

Electrical Fundamentals-I: Electron Theory, Static Electricity and Conduction, Electrical Terminology, Generation of Electricity, DC Sources of Electricity, DC Circuits, Resistance/Resistor, Power, Capacitance/Capacitor, Inductance/Inductor

Aircraft Materials And Hardware: Aircraft material types, mechanics and strength of materials, heat treatments of materials, definition and types of corrosion, aircraft bolt identification, springs, bearings, transmissions, hose, control cable, cable construction and cable fittings.

Basic Aerodynamics: Physics of the Atmosphere, Aerodynamics, Theory of Flight, Flight Stability and Dynamics.

Electronic Fundamentals: Diodes, transistors, operational amplifier, Printed Circuit Boards, synchro system

Digital Techniques : Numbering Systems, Boolean Maths, Karnaugh Diagram, Arithmetic circuits, encoders and decoders, multiplexers and demultiplexers, analog digital converter, flip/flops, counters, microprocessors, computers, memories, Software Management Control, Electrostatic Sensitive Devices

Electrical Fundamentals-II: Magnetism, Magnetic induction, AC Theory, AC Circuits, Transformers, Filters

Aircraft Systems: Aerodynamics of Aircraft and Flight Controls, High Speed Flight, Rotary Wing Aerodynamics, Structures, Electrical Power, Equipment and Furnishing, Flight Controls, Lights, Cabin Systems.

Communication Fundamentals: Fundamentals of communications, signal analysis, power at communication, amplitude modulations, frequency modulation, digital communication, electromagnetic waves, electromagnetic wave propagation, antennas, fiber optic.

Communication and Navigation Systems: Communication system, radio navigation, approach system, navigation based on satellite, inertial navigation system, radar system, new generation system, inboard communication, data recorders, data buses, electronic warfare.

Flight Instrument Systems: Atmosphere, Classification, Pitot static systems and indicators, gyroscopic principles, gyros and indicators, engine instruments. Instrument warning systems, Electronic Flight Instrument Systems, head-up display, glass cockpit.

Aircraft Electrical System:

Batteries, DC motor/generator, AC motor/generator, DC power generation, AC power generation, emergency power generation, Power distribution, lights, anti-skid system, anti-icing system,

Automatic Flight Control Systems: Servomechanism, fundamentals of automatic flight control, modes of operation, yaw dampers, autothrottle systems, automatic landing systems, stability augmentation system in helicopters,

Basic Electricity-Electronic : Electron Theory, Static Electricity and Conduction, Electrical Terminology, Generation of Electricity, DC Sources of Electricity, DC Circuits, Resistance/Resistor, Power, Capacitance/Capacitor, Inductance/Inductor, Magnetism, Magnetic induction, AC Theory, AC Circuits, Transformers, motor and generator,

Aircraft Electronic System: Instruments, electronic flight instrument systems, automatic flight control systems, aircraft electrical system, lights, communication and navigation systems.