

Training Syllabus For Semester 1

Semester	Module / Sub Module	Total Hrs. Allotted (In PAMEC)		Practical Hrs in Contracted AMO	Total Training Hrs
		Theory	Practical		
1 st Semester	1. Module 3 (Part 1) - Electrical Fundamentals – I	60	30	--	330 Hrs.
	2. Module 7A (Part 1) - Maintenance Practices –I	50	60		
	3. Module 8 Basic Aerodynamics	50	20		
	4. Module 9A - Human Factors	60	--		
Total Hrs. =		220	110	--	

Module 3 - Electrical Fundamentals – I

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
3.1	Electron Theory Structure and distribution of electrical charges within atoms, molecules, ions, compounds; Molecular structure of conductors, semiconductors and insulators.	1	2
3.2	Static Electricity and Conduction Static electricity and distribution of electrostatic charges; Electrostatic laws of attraction and repulsion; Units of charge, Coulomb's Law; Conduction of electricity in solids, liquids, gases and a vacuum.	2	4
3.3	Electrical Terminology The following terms, their units and factors affecting them: potential difference, electromotive force, voltage, current, resistance, conductance, charge, conventional current flow, electron flow.	2	4
3.6	DC Circuits Ohms Law, Kirchoff's Voltage and Current Laws; Calculations using the above laws to find resistance, voltage and current; Significance of the internal resistance of a supply.	2	6
3.7	Resistance/Resistor (a) Resistance and affecting factors; Specific resistance; Resistor colour code, values and tolerances, preferred values, wattage ratings; Resistors in series and parallel; Calculation of total resistance using series, parallel and series parallel combinations; Operation and use of potentiometers and rheostats; Operation of Wheatstone Bridge. (b) Positive and negative temperature coefficient conductance; Fixed resistors, stability, tolerance and limitations, methods of construction; Variable resistors, thermistors, voltage dependent resistors; Construction of potentiometers and rheostats; Construction of Wheatstone Bridge;	2	6
3.9	Capacitance/Capacitor Operation and function of a capacitor; Factors affecting capacitance area	2	8

	of plates, distance between plates, number of plates, dielectric and dielectric constant, working voltage, voltage rating; Capacitor types, construction and function; Capacitor colour coding; Calculations of capacitance and voltage in series and parallel circuits; Exponential charge and discharge of a capacitor, time constants; Testing of capacitors.		
3.10	<p>Magnetism</p> <p>(a) Theory of magnetism; Properties of a magnet Action of a magnet suspended in the Earth's magnetic field; Magnetisation and demagnetisation; Magnetic shielding; Various types of magnetic material; Electromagnets construction and principles of operation; Hand clasp rules to determine: magnetic field around current carrying conductor.</p> <p>(b) Magnetomotive force, field strength, magnetic flux density, permeability, hysteresis loop, retentivity, coercive force reluctance, saturation point, eddy currents; Precautions for care and storage of magnets.</p>	2	6
3.11	<p>Inductance/Inductor</p> <p>Faraday's Law; Action of inducing a voltage in a conductor moving in a magnetic field; Induction principles; Effects of the following on the magnitude of an induced voltage: magnetic field strength, rate of change of flux, number of conductor turns; Mutual induction; The effect the rate of change of primary current and mutual inductance has on induced voltage; Factors affecting mutual inductance: number of turns in coil, physical size of coil, permeability of coil, position of coils with respect to each other; Lenz's Law and polarity determining rules; Back emf, self induction; Saturation point; Principle uses of inductors;</p>	2	6
3.13	<p>AC Theory</p> <p>Sinusoidal waveform: phase, period, frequency, cycle; Instantaneous, average, root mean square, peak, peak to peak current values and calculations of these values, in relation to voltage, current and power Triangular/Square waves; Single/3 phase principles</p>	2	6
3.14	<p>Resistive (R), Capacitive (C) and Inductive (L) Circuits:</p> <p>Phase relationship of voltage and current in L, C and R circuits, parallel, series and series parallel; Power dissipation in L, C and R circuits; Impedance, phase angle, power factor and current calculations; True power, apparent power and reactive power calculations.</p>	2	4
3.15	<p>Transformers</p> <p>Transformer construction principles and operation; Transformer losses and methods for overcoming them; Transformer action under load and no-load conditions; Power transfer, efficiency, polarity markings; Calculation of line and phase voltages and currents; Calculation of power in a three phase system; Primary and Secondary current, voltage, turns ratio, power, efficiency; Auto transformers.</p>	2	4
3.16	<p>Filters</p> <p>Operation, application and uses of the following filters: low pass, high pass, band pass, band stop.</p>	1	4

Module 7 A - Maintenance Practices – I

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
7.1	<p style="text-align: center;">Safety Precautions-Aircraft and Workshop</p> <p>Aspects of safe working practices including precautions to take when working with electricity, gases especially oxygen, oils and chemicals. Also, instruction in the remedial action to be taken in the event of a fire or another accident with one or more of these hazards including knowledge on extinguishing agents.</p>	3	4
7.2	<p>Workshop Practices</p> <p>Care of tools, control of tools, use of workshop materials; Dimensions, allowances and tolerances, standards of workmanship; Calibration of tools and equipment, calibration standards.</p>	3	8
7.3	<p>Tools</p> <p>Common hand tool types; Common power tool types; Operation and use of precision measuring tools; Lubrication equipment and methods. Operation, function and use of electrical general test equipment;</p>	3	10
7.6	<p>Fits and Clearances</p> <p>Drill sizes for bolt holes, classes of fits; Common system of fits and clearances; Schedule of fits and clearances for aircraft and engines; Limits for bow, twist and wear; Standard methods for checking shafts, bearings and other parts.</p>	2	10
7.14	<p>Material handling</p> <p>7.14.1 Sheet Metal</p> <p>Marking out and calculation of bend allowance; Sheet metal working, including bending and forming; Inspection of sheet metal work.</p>	2	12
7.15	<p>Welding, Brazing, Soldering and Bonding</p> <p>(a) Soldering methods; inspection of soldered joints. (b) Welding and brazing methods; Inspection of welded and brazed joints; Bonding methods and inspection of bonded joints.</p>	2	6

