atoms neutrons, which collectively are called subatomic particles.

The center of the atom is the nucleus and made up of protons and neutrons. The protons have positive electrical charge and the neutrons have no electrical charge.

Revolving around the nucleus in a planetary fashion are the negative charges of electricity known as electrons. There is an electron for each proton . *See Figure 1*

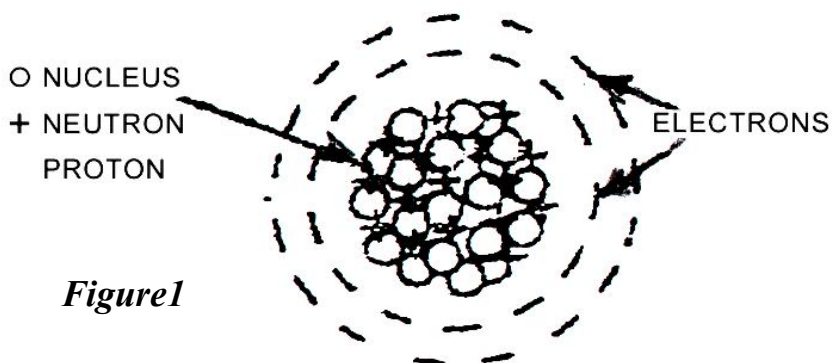


Figure1

5- *CONDUTORS:*

A conductor is defined as any material which permits the passage of electrical current although most conductors are Made of wire: A good.

Conductor is a material that contains a large number of free electrons the same as copper and aluminum.

6- SEMICONDUCTOR:

Semiconductors are materials that contain few free electrons such as silicone and germanium.

7-INSULATOR:

Insulators are materials or a combination of materials having an atomic structure which provide very few free electrons. Insulating material is also known as dielectric common insulating substances are rubber, glass and air.

8-CURRENT, (INTENSITY)

Current is the movement of free electrons from one atom to another atom along the conductor. The symbol is the letter “I”.

Current is measured with an ammeter that connected in series with the circuit load. Current flow is from negative side of power source to the positive side. And the unit, for current measurement is ampere (A).

9-VOLTAGE:

Voltage is defined as electrical pressure or E.M.F (Electromotive. Force) that pushes the current to move through conductor of circuit.

The symbol for voltage is the letter “E”

Voltage is measured with a voltmeter, which is connected in parallel to circuit load.

The unit for voltage measurement is volte (V):