1. Title	Propeller II (Mechanics Repair and Maintenance)
2. Code	EMAMBA503A
3. Range	The knowledge is needed for a wide range of aircraft repair and maintenance works,e.g. applicable to aircrafts, analysis, machineries, airworthiness, airframes, avionics, materials, tests, documentation, safety, health and tools etc.
4. Level	5
5. Credit	3
6. Competency	Performance Requirement 6.1 Knowledge ♦ Able to understand the propeller 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. ♦ Able to understand the propeller construction • Construction methods and materials used in composite and metal propellers. • Blade station, blade face, blade shank, blade back and hub assembly. • Fixed pitch, controllable pitch, and constant speeding propeller. • Propeller / spinner installation. ♦ Able to understand the propeller pitch control • Speed control and pitch change methods. • Feathering and reverse pitch.

		• Overspeed protection. ♦ Able to understand the propeller Synchronising • Synchronising and synchrophasing equipment. ♦ Able to understand the propeller ice protection • Fluid and electrical de-icing equipment. ♦ Able to understand the propeller maintenance • Static and dynamic balancing. • Blade tracking. • Assessment of blade damage, erosion, corrosion impact damage and delamination. • Propeller treatment / repair schemes. • Propeller engine running process.
	6.2 Theoretical and practical aspects	♦ Able to apply the following knowledge in the aircraft maintenance. • Propeller fundamental. • Propeller construction. • Propeller pitch contro. • Ppropeller Synchronising. • Propeller ice protection. • Propeller maintenance.
	6.3 Professional approach	♦ Able to understand the principal elements of the subjects. ♦ Able to understand the general knowledge of the theoretical and practical aspects of the subjects ♦ Able to apply the knowledge in the aircraft maintenance task.

	♦ Able to understand the detailed knowledge of the theoretical and practical aspects of the following subjects. • Propeller maintenance. ♦ Able to combine and apply the separate elements of knowledge in a logical and comprehensive manner.
7. Assessment Criteria	The integral outcomes requirement of this UoC are: (i) Able to understand the theory of the subjects and interrelationships with other subjects. (ii) Able to give a detailed description of the subject using theoretical fundamentals and specific examples. (iii) Able to understand and be able to use mathematical formulae related to the subject. (iv) Able to read, understand and prepare sketches, simple drawings and schematics describing the subject. (v) Able to apply the knowledge relating to mechanics repair and maintenance in a practical manner using manufacturer's instructions. (vi) Able to interpret results from various sources and measurements and apply corrective action where appropriate.
8. Remarks	Ref: HKAR-66 Module 17: Propeller.