Module 8 - Basic Aerodynamics

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
8.1	<p>Physics of the Atmosphere</p> <p>International Standard Atmosphere (ISA), application to aerodynamics.</p>	2	2
8.2	<p>Aerodynamics</p> <p>Airflow around a body; Boundary layer, laminar and turbulent flow, free stream flow, relative airflow, upwash and downwash, vortices, stagnation; The terms: camber, chord, mean aerodynamic chord, profile (parasite) drag, induced drag, centre of pressure, angle of attack, wash in and wash out, fineness ratio, wing shape and aspect ratio; Thrust, Weight, Aerodynamic Resultant; Generation of Lift and Drag: Angle of Attack, Lift coefficient, Drag coefficient, polar curve, stall; Aerofoil contamination including ice, snow, frost.</p>	2	20

8.3	Theory of Flight Relationship between lift, weight, thrust and drag; Glide ratio; Steady state flights, performance; Theory of the turn; Influence of load factor: stall, flight envelope and structural limitations; Lift augmentation.	2	20
8.4	Flight Stability and Dynamics Longitudinal, lateral and directional stability (active and passive).	2	8

Module 9A- Human Factors

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
9.1	General The need to take human factors into account; Incidents attributable to human factors/human error; 'Murphy's' law.	2	6
9.2	Human Performance and Limitations Vision; Hearing; Information processing; Attention and perception; Memory; Claustrophobia and physical access.	2	6
9.3	Social Psychology Responsibility: individual and group; Motivation and de-motivation; Peer pressure; 'Culture' issues; Team working; Management, supervision and leadership	1	8
9.4	Factors Affecting Performance Fitness/health; Stress: domestic and work related; Time pressure and deadlines; Workload: overload and under load; Sleep and fatigue, shift work; Alcohol, medication, drug abuse	2	10
9.5	Physical Environment Noise and fumes; Illumination; Climate and temperature; Motion and vibration; Working environment.	1	6
9.6	Tasks Physical work; Repetitive tasks; Visual inspection; Complex systems.	1	6
9.7	Communication Within and between teams; Work logging and recording; Keeping up to date, currency; Dissemination of information.	2	8
9.8	Human Error Error models and theories; Types of error in maintenance tasks; Implications of errors (i.e. accidents) Avoiding and managing errors	2	4
9.9	Hazards in the Workplace Recognizing and avoiding hazards; Dealing with emergencies	2	6

IN-HOUSE PRACTICAL

MODULE 3 ELECTRICAL FUNDAMENTALS – I (In-House Practical)		
Practical	Contents	Hrs
1	Demonstration of Active and Passive components. Identification of Conductors, semiconductors and Insulators	02
2	Measuring (a) Resistances (b) AC and DC Voltages (c) DC Current & checking electrical fuses and connection	04
3	Familiarization with Resistor colour codes - Calculation of resistance value using colour codes	04
4	Familiarization with Potentiometer, rheostat & wheat stone bridges and determine unknown resistance	04
5	Use a Multimeter for measuring Resistance, checking electrical fuses and continuity test	02
6	Identify various types of capacitors and testing of faulty capacitor.	02
7	Demonstration of Permanent Magnet and Electromagnet	02
8	Measure the RMS value, Peak value and average of a sinusoidal voltage and current waveforms.	04
9	Uses of transformer in power distribution	02
10	Familiarization with filters circuit to study the function of low pass, high pass, band pass & band stop	04
Total Hours =		30

MODULE 7A MAINTENANCE PRACTICES –I (In-House Practical)		
Practical	Contents	Hrs
1	Demonstration of safety precaution while working with- Electricity, gases, oxygen, oils and chemicals.	02
2	Demonstration of fire extinguisher operating procedure.	02
3	Demonstration of tools controlling methods used in aircraft workshop	04
4	Demonstration of simple and precision Measuring and Marking Tools.	06
5	Demonstration of Cutting and Work Holding Tools.	02
6	Filing practice to make square of given dimensions.	04
7	Filing practice to make T fitting of given dimensions..	04
8	Demonstration of Striking Tools	02
9	Demonstration of Drilling, Boring and Thread Cutting Tools	02
10	Thread cutting practice using taps.	06
11	Thread cutting practice using dies.	06
12	Practice of butt welding Joint.	04

13	Practice of 'T' welding Joint.	06
14	Practice of Lap welding Joint.	04
15	Practice of corner welding Joint.	04
16	Familiarization with different electrical cables and connectors.	02
Total		60
Hours=		

MODULE 8 BASIC AERODYNAMICS (In-House Practical)		
Practical	Contents	Hrs
1	Atmospheric layers familiarization on diagrams	02
2	Demonstrations of atmospheric layers Audio/video	02
3	Demonstrations of different types of airfoil used in aviation industry	04
4	Familiarization of turbulent, laminar airflow, stagnant point (audio /video)	04
5	Demonstrations of Study of flow over streamlined bodies with different angle of attack (audio /video) visualization technique	04
6	Practical demonstrations of center of pressure, stagnation point, profile (parasite) drag, induced drag, angle of attack, wash in and wash out, fineness ratio and aspect ratio – (audio- video)	04
Total Hours =		20

Training Syllabus for Semester 2

Semester	Module / Sub Module	Total Hrs Allotted (In PAMEC)		Practical Hrs in Contracted AMO	Total Training Hrs
		Theory	Practical		
2 nd Semester	1. Module 3 Part (II), Part of 5.12, 5.14, 6.11, 7.4, 7.7 - Electrical Fundamentals - II	60	30	--	290 Hrs.
	2. Module 7A (Part II) and Part of 6.4 - Maintenance Practices -II	60	40		
	3. Module 10 - Aviation Legislation -I	90	10		
Total Hrs =		210	80	--	

Module 3 (Part Module 5, 6, 7) - Electrical Fundamentals – II

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
3.4	Generation of Electricity Production of electricity by the following methods: light, heat, friction, pressure, chemical action, magnetism and motion.	1	4
3.5	DC Sources of Electricity Construction and basic chemical action of: primary cells, secondary cells, lead acid cells, nickel cadmium cells, other alkaline cells; Cells connected in series and parallel; Internal resistance and its effect on a battery; Construction, materials and operation of thermocouples; Operation of photo-cells.	2	8
3.8	Power Power, work and energy (kinetic and potential); Dissipation of power by a resistor; Power formula; Calculations involving power, work and energy.	2	4
3.12	DC Motor/Generator Theory Basic motor and generator theory; Construction and purpose of components in DC generator; Operation of, and factors affecting output and direction of current flow in DC generators; Operation of, and factors affecting output power, torque, speed and direction of rotation of DC motors; Series wound, shunt wound and compound motors; Starter Generator construction.	2	8
3.17	AC Generators Rotation of loop in a magnetic field and waveform produced;	2	8

