

	LEVEL				
	A	B1-1 B1-3	B1-2 B1-4	B2	B3
5.14 Electromagnetic Environment	—	2	2	2	1
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.					
5.15 Typical Electronic/Digital Aircraft Systems	—	2	2	2	1
General arrangement of typical electronic/digital aircraft systems and associated BITE (Built In Test Equipment) 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 Centralised Aircraft Monitoring EFIS-Electronic Flight Instrument System GPS-Global Positioning System TCAS-Traffic Alert Collision Avoidance System Integrated Modular Avionics Cabin Systems Information Systems.					

MODULE 6. MATERIALS AND HARDWARE

	LEVEL			
	A	B1	B2	B3
6.1 Aircraft Materials — Ferrous				
(a) Characteristics, properties and identification of common alloy steels used in aircraft; Heat treatment and application of alloy steels.	1	2	1	2

	LEVEL			
	A	B1	B2	B3
(b) Testing of ferrous materials for hardness, tensile strength, fatigue strength and impact resistance.	—	1	1	1
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;	1	2	1	2
(b) Testing of non-ferrous material for hardness, tensile strength, fatigue strength and impact resistance.	—	1	1	1
6.3 Aircraft Materials — Composite and Non-Metallic				
<i>6.3.1 Composite and non-metallic other than wood and fabric</i>				
(a) Characteristics, properties and identification of common composite and non-metallic materials, other than wood, used in aircraft; Sealant and bonding agents;	1	2	2	2
(b) The detection of defects/deterioration in composite and non-metallic material; Repair of composite and non-metallic material.	1	2	—	2
<i>6.3.2 Wooden structures</i>	1	2	—	2
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.				
<i>6.3.3 Fabric covering</i>	1	2	—	2
Characteristics, properties and types of fabrics used in aeroplanes;				
Inspections methods for fabric;				
Types of defects in fabric;				
Repair of fabric covering.				

	LEVEL			
	A	B1	B2	B3
6.4 Corrosion				
(a) Chemical fundamentals; Formation by, galvanic action process, microbiological, stress;	1	1	1	1
(b) Types of corrosion and their identification; Causes of corrosion; Material types, susceptibility to corrosion.	2	3	2	2
6.5 Fasteners				
6.5.1 Screw threads	2	2	2	2
Screw nomenclature; Thread forms, dimensions and tolerances for standard threads used in aircraft; Measuring screw threads.				
6.5.2 Bolts, studs and screws	2	2	2	2
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.				
6.5.3 Locking devices	2	2	2	2
Tab and spring washers, locking plates, split pins, pal-nuts, wire locking, quick release fasteners, keys, circlips, cotter pins.				
6.5.4 Aircraft rivets	1	2	1	2
Types of solid and blind rivets: specifications and identification, heat treatment.				
6.6 Pipes and Unions				
(a) Identification of, and types of rigid and flexible pipes and their connectors used in aircraft;	2	2	2	2
(b) Standard unions for aircraft hydraulic, fuel, oil, pneumatic and air system pipes.	2	2	1	2
6.7 Springs	—	2	1	1
Types of springs, materials, characteristics and applications.				

	LEVEL			
	A	B1	B2	B3
6.8 Bearings	1	2	2	1
Purpose of bearings, loads, material, construction;				
Types of bearings and their application.				
6.9 Transmissions	1	2	2	1
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.				
6.10 Control Cables	1	2	1	2
Types of cables;				
End fittings, turnbuckles and compensation devices;				
Pulleys and cable system components;				
Bowden cables;				
Aircraft flexible control systems.				
6.11 Electrical Cables and Connectors	1	2	2	2
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.				

MODULE 7A. MAINTENANCE PRACTICES

Note: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 7B.

	LEVEL		
	A	B1	B2
7.1 Safety Precautions-Aircraft and Workshop	3	3	3
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.			
7.2 Workshop Practices	3	3	3
Care of tools, control of tools, use of workshop materials;			