

BASIC ELECTRIC PAPER II
" Systems for large Aircraft "

1* Fire protection:

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- Detection systems maintenance & testing
 - Fire and overheat warning
 - Somke detectors - principles and applications
 - Overheat sensors
 - Extinguishing systems, maintenance and testing
 - Warnings

3* Flight controls:

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- Motors and actuators
 - Clutches and brakes
 - Limit switches, Micro switches and proximity switches
 - Power control unit
 - Flap motors protection and control
 - Trim motors
 - Maintenance and testing for flight control

5* Fuel system:

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- Boost pumps control and indication
 - Jettison system
 - Refuel / Defuel system
 - Fuel heater
 - Crossfeed supply and shut off valves - normal and emergency
 - Maintenance and testing for fuel system

7* Hydraulic system:

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- Pump control and isolation
 - Pressure switches
 - Overheat warning
 - Electrically operated priority valves
 - Fluid reservoir components
 - Low level warning
 - Maintenance and testing for hydraulic system

9* Landing Gear system:

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- Actuation - motors - selection and controls
 - Indication - proximity sensors - micro switches
 - Air / Ground sensor systems
 - Anti-skid systems - operation control and override
 - Automatic braking system - inputs , control and override
 - Maintenance and testing for landing gear system

11* Pneumatic system:

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- Control - indication and protection

13* Engine and propeller control:

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- Fuel control valves
 - Temperature and speed limiting systems
 - Electronic engine control

15* Starting and ignition:

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- System types - control
 - Principles of operation high energy ignition unit
 - Maintenance and testing for starting and ignition

17* Air-conditioning system:

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- Control - indication - protection
 - Maintenance and testing for aircondition system

19* Ice and Rain protection systems:

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- Windscreen heating control indication and failure
 - Engine / propeller and airframe anti ices protection thermal, electrical and pneumatic
 - Warning and indications
 - Overheat indication and protection
 - Ground operation
 - Windscreen wiper, washer and rain repellent system
 - Sensor protection: angle of airflow, pitot head, static plate and temperature probes
 - Waste water heater - thermal anti icing protection
 - Aerial heaters

21* Auxiliary power unit (A P U):

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- Starting, control, protection
 - Power generation, fire protection
 - Maintenance & testing for A.P.U

23* Galley / Toilet services:

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- Power supply and protection
 - Water heating
 - Equipment