	Operation and construction of revolving armature and revolving field type AC generators; Single phase, two phase and three phase alternators; Three phase star and delta connections advantages and uses; Permanent Magnet Generators.		
3.18	AC Motors Construction, principles of operation and characteristics of: AC synchronous and induction motors both single and polyphase; Methods of speed control and direction of rotation; Methods of producing a rotating field: capacitor, inductor, shaded or split pole.	2	6
5.12	Electrostatic Sensitive Devices Special handling of components sensitive to electrostatic discharges; Awareness of risks and possible damage, component and personnel anti-static protection devices.	2	4
5.14	Electromagnetic Environment Influence of the following phenomena on maintenance practices for electronic system: EMC-Electromagnetic Compatibility EMI-Electromagnetic Interference HIRF-High Intensity Radiated Field Lightning/lightning protection	2	6
6.11	Electrical Cables and Connectors Cable types, construction and characteristics; High tension and co-axial cables; Crimping; Connector types, pins, plugs, sockets, insulators, current and voltage rating, coupling, identification codes.	2	4
7.4	Avionic General Test Equipment – Operation, function and use of avionic general test equipment.	2	2
7.7	Electrical Wiring Interconnection System (EWIS) Continuity, insulation and bonding techniques and testing; Use of crimp tools: hand and hydraulic operated; Testing of crimp joints; Connector pin removal and insertion; Co-axial cables: testing and installation precautions; Identification of wire types, their inspection criteria and damage tolerance. Wiring protection techniques: Cable looming and loom support, cable clamps, protective sleeving techniques including heat shrink wrapping, shielding. EWIS installations, inspection, repair, maintenance and cleanliness standards.	3	6

Module 7A (Part Module 6) - Maintenance Practices -II

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
7.5	<p>Engineering Drawings, Diagrams and Standards Drawing types and diagrams, their symbols, dimensions, tolerances and projections; Identifying title block information Microfilm, microfiche and computerised presentations; Specification 100 of the Air Transport Association (ATA) of America; Aeronautical and other applicable standards including ISO, AN, MS, NAS and MIL; Wiring diagrams and schematic diagrams.</p>	2	10
7.16	<p>Aircraft Weight and Balance (a) Centre of Gravity/Balance limits calculation: use of relevant documents; (b) Preparation of aircraft for weighing; Aircraft weighing;</p>	2	4
7.17	<p>Aircraft Handling and Storage Aircraft taxiing/towing and associated safety precautions; Aircraft jacking, chocking, securing and associated safety precautions; Aircraft storage methods; Refuelling/defuelling procedures; De-icing/anti-icing procedures; Electrical, hydraulic and pneumatic ground supplies. Effects of environmental conditions on aircraft handling and operation.</p>	2	8
7.18	<p>Disassembly, Inspection, Repair and Assembly Techniques (a) Types of defects and visual inspection techniques. Corrosion removal, assessment and re-protection. (b) General repair methods, Structural Repair Manual; Ageing, fatigue and corrosion control programmes; (c) Nondestructive inspection techniques including, penetrant, radiographic, eddy current, ultrasonic and boroscope methods. (d) Disassembly and re-assembly techniques. (e) Trouble shooting techniques</p>	3 2 2 2 2	20
7.19	<p>Abnormal Events (a) Inspections following lightning strikes and HIRF penetration. (b) Inspections following abnormal events such as heavy landings and flight through turbulence.</p>	2	4
7.20	<p>Maintenance Procedures Maintenance planning; Modification procedures; Stores procedures; Certification/release procedures; Interface with aircraft operation; Maintenance Inspection/Quality Control/Quality Assurance; Additional maintenance procedures. Control of life limited components</p>	2	8
6.4	<p>Corrosion (a) Chemical fundamentals; Formation by, galvanic action process, microbiological, stress;</p>	1	6

	(b) Types of corrosion and their identification; Causes of corrosion; Material types, susceptibility to corrosion.	3	
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Module 10 - Aviation Legislation –I

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
10.1	Regulatory Framework Role of International Civil Aviation Organization; The Aircraft Act and Rules made there under Role of the DGCA; Relationship between CAR-21, CAR-M, CAR-145, CAR-66, CAR 147 The Aircraft Rules (Applicable to Aircraft Maintenance and Release) Aeronautical Information Circulars (Applicable to Aircraft Maintenance and Release) CAR Sections 1 and 2	1	10
10.2	CAR-66 Certifying Staff – Maintenance Detailed understanding of CAR-66.	2	20
10.4	Aircraft Operations Commercial Air Transport/Commercial Operations Air Operators Certificates; Operators Responsibilities, in particular regarding continuing airworthiness and maintenance; Documents to be carried on board; Aircraft Placarding (Markings);	1	10
10.5	Aircraft Certification (a) General - Certification rules: such as FAA & EACS 23/25/27/29; Type Certification; Supplemental Type Certification; CAR-21 Design/Production Organization Approvals. Aircraft Modifications and repairs approval and certification Permit to fly requirements (b) Documents - Certificate of Airworthiness; Certificate of Registration; Noise Certificate; Weight Schedule; Radio Station Licence and Approval.	1 2	20
10.7	Applicable National and International Requirements (a) Maintenance Programme, Maintenance checks and inspections; Master Minimum Equipment Lists, Minimum Equipment List, Dispatch Deviation Lists; Airworthiness Directives; Service Bulletins, manufacturers service information; Modifications and repairs;	2	30

	Maintenance documentation: maintenance manuals, structural repair manual, illustrated parts catalogue, etc.;		
	(b) Continuing airworthiness; Test flights; ETOPS /EDTO , maintenance and dispatch requirements; RVSM, maintenance and dispatch requirements RNP, MNPS Operations All Weather Operations, Category 2/3 operations and minimum equipment requirements.	1	

IN-HOUSE PRACTICAL

MODULE 3 ELECTRICAL FUNDAMENTALS – II (In-House Practical)		
Practical	Contents	Hrs
1	Study the methods of Generation of electricity by light, heat, chemical action, magnetism & motion.	04
2	Familiarization with primary and secondary cells.	04
3	Familiarization with Lead acid battery and nickel cadmium battery	04
4	Demonstration of various Battery charging methods...	04
5	Familiarization with DC Generator and its types using different method of coil Arrangements (series and shunt) to understand their Usage	04
6	Familiarization with DC Motor and its parts.	04
7	Familiarization with AC generator using single/ poly phase arrangements to understand their usage.	06
Total Hours =		30

