

- Q.18 How static charge is handled in aircrafts?
 Q.19 What is a transformer?
 Q.20 What is a thermal runaway?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Describe moving coil galvanometer/
 Q.22 How frequency meter is used?
 Q.23 Describe the working of a DC generator.
 Q.24 What is a CHT circuit? Where are they used?
 25. What is the method to handle Over voltage?
 Q.26 Write in brief about Aircraft Wiring system.
 Q.27 How does a relay work? Explain with a diagram.
 Q.28 Describe the working of a static generator.
 Q.29 How does an induction motor work?
 Q.30 How charging off Ni-Cd battery is done?
 Q.31 How is paralleling of generators done?
 Q.32 What is the difference between high pass and low pass filters? .
 Q.33 Write in brief about battery record
 Q.34 What is the procedure for Battery record and storage?
 Q.35 What are the uses of lead type of generator?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Describe aircraft electrical system in detail with landing gear and generator circuits.
 Q.37 Write notes on
 a) O/T circuit b) P-Static Cause
 c) cold weather battery operation
 Q.38 Describe the various types of measuring instruments with their relative applications and merits.

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Subject:- Aircraft Electrical Systems

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SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 What is the fundamental difference between AC (alternating current) and DC (direct current)?
 a) AC flows in both directions, while DC flows in one direction only.
 b) AC is more commonly used in homes, while DC is used in industries.
 c) AC is generated by solar panels, while DC is generated by wind turbines.
 d) AC provides higher voltage, while DC provides lower voltage
 Q.2 What advantage does electrical energy offer over fossil fuels in terms of environmental impact?
 a) Electrical energy emits more greenhouse gases.
 b) Electrical energy requires extensive drilling and mining operations.
 c) Electrical energy is renewable and produces fewer emissions during use.
 d) Electrical energy is more expensive to produce than fossil fuels

- Q.3 What economic advantage does electrical energy offer over traditional energy sources like coal and oil?
- Electrical energy is more expensive to produce.
 - Electrical energy requires less maintenance and has lower operating costs.
 - Electrical energy has limited availability and is subject to price fluctuations.
 - Electrical energy contributes to higher levels of pollution, leading to increased healthcare costs.
- Q.4 Which instrument is used to measure voltage in an electric circuit?
- Ammeter
 - Voltmeter
 - Wattmeter
 - Ohmmeter
- Q.5 What is the relationship between voltage (V), current (I), and power (P) in an electric circuit?
- $P = VI$
 - $P = V/I$
 - $P = I/V$
 - $P = V + I$
- Q.6 What does Faraday's law of electromagnetic induction state?
- The induced electromotive force (emf) in a circuit is directly proportional to the rate of change of magnetic flux through the circuit.
 - The induced emf in a circuit is inversely proportional to the rate of change of magnetic flux through the circuit.
 - The induced current in a circuit flows in the same direction as the change in magnetic flux.
 - The induced current in a circuit flows in the opposite direction to the change in magnetic flux.

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- Q.7 According to Fleming's right-hand rule, what does the thumb represent when determining the direction of induced current in a conductor?
- The direction of the magnetic field
 - The direction of motion
 - The direction of induced current
 - The direction of magnetic flux
- Q.8 AC bridge is an outcome of _____
- Kelvin bridge
 - Megger
 - De Sauty bridge
 - Wheatstone bridge
- Q.9 What is the primary purpose of using capacitors to improve power factor in AC circuits?
- To reduce the current flowing through the circuit
 - To increase the voltage across the circuit
 - To balance the reactive power in the circuit
 - To decrease the resistance in the circuit
- Q.10 What is the primary function of the core in a transformer's construction?
- To provide mechanical support
 - To increase the resistance
 - To minimize eddy current losses
 - To regulate the voltage output

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 What is a voltmeter?
- Q.12 How ammeter is connected in the circuit?
- Q.13 What are the color codes of wires.
- Q.14 What is the role of a fuse?
- Q.15 What is the basic difference between AC and DC?
- Q.16 What is a Zener diode?
- Q.17 What is the purpose of a rectifiers?

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