Q.24 What are the differences between a Voltmeter and a Wattmeter?
Q.25 What is the role of a rectifier? Where are they used?
Q.26 What do you mean by Transformer Ratio? How do cooling devices work?
Q.27 What is the role of a Current Limiter? How does it work?
Q.28 What are the different types of measuring Instruments?
Q.29 How is Paralleling of Generators done?
Q.30 What is Static Discharge Wick?
Q.31 What are landing light circuits? Where are they used?
Q.32 What are the different types of Transformer used?
Q.33 What are the different types of Connectors?
Q.34 How do we charge a Ni-Cd battery?
Q.35 How does a reverse current breaker work? Explain with the help of a circuit diagram.

SECTION-D

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

Q.36 Explain the principle and types of AC motor.
Q.37 Describe the operation and construction of revolving armature.
Q.38 Explain the importance and usage of various types of filters.

AME
Subject:- Aircraft Electrical Systems

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 A piezoelectric transducer has a _____
a) very high sensitivity b) Low sensitivity
c) high sensitivity d) Zero sensitivity

Q.2 Identify the principle behind the working of an a.c . generator.
a) Eddy currents
b) Faraday's law
c) Lenz's law
d) Electromagnetic induction

Q.3 The factor which influences the acr de ionisation dominantly_____
a) line voltage
b) Magnitude to transient fault current
c) Speed of reclosure
d) all of the mentioned

Q.4 Emf and torque produced in a DC machine are proportional to _____ and_____ respectively.
a) Armature speed and armature emf

b) Armature emf and armature speed
c) Armature current and armature emf
d) Armature speed and armature current

Q.5 What is the full form of MCB?
a) Miniature contact breaker
b) Mini circuit breaker
c) Miniature circuit breaker
d) Mini contact breaker

Q.6 When a compressive force is applied to a quartz crystal then_____
a) positive charges are induced
b) negative charges are induced
c) no charge is induced
d) both positive and negative charges are induced

Q.7 Reason behind the rapid wear of brushes is_____
a) Abrasion from dust
b) Excessive spring pressure
c) Rough commutator bars
d) Abrasion from dust, excessive spring pressure and rough commutator bars

Q.8 At high frequency, source consists of_____
a) amplifiers b) regulators
c) oscillators d) op amps

Q.9 In a DC generator the ripples in the direct emf generated can be reduced by _____
a) Using conductor of annealed copper
b) Using commutator with large number of segments

c) Using carbon brushes of superior quality
d) Using equalizer rings

Q.10 The armature voltage control of DC motor will provide_____.
a) Constant power drive
b) Constant voltage drive
c) Constant current drive
c) Constant torque drive

SECTION-B

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

Q.11 What do you mean by lacing?
Q.12 What is the role of shielding?
Q.13 Where is a dynamometer used?
Q.14 How does carbon pile affect the performance?
Q.15 Where is a wattmeter uses?
Q.16 When is a voltage regulator used?
Q.17 What is a frequency meter used for?
Q.18 Where is a static Generator used?
Q.19 What is the role of Repulsion motors?
Q.20 Where is a revolving armature used?

SECTION-C

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

Q.21 Define bonding and why is it needed in aircraft.
Q.22 Derive EMF equation for alternators.
Q.23 Write a short note on slip and rotating field in AC motor.