MODULE 7A MAINTENANCE PRACTICES –II (In-House Practical)		
Practical	Contents	Hrs
1	Draw the different types of lines on a paper, used in engineering Drawing	20
2	Refuel the Aeroplane Piston aircraft by following the proper procedures.	02
3	Procedure of checking the aircraft after heavy. Write the step by step procedure.	06
4	Carry out weight and balance of the aircraft.	08
5	Tow the light aeroplane from hangar to the tarmac and make it ready for ground run. Note down the procedure you have followed with precautions.	04
Total Hours =		40

Training Syllabus For Semester 3

Semester	Module / Sub Module	Total Hrs Allotted (In PAMEC)		Practical Hrs in Contracted AMO	Total Training Hrs
		Theory	Practical		
3 rd Semester	1. Module 4 - Electronic Fundamental - I	60	30	60	
	2. Module - 5 Digital Techniques Electronic Instrument System - I	10	--		
	3. Module 6 (Part 1) and Part 7.14.2 - Material and Hardware	70	30		
	4. Module 10 (Part II) – Aviation Legislation - II	90	--		
	5. Module - 11B Piston Aeroplane Aerodynamics, Structures And Systems - I	30	30		
Total Hrs =		260	90	60	410 Hrs

Module 4 - Electronic Fundamental – I

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
4.1	Semiconductors	2	36
	4.1.1 Diodes Diode symbols; Diode characteristics and properties; Diodes in series and parallel; Main characteristics and use of silicon controlled rectifiers (thyristors), light emitting diode, photo conductive diode, varistor, rectifier diodes; Functional testing of diodes.	1	
	4.1.2 Transistors Transistor symbols; Component description and orientation; Transistor characteristics and properties.	1	
	4.1.3 Integrated Circuits Description and operation of logic circuits and linear circuits/operational amplifiers.	1	
4.2	Printed Circuit Boards Description and use of printed circuit boards.	1	4
4.3	Servomechanisms Understanding of the following terms: Open and closed loop systems, feedback, follow up, analogue transducers; Principles of operation and use of the following synchro system components/features: resolvers, differential, control and torque, transformers, inductance and capacitance transmitters.	1	20

MODULE 5 - Digital Techniques Electronic Instrument System - I

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
5.10	Fibre Optics Advantages and disadvantages of fiber optic data transmission over electrical wire propagation; Fibre optic data bus; Fibre optic related terms; Terminations; Couplers, control terminals, remote terminals; Application of fibre optics in aircraft systems.	1	10

Module 6, (Part Module 7) - Material and Hardware-I

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
6.1	Aircraft Materials — Ferrous (a) Characteristics, properties and identification of common alloy steels used in aircraft; Heat treatment and application of alloy steels; (b) Testing of ferrous materials for hardness, tensile strength, fatigue strength and impact resistance.	2 1	24
6.2	Aircraft Materials — Non-Ferrous (a) Characteristics, properties and identification of common non-ferrous materials used in aircraft; Heat treatment and application of non-ferrous materials; (b) Testing of non-ferrous material for hardness, tensile strength, fatigue strength and impact resistance.	2 1	22
6.3	Aircraft Materials - Composite and Non- Metallic 6.3.1 Composite and non-metallic other than wood and fabric (a) Characteristics, properties and identification of common composite and nonmetallic materials, other than wood, used in aircraft; Sealant and bonding agents. (b) The detection of defects/deterioration in composite and non-metallic material. Repair of composite and non-metallic material.	2	8
6.3	6.3.2 Wooden structures Construction methods of wooden airframe structures; Characteristics, properties and types of wood and glue used in aeroplanes; Preservation and maintenance of wooden structure; Types of defects in wood material and wooden structures; The detection of defects in wooden structure; Repair of wooden structure.	2	6
6.3	6.3.3 Fabric covering Characteristics, properties and types of fabrics used in aeroplanes; Inspections methods for fabric; Types of defects in fabric; Repair of fabric covering.	2	6
7.14	7.14.2 Composite and non-metallic Bonding practices; Environmental conditions Inspection methods	2	4

Module 10 - Aviation Legislation –II

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
10.3	CAR-145 — Approved Maintenance Organizations Detailed understanding of CAR-145 and CAR M Subpart F	2	26
10.6	CAR-M Detail understanding of CAR M provisions related to Continuing Airworthiness Detailed understanding of CAR-M.	2	24
10.8	Safety Management System State Safety Programme Basic Safety Concepts Hazards & Safety Risks SMS Operation SMS Safety performance Safety Assurance	2	22
10.9	Fuel Tank Safety Special Federal Aviation Regulations (SFARs) from 14 CFR SFAR 88 of the FAA and of JAA TGL 47 Concept of CDCCL, Airworthiness Limitations Items (ALI)	2	18

Module 11B - Piston Aeroplane Aerodynamics, Structures and Systems - I

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
11.2	Airframe Structures — General Concepts (a) Airworthiness requirements for structural strength; Structural classification, primary, secondary and tertiary; Fail safe, safe life, damage tolerance concepts; Zonal and station identification systems; Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue; Drains and ventilation provisions; System installation provisions; Lightning strike protection provision. Aircraft bonding (b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning, anti-corrosive protection, wing, empennage and engine attachments; Structure assembly techniques: riveting, bolting, bonding; Methods of surface protection, such as chromating, anodising, painting; Surface cleaning;	2	14

	Airframe symmetry: methods of alignment and symmetry checks.		
11.3	Airframe Structures — Aero planes 11.3.1 Fuselage (ATA 52/53/56) Construction and pressurization sealing; Wing, tail-plane pylon and undercarriage attachments; Seat installation; Doors and emergency exits: construction and operation; Window and windscreen attachment. 11.3.2 Wings (ATA 57) Construction; Fuel storage; Landing gear, pylon, control surface and high lift/drag attachments. 11.3.3 Stabilisers (ATA 55) Construction; Control surface attachment. 11.3.4 Flight Control Surfaces (ATA 55/57) Construction and attachment; Balancing — mass and aerodynamic. 11.3.5 Nacelles/Pylons (ATA 54) Nacelles/Pylons: — Construction; — Firewalls; — Engine mounts.	2	16

