School for Aircraft Maintenance Engineering (SAME)

CAR 147 (Basic) Approved Maintenance Training

SYLLABUS FOR CATEGORY - B 2

TRAINING	LOCATION	TRAINING HOURS
Theory	SAME Campus	1440
Practical	Practical Training at SAME	672
	Practical Training at AMO	288
Total Hours		2400

Subject Modules	Name of the Module	Basic Knowledge Hours
Module 3	Electrical Fundamentals	70
Module 4	Electronic Fundamentals	80
Module 5	Digital Techniques, Electronic Instrument Systems	80
Module 6	Materials and Hardware	80
Module 7A	Maintenance Practices	160
Module 8	Basic Aerodynamics	60
Module 9A	Human Factors	50
Module 10	Aviation Legislation	150
Module 13	Aircraft Aerodynamics, Structures and Systems	650
Module 14	Propulsion	60
Total Hours		**1440**

MODULE 3. ELECTRICAL FUNDAMENTALS
3.1 Electron Theory
3.2 Static Electricity and Conduction
3.3 Electrical Terminology
3.4 Generation of Electricity
3.5 DC Sources of Electricity
3.6 DC Circuits
3.7 Resistance/Resistor
3.8 Power

3.9 Capacitance/Capacitor
3.10 Magnetism
3.11 Inductance/Inductor
3.12 DC Motor/Generator Theory
3.13 AC Theory
3.14 Resistive (R), Capacitive (C) and Inductive (L) Circuits
3.15 Transformers
3.16 Filters
3.17 AC Generators
3.18 AC Motors
MODULE 4. ELECTRONIC FUNDAMENTALS
4.1.1 Diodes
4.1.2 Transistors
4.1.3 Integrated Circuits
4.2 Printed Circuit Boards
4.3 Servomechanisms
MODULE 5. DIGITAL TECHNIQUES ELECTRONIC INSTRUMENT SYSTEMS
5.1 Electronic Instrument Systems
5.2 Numbering Systems
5.3 Data Conversion
5.4 Data Buses
5.5 Logic Circuits
5.6 Basic Computer Structure
5.7 Microprocessors
5.8 Integrated Circuits
5.9 Multiplexing
5.10 Fibre Optics
5.11 Electronic Displays
5.12 Electrostatic Sensitive Devices
5.13 Software Management Control
5.14 Electromagnetic Environment
5.15 Typical Electronic/Digital Aircraft Systems
MODULE 6. MATERIALS AND HARDWARE
6.1 Aircraft Materials — Ferrous
6.2 Aircraft Materials — Non-Ferrous
6.3.1 Composite and non-metallic other than wood and fabric
6.3.2 Wooden structures
6.3.3 Fabric covering
6.4 Corrosion
6.5.1 Screw threads
6.5.2 Bolts, studs and screws
6.5.3 Locking devices
6.5.4 Aircraft rivets
6.6 Pipes and Unions
6.7 Springs
6.8 Bearings

6.9 Transmissions
6.10 Control Cables
6.11 Electrical Cables and Connectors
MODULE 7A. MAINTENANCE PRACTICES
7.1 Safety Precautions-Aircraft and Workshop
7.2 Workshop Practices
7.3 Tools
7.4 Avionic General Test Equipment
7.5 Engineering Drawings, Diagrams and Standards
7.6 Fits and Clearances
7.7 Electrical Wiring Interconnection System (EWIS)
7.8 Riveting
7.9 Pipes and Hoses
7.10 Springs
7.11 Bearings
7.12 Transmissions
7.13 Control Cables
7.14.1 Sheet Metal
7.14.2 Composite and non-metallic
7.15 Welding, Brazing, Soldering and Bonding
7.16 Aircraft Weight and Balance
7.17 Aircraft Handling and Storage
7.18 Disassembly, Inspection, Repair and Assembly Techniques
7.19 Abnormal Events
7.20 Maintenance Procedures
MODULE 8. BASIC AERODYNAMICS
8.1 Physics of the Atmosphere
8.2 Aerodynamics
8.3 Theory of Flight
8.4 Flight Stability and Dynamics
MODULE 9A. HUMAN FACTORS
9.1 General
9.2 Human Performance and Limitations
9.3 Social Psychology
9.4 Factors Affecting Performance
9.5 Physical Environment
9.6 Tasks
9.7 Communication
9.8 Human Error
9.9 Hazards in the Workplace
MODULE 10. AVIATION LEGISLATION
10.1 Regulatory Framework
10.2 CAR-66 Certifying Staff - Maintenance
10.3 CAR-145 — Approved Maintenance Organisations
10.4 Aircraft Operations
10.5 Aircraft Certification
10.6 CAR-M

10.7 Applicable National and International Requirements
10.8 Safety Management System
10.9 Fuel Tank Safety
MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS
13.1 Theory of Flight
13.2 Structures — General Concepts
13.3 Auto flight (ATA 22)
13.4 Communication/Navigation (ATA 23/34)
13.5 Electrical Power (ATA 24)
13.6 Equipment and Furnishings (ATA 25)
13.7 Flight Controls (ATA 27)
13.8 Instruments (ATA 31)
13.9 Lights (ATA 33)
13.10 On Board Maintenance Systems (ATA 45)
13.11 Air Conditioning and Cabin Pressurisation (ATA21)
13.12 Fire Protection (ATA 26)
13.13 Fuel Systems (ATA 28)
13.14 Hydraulic Power (ATA 29)
13.15 Ice and Rain Protection (ATA 30)
13.16 Landing Gear (ATA 32)
13 .17 Oxygen (ATA 35
13.18 Pneumatic/Vacuum (ATA 36)
13.19 Water/Waste (ATA 38)
13.20 Integrated Modular Avionics (ATA42)
13.21 Cabin Systems (ATA44)
13.22 Information Systems (ATA46)
MODULE 14. PROPULSION
14.1 Turbine Engines
14.2 Engine Indicating Systems
14.3 Starting and Ignition Systems