1. Title	Apply the knowledge of refrigeration compressors and major refrigeration equipment	
2. Code	EMACDE307A	
3. Range	Apply the knowledge of refrigeration compressors and major refrigeration equipment to perform tasks of designing, installing, commissioning, operating, repairing and maintaining refrigeration systems at design studios or air-conditioning and refrigeration system rooms.	
4. Level	3	
5. Credit	6	
6. Competency		Performance Requirements
	6.1 Knowledge of refrigeration compressors and major refrigeration equipment	♦ Understand the functions, types, construction, working principles and characteristics of refrigeration compressors, including: • Describing the functions and types of refrigeration compressors • Describing the construction , working principles and characteristics of reciprocating compressors • Describing the construction, working principles and characteristics of screw compressors • Describing the construction, working principles and characteristics of centrifugal compressors • Describing the construction, working principles and characteristics of rotary compressors • Describing the construction, working principles and characteristics of scroll compressors ♦ Understand the functions, types, construction, working principles and characteristics of condensers, including: • Describing the functions and types of condensers • Describing the construction, working principles and characteristics of water-cooled condensers • Describing the construction, working principles and characteristics of air-cooled condensers • Describing the construction, working principles and characteristics of evaporative condensers (cooling towers) ♦ Understand the functions, types, construction, working principles and characteristics of evaporators, including: • Describing the functions and types of evaporators • Describing the construction, working principles and characteristics of flooded-type evaporators • Describing the construction, working principles and characteristics of different types of dry type evaporators

		♦ Understand the functions, types, construction, working principles and characteristics of refrigerant metering devices, including: • Describing the functions and types of metering devices • Describing the construction, working principles and characteristics of manual metering valves • Describing the construction, working principles and characteristics of capillary tubes • Describing the construction, working principles and characteristics of float valves • Describing the construction, working principles and characteristics of thermal expansion valves • Describing the construction, working principles and characteristics of electronic expansion valves ♦ Understand the functions, types, construction and working principles of liquid receivers and oil separators, including: • Describing the functions, construction and working principles of liquid receivers • Describing the functions, construction and working principles of oil separators
	6.2 Application of knowledge of refrigeration compressors and major refrigeration equipment	♦ Apply the knowledge of refrigeration compressors and major refrigeration equipment to solve the problems involved in designing, installing, commissioning, operating, repairing and maintaining air-conditioning and refrigeration systems
7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to apply the knowledge of refrigeration compressors and major refrigeration equipment to solve the problems involved in designing, installing, commissioning, operating, repairing and maintaining air-conditioning and refrigeration systems.	
8. Remarks	This unit of competency is applicable to practitioners of general air-conditioning and refrigeration works.	