IN-HOUSE PRACTICAL

MODULE 4 ELECTRONIC FUNDAMENTAL-I (In-House Practical)		
Practical	Contents	Hrs
1	Identification of basic electronic components (diodes, transistors),digital Multimeter and Oscilloscope	04
2	Practical on I-V Characteristics of (a) p-n junction Diode, and (b) Functional testing of diodes	06
3	Study of Clipping and Clamping circuits	02
4	Conversion of A C to DC Voltage using (a) Half wave rectifier and (b) Full wave rectifier (FWR).	04
5	Uses of basic electronic components (diodes, transistors),digital Multimeter and Oscilloscope	06
6	Familiarization with Servomechanisms: Open and closed loop systems and feedback	06
7	Familiarization with and use of printed circuit board.	02
Total Hours=		30

MODULE 6		
Module 6, MATERIALS AND HARDWARE - I		
(In-House Practical)		
Practical	Contents	Hrs
1	Identification of ferrous materials.	02
2	Identification of Non -Ferrous materials.	02
3	Identification of common composite materials.	02
4	Identification of Sealant and bonding agents.	02
5	Demonstration of simple repair of composite and non-metallic materials and structures (Bonding practices)	04
6	Identification of common types of wood and glue used in aircraft.	02
7	Identification and detection of defects in wood material and wooden structures	04
8	Identification of the common fabrics and adhesives used in aircraft structure.	02
9	Procedure of Joining two dissimilar metal strips to prevent it from Dissimilar metal corrosion.	06
10	Inspect the most corrosion prone areas of an aircraft.	04
Total Hours =		30

MODULE 11B		
PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS - I		
(In-House Practical)		
Practical	Contents	Hrs
1	Familiarization of aircraft reference lines, station and zone numbers	04
2	Demonstration of major structural members of fixed wing aircraft.	02
3	Demonstration of Aircraft fuselage construction.	04
4	Familiarization Control surface, landing gear and engine attachment point	04
5	Demonstration of firewalls and engine mounts of aircraft.	02
6	Procedure of rigging the flight controls.	06
7	Demonstrate the control surface movement for an aircraft.	02
9	Practical familiarization of different types of aircraft trim tabs on aircraft available in hanger.	04
10	Practical demonstrations of flight control surface movement from cockpit	02
Total Hours =		30

**PRACTICAL HRS
IN CONTRACTED AMO**

AMO Practical Syllabus / 3rd TERM

S. No.	ATA Chapter Ref.	Syllabus/ Task	Hours Allotted
1	06	Dimensions/Areas (MTOM, etc.): a. Locate component(s) by station number. b. Perform symmetry check.	6
2	09	Towing and Taxing: a. Prepare for aircraft towing b. Tow aircraft c. Be part of aircraft towing team.	4

3	10	Parking/Mooring storing and return to service: a. Tie down aircraft. b. Park, secure and cover aircraft.	6
4	11	Placard and marking: a. Check aircraft for correct placards. b. Check aircraft for correct markings.	2
5	07	Lifting and Shoring Assist in : a. Jack aircraft nose or tail wheel. b. Jack complete aircraft. c. Sling or trestle major component.	8
6	08	Leveling and weighing: Level aircraft.	8
7	26	Fire protection: Portable Hand Fire Extinguisher- a) Inspect for proper operating pressure, b) condition, security of installation, c) servicing date	4
8	25	Equipment and Furnishings: a. Check seats/belts for security. b. Check emergency equipment. c. Check ELT for expiry date and physical condition.	6
9	53	Fuselage Location	4
10	54	Nacelles/Pylons Location	2
11	55	Stabilisers Location	2
12	56	Windows Location	2
13	--	Safety precautions observed in the hanger and while working on the aircraft.	3
14	--	Familiarization with fuselage and different parts of the aircraft; fixed and movable surfaces.	3
Total Hours =			60 Hours

Training Syllabus For Semester 4

Semester	Module / Sub Module	Total Hrs Allotted (In PAMEC)		Practical Hrs in Contracted AMO	Total Training Hrs
		Theory	Practical		
4 th Semester	1. Module 5 – Part II Digital Technique Electronic Instrument Systems – II	60	40	60 Hrs	430 Hrs
	2. Module 6 (Part II), Part 7.8 to 7.13 - Material and Hardware	60	30		
	3. Module 16 (Part 1) - Piston Engine - I	60	30		
	4. Module 17A - Propeller	60	30		
Total Hrs =		240	130	60	

Module 5 - Digital Technique Electronic Instrument Systems – II

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
5.1	Electronic Instrument Systems Typical systems arrangements and cockpit layout of electronic instrument systems.	2	2
5.11	Electronic Displays Principles of operation of common types of displays used in modern aircraft, including Cathode Ray Tubes, Light Emitting Diodes and Liquid Crystal Display.	1	16
5.13	Software Management Control Awareness of restrictions, airworthiness requirements and possible catastrophic effects of unapproved changes to software programmes.	1	10
5.15	Typical Electronic/Digital Aircraft Systems General arrangement of typical electronic/digital aircraft systems and associated BITE(Built In Test Equipment) testing such as: (a) For B1 and B2 only: ACARS-ARINC Communication and Addressing and Reporting System EICAS-Engine Indication and Crew Alerting System FBW-Fly by Wire FMS-Flight Management System IRS-Inertial reference system (b) For B1, B2 and B3: ECAM-Electronic Centralized Aircraft Monitoring EFIS-Electronic Flight Instrument System GPS-Global Positioning System	2	32

	TCAS-Traffic Collision Avoidance system Integrated modular Avionic Cabin System Information system		
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Module 6 (Part Module 7) - Material and Hardware - II

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
6.5	<p>Fasteners</p> <p>6.5.1 Screw threads Screw nomenclature; Thread forms, dimensions and tolerances for standard threads used in aircraft; Measuring screw threads;</p> <p>6.5.2 Bolts, studs and screws Bolt types: specification, identification and marking of aircraft bolts, international standards; Nuts: self-locking, anchor, standard types; Machine screws: aircraft specifications; Studs: types and uses, insertion and removal; Self-tapping screws, dowels.</p> <p>6.5.3 Locking devices Tab and spring washers, locking plates, split pins, pal nuts, wire locking, quick release fasteners, keys, circlips, cotter pins.</p> <p>6.5.4 Aircraft rivets Types of solid and blind rivets: specifications and identification, heat treatment.</p>	2	18
6.6	<p>Pipes and Unions</p> <p>(a) Identification of, and types of rigid and flexible pipes and their connectors used in aircraft; (b) Standard unions for aircraft hydraulic, fuel, oil, pneumatic and air system pipes.</p>	2	4
6.7	<p>Springs</p> <p>Types of springs, materials, characteristics and applications.</p>	2	2
6.8	<p>Bearings</p> <p>Purpose of bearings, loads, material, construction; Types of bearings and their application.</p>	2	2
6.9	<p>Transmissions</p> <p>Gear types and their application; Gear ratios, reduction and multiplication gear systems, driven and driving gears, idler gears, mesh patterns; Belts and pulleys, chains and sprockets.</p>	2	2
6.10	<p>Control Cables</p> <p>Types of cables; End fittings, turnbuckles and compensation devices; Pulleys and cable system components; Bowden cables; Aircraft flexible control systems.</p>	2	2
7.8	<p>Riveting</p>	2	4

