



B.E DEGREE EXAMINATIONS: NOV/DEC 2022

(Regulation 2018)

Seventh Semester

AERONAUTICAL ENGINEERING

U18AEE0013- AIRCRAFT MAINTENANCE PRACTICES

COURSE OUTCOMES

CO1:	Identify and maintain the equipment's used in welding shop.
CO2:	Apply the Inspection and Maintenance procedures for sheet metal, plastics and composite components
CO3:	Apply the Inspection and Maintenance procedures for various aircraft systems
CO4:	Identify the levels of maintenance including overhaul and extent of intervention and critical operations.
CO5:	Apply methods of storage and handling of materials in shop floor.
CO6:	Identify various trouble shooting processes available in aircraft industry.

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	What is fusion welding? Give its types	CO1	[K ₁]
2.	Differentiate between soft soldering and silver