	Riveted joints, rivet spacing and pitch; Tools used for riveting and dimpling; Inspection of riveted joints.		
7.9	Pipes and Hoses Bending and belling/flaring aircraft pipes; Inspection and testing of aircraft pipes and hoses; Installation and clamping of pipes.	2	6
7.10	Springs Inspection and testing of springs.	2	2
7.11	Bearings Testing, cleaning and inspection of bearings; Lubrication requirements of bearings; Defects in bearings and their causes.	2	4
7.12	Transmissions Inspection of gears, backlash; Inspection of belts and pulleys, chains and sprockets; Inspection of screw jacks, lever devices, push-pull rod systems	2	4
7.13	Control Cables Swaging of end fittings; Inspection and testing of control cables; Bowden cables; aircraft flexible control systems.	2	10

Module 16 - Piston Engine – I

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
16.1	Fundamentals Mechanical, thermal and volumetric efficiencies; Operating principles — 2 stroke, 4 stroke, Otto and Diesel; Piston displacement and compression ratio; Engine configuration and firing order.	2	10
16.2	Engine Performance Power calculation and measurement; Factors affecting engine power; Mixtures/leaning, pre-ignition.	2	10
16.3	Engine Construction Crank case, crank shaft, cam shafts, sumps; Accessory gearbox; Cylinder and piston assemblies; Connecting rods, inlet and exhaust manifolds; Valve mechanisms; Propeller reduction gearboxes.	2	20
16.7	Supercharging/Turbocharging Principles and purpose of supercharging and its effects on engine parameters; Construction and operation of supercharging/turbocharging systems; System terminology; Control systems; System protection.	2	20

Module 17A - Propeller

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
17.1	Fundamentals Blade element theory; High/low blade angle, reverse angle, angle of attack, rotational speed; Propeller slip; Aerodynamic, centrifugal, and thrust forces; Torque; Relative airflow on blade angle of attack; Vibration and resonance.	2	12
17.2	Propeller Construction Construction methods and materials used in wooden, composite and metal propellers; Blade station, blade face, blade shank, blade back and hub assembly; Fixed pitch, controllable pitch, constant speeding propeller; Propeller/spinner installation.	2	16
17.3	Propeller Pitch Control Speed control and pitch change methods, mechanical and electrical/electronic; Feathering and reverse pitch; Over speed protection.	2	10
17.4	Propeller Synchronizing Synchronizing and synchrophasing equipment.	2	4
17.5	Propeller Ice Protection Fluid and electrical de-icing equipment.	2	4
17.6	Propeller Maintenance Static and dynamic balancing; Blade tracking; Assessment of blade damage, erosion, corrosion, impact damage, delamination; Propeller treatment/repair schemes; Propeller engine running.	3	10
17.7	Propeller Storage and Preservation Propeller preservation and depreservation	2	4

IN-HOUSE PRACTICAL

MODULE 5		
DIGITAL TECHNIQUES ELECTRONIC INSTRUMENT SYSTEMS-II		
(In-House Practical)		
Practical	Contents	Hrs
1	Identification of components of Display systems	04
2	Demonstration of various types of cockpit layout.	04
3	Demonstration of ESD.	02
4	Study of fiber optic data transmission method over electrical wire propagation;	04
5	Familiarization with Single Stage CE amplifier of given gain	04
6	Study of correlation between different numbering systems	06
7	Study the various methods of digital to analogue conversion	04
8	Familiarization with typical data buses used in aircraft system.	06
9	Study of Universal Gates and making all other logic gates using universal gates.	06
Total Hours =		40

MODULE 6		
MATERIALS AND HARDWARE - II		
(In-House Practical)		
Practical	Contents	Hrs
1	Identification of different thread forms.	02
2	Measuring of screw threads.	02
3	Identification of aircraft bolts and nuts.	02
4	Identification of aircraft screws and dowels.	02
5	Insertion and removal of aircraft studs.	04
6	Identification and use of aircraft locking devices.	02
7	Identification of rigid and flexible pipes and standard unions for aircraft.	02
8	Bending and flaring practice of aircraft pipes.	04
9	Inspection of aircraft pipes and hoses.	02
10	Cleaning and inspection of aircraft bearings.	02
11	Identification of gears, belts and pulleys, chains and sprockets;	04
12	Check an aircraft electrical circuit for continuity in conjunction with an electrical wiring diagram.	02
Total Hours =		30

MODULE 16 Piston Engine - I (In-House Practical)		
Practical	Contents	Hrs
1	Familiarization with the functioning of 2 stroke and 4 stroke piston engines.	4
2	Familiarization with constructions and functions of piston engines.	4
3	Identification of various components of piston engines like Crank case, crank shaft, cam shafts.	4
4	Identification of cylinder and piston assemblies.	4
5	Identification of connecting rods, inlet and exhaust manifolds.	4
6	Familiarization with the functioning of accessory gear box valve mechanism.	4
7	Familiarization with the functioning of supercharger/ turbocharger.	4
8	Procedure of Fuel Sample Check.	2
Total Hours =		30

MODULE 17A PROPELLER (In-House Practical)		
Practical	Contents	Hrs
1	Familiarization with different types of propeller.	04
2	Check the propeller blade angle.	10
3	Check Propeller track.	04
4	Inspection of propeller blade for damage, erosion, corrosion, impact damage, delamination etc.	02
5	Familiarization with propeller electrical de-icing system.	02
6	Preparation for propeller storage and preservation.	04
7	Wire locking of propeller mounting nuts.	04
Total Hours =		30

**PRACTICAL HRS
IN CONTRACTED AMO**

AMO Practical Syllabus / 4th TERM

Sl. No.	ATA Ref.	Syllabus/ Task	Hours Allotted
1	24	Electrical Power: a) Check Switches and Circuit Breaker Panel, b) Terminal Blocks, c) Junction Boxes – broken or loose terminals. d) Inspect wiring and terminals for condition and security.	4
2	76	Engine Controls: a. Check rig of RPM control. b. Check controls for correct assembly and locking. c. Check controls for range and direction of movement. d. Check for evidence of leakage.	8
3	77	Engine Indicating: Instrument Lines, Fittings, Ducting, and Instrument Panel Wiring - Check for proper routing, support, and security of attachment.	6
4	78	Exhaust: a. Inspect welded repair. b. Inspect for cracks and security. Special check in area of heat exchanger. c. Check for abrasions, chafing, security, proper routing and support, and check for evidence of deterioration.	4
5	12	Servicing: a. Refuel aircraft. b. Defuel aircraft c. Check / adjust tire pressures. d. Check / replenish oil level. e. Check/ replenish hydraulic fluid level. f. Grease aircraft.	14
6	05	Time limits/maintenance checks: a. 100 hour check b. Assist carrying out a scheduled maintenance check in accordance with AMM c. Review aircraft maintenance log for correct completion d. Review records for compliance with airworthiness directives. e. Review records for compliance with component life limits.	24
Total Hours =			60 Hours

Training Syllabus For

Semester	Module / Sub Module	Total Hrs Allotted (In PAMEC)		Practical Hrs in Contracted AMO	Total Training Hrs
		Theory	Practical		
5 th Semester	1. Module 11B Piston Aeroplane Aerodynamics, Structures And Systems - II	90	30	60	
	2. Module 11B Piston Aeroplane Aerodynamics, Structures And Systems – III (Avionics)	30	40		
	3. Module 16 Piston Engine - II	90	40		
Total Hrs =		210	110	60	380 Hrs.

Semester 5

Module 11B - Piston Aeroplane Aerodynamics, Structures and Systems - II

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
11.4	Air Conditioning and Cabin Pressurization (ATA 21) Pressurization and air conditioning systems; Cabin pressure controllers, protection and warning devices, Heating Systems	3	10
11.7	Equipment and Furnishings (ATA 25) (a) Emergency equipment requirements; Seats, harnesses and belts. (b) Cabin lay-out; Equipment lay-out; Cabin Furnishing Installation (level 2); Cabin entertainment equipment; Galley installation; Cargo handling and retention equipment; Airstairs.	2 1	10
11.9	Flight Controls (ATA 27) Primary controls: aileron, elevator, rudder; Trim tabs; High lift devices; System operation: manual; Gust locks; Balancing and rigging; Stall warning system.	3	12
11.10	Fuel Systems (ATA 28) System lay-out;	3	12

	Fuel tanks; Supply systems; Cross-feed and transfer; Indications and warnings; Refuelling and defuelling.		
11.11	Hydraulic Power (ATA 29) System lay-out; Hydraulic fluids; Hydraulic reservoirs and accumulators; Pressure generation: electric, mechanical; Filters Pressure Control; Power distribution; Indication and warning systems.	3	16
11.12	Ice and Rain Protection (ATA 30) Ice formation, classification and detection; De-icing systems: electrical, hot air, pneumatic and chemical; Probe and drain heating; Wiper systems.	3	10
11.13	Landing Gear (ATA 32) Construction, shock absorbing; Extension and retraction systems: normal and emergency; Indications and warning; Wheels, brakes, antiskid and auto braking; Tyres; Steering. Air-ground sensing	3	10
11.16	Pneumatic/Vacuum (ATA 36) System lay-out; Sources: engine/APU, compressors, reservoirs, ground supply; Pressure control; Distribution; Indications and warnings; Interfaces with other systems.	3	10

Module 11B - Piston Aeroplane Aerodynamics, Structures and Systems – III (Avionics)

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
11.5	Instruments/Avionic Systems 11.5.1 Instrument Systems (ATA 31) Pitot static: altimeter, air speed indicator, vertical speed indicator; Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator;	2	30

	Compasses: direct reading, remote reading; Angle of attack indication, stall warning systems. Glass cockpit; Other aircraft system indication. 11.5.2 Avionic Systems Fundamentals of system lay-outs and operation of: — Auto Flight (ATA 22); — Communications (ATA 23); — Navigation Systems (ATA 34).	1	
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Module 16 - Piston Engine – II

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
16.4	Engine Fuel Systems 16.4.1 Carburetors Types, construction and principles of operation; Icing and heating. 16.4.2 Fuel injection systems Types, construction and principles of operation. 16.4.3 Electronic engine control Operation of engine control and fuel metering systems including electronic engine control (FADEC); Systems lay-out and components.	2	20
16.5	Starting and Ignition Systems Starting systems, pre-heat systems; Magnetos types, construction and principles of operation; Ignition harnesses, spark plugs; Low and high tension systems.	2	10
16.6	Induction, Exhaust and Cooling Systems Construction and operation of: induction systems including alternate air systems; Exhaust systems, engine cooling systems — air and liquid.	2	10
16.8	Lubricants and Fuels Properties and specifications; Fuel additives; Safety precautions.	2	6
16.9	Lubrication Systems System operation/lay-out and components.	2	6
16.10	Engine Indication Systems Engine speed; Cylinder head temperature; Coolant temperature; Oil pressure and temperature; Exhaust Gas Temperature; Fuel pressure and flow; Manifold pressure.	2	10
16.11	Powerplant Installation	2	16

	Configuration of firewalls, cowlings, acoustic panels, engine mounts, anti-vibration mounts, hoses, pipes, feeders, connectors, wiring looms, control cables and rods, lifting points and drains.		
16.12	Engine Monitoring and Ground Operation Procedures for starting and ground run-up; Interpretation of engine power output and parameters; Inspection of engine and components: criteria, tolerances, and data specified by engine manufacturer.	3	10
16.13	Engine Storage and Preservation Preservation and de-preservation for the engine and accessories/ systems	2	2

IN-HOUSE PRACTICAL

MODULE 11B PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS - II (In-House Practical)		
Practical	Contents	Hrs.
1	Name & location of emergency equipment.	04
2	Procedure to install Gust locks to prevent flight controls from fluttering.	04
3	Demonstrations of Seats, harnesses belts,	02
4	Demonstrations for brake bleeding methods on light airplane and identify the type of hydraulic fluids by its color.	04
5	Greasing of aircraft wheels.	04
6	Drain all the sumps of aircraft fuel system and check for presence of water.	02
7	Demonstration of landing gear indication and warning systems of aircrafts.	02
8	Familiarization of pneumatic system of the aircraft.	02
9	Locate the jacking points of an aircraft. Precautions that should taken when jacking the aircraft.	04
10	Demonstrate the correct way to inspect and clean rubber deicer boot.	02
Total Hours =		30

MODULE 11B PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS – III (Avionics) (In-House Practical)		
Practical	Contents	Hrs
1	Familiarization with pitot static instruments	04
2	Pitot static leak test as per manufacturer's instructions.	06
3	Compass Swinging and preparing the deviation card.	06
4	Gyro instruments familiarization.	06

5	Familiarization with Navigation equipment.	04
6	Familiarization of ELT.	04
7	Demonstration of Reading and interpretation of electrical schematic and wiring diagrams and Identification of components of electrical power supply system.	04
9	Demonstrate Installation and operation check of Batteries in aircraft	04
10	Familiarization of voltage adjustment.	02
Total Hours =		40

MODULE 16 PISTON ENGINE - II (In-House Practical)		
Practical	Contents	Hrs
1	Familiarization with engine fuel system and different types of carburetors.	04
2	Familiarization with engine driven fuel pump.	02
3	Identification and inspection of components and function of lubrication system.	02
4	Familiarization with different parts of magneto, impulse coupling etc.	04
5	Inspection of ignition harness and ignition switch.	02
6	Spark plug cleaning, gap checking and testing.	02
7	Perform top overhaul of the engine.	14
8	Procedure for engine ground run-up	06
9	Familiarize with piston engine instruments like tachometer, CHT gauge, oil pressure gauge, manifold pressure gauge etc.	04
Total Hours =		40

PRACTICAL HRS IN CONTRACTED AMO

AMO Practical Syllabus / 5TH TERM

Sl. No.	ATA Chapter Ref.	Syllabus/ Task	Hours Allotted
1	27	Flight Controls: a. Inspect primary flight controls and related components i.a.w. AMM. b. Extending/retracting flaps. c. Adjust trim tab. d. Adjust control cable tension. e. Check control range and direction of movement. f. Check for correct assembly and locking. g. Functional test of primary flight controls. h. Functional test of flap system.	12
2	28	Fuel Systems: a. Check filters. b. Flow check system. c. Inspect plumbing and components for mounting and security d. Check vents for obstruction and proper positioning.	8
3	32	Landing Gear: a. Check master cylinders and parking brake mechanism for condition and security. Check fluid level and test operation of toe and parking brake. b. Check for leaks, condition, and security and hoses for bulges and deterioration. Check brake lines and hoses for proper routing and support. c. Bleed brakes. d. Main wheel- Examine for cracks, dents, corrosion, condition of paint. Examine chips, scratches etc on the steel spring and the axles for condition and security. e. Nose wheel- Inspect torque links, steering rods, and boots for condition and security of attachment. Check strut for evidence of leakage and proper extension. Check strut barrel for corrosion, pitting, and cleanliness. Check shimmy damper and/or bungees for operation, leakage, and attach points for wear and security. f. Nose Gear Steering- Check for wear, security, and proper rigging.	24
4	60A	Standard Practices — Propeller	4
5	61	Propellers/Propulsion: a. Check operation during ground run. b. Check track.	12
Total Hours =			60 Hours

Training Syllabus For Semester 6

Semester	Module / Sub Module	Total Hrs Allotted (In PAMEC)		Practical Hrs in Contracted AMO	Total Training Hrs
		Theory	Practical		
6 th Semester	1. Module 11B Piston Aeroplane Aerodynamics, Structures And Systems - IV	60	40	60	160 Hrs.
Total Hrs =		60	40	60	

Module 11B - Piston Aeroplane Aerodynamics, Structures and Systems – IV

CAR 66 Para	Details of Syllabus	Level	Hrs. Allotted
11.6	Electrical Power (ATA 24) Batteries Installation and Operation; DC power generation; Voltage regulation; Power distribution; Circuit protection; Inverters, transformers.	3	14
11.8	Fire Protection (ATA 26) (a) Fire extinguishing systems; Fire and smoke detection and warning systems; System tests. (b) Portable fire extinguisher.	3	16
11.14	Lights (ATA 33) External: navigation, anti-collision, landing, taxiing, ice; Internal: cabin, cockpit, cargo; Emergency.	3	14
11.15	Oxygen (ATA 35) System lay-out: cockpit, cabin; Sources, storage, charging and distribution; Supply regulation; Indications and warnings;	3	16

IN-HOUSE PRACTICAL

MODULE 11B		
PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS - IV		
(In-House Practical)		
Practical	Contents	Hrs
1	Procedure of installation of aircraft battery in the aircraft.	06
2	Demonstration of inspection of hand held CO2 fire extinguisher.	06
3	Demonstration for inspection of Portable fire extinguisher	06
4	Familiarization of oxygen system of an aircraft.	08
5	Familiarization with the different types of aircraft lights.	04
Total Hours =		30

**PRACTICAL HRS
IN CONTRACTED AMO**

AMO Practical Syllabus / 6TH TERM

S. No.	ATA Chapter Ref.	Syllabus/ Task	Hours Allotted
1	57	Wings: Wing Surfaces and Tips - Inspect for skin damage, loose rivets, and condition of paint.	6
2	52	Doors: a. Inspect passenger door i.a.w. AMM. b. Doors- and inspect hinges, doors, seals, and attaching parts for wear and security. Check operation.	6
3	33	Lights: a. Landing Lights - Check operation, condition of lens, and security of attachment. b. Navigation light - Check operation, condition of lens, and security of attachment.	6
4	37	Vacuum: a. Inspect the vacuum system i.a.w. AMM.	4
5	71	Power Plant: a. Engine Baffles - Check condition and security of attachment. b. Cowling - Inspect for cracks, dents, other damage and security of cowl fasteners. c. Assist in engine start (manual mode).	14
6	73	Engine Fuel and Control: a. Engine-Driven Fuel Pump - Check for evidence of leakage, security of attachment, and general condition. b. Fuel Injection System- Check system for security and condition.	6
7	74	Ignition: a. Spark Plugs - Remove, clean, analyze, test, gap, and rotate top plugs to bottom and bottom plugs to top. b. Ignition Harness and Insulators- Check for proper routing, deterioration, and condition of terminals. c. Ignition Switch and Electrical Harness- Inspect for damage, condition, and security.	6
8	79	Oil: a. Change oil. b. Check filter(s).	4
9	80	Starting: a. Familiarization with the piston engine starting procedure.	8
Total Hours =			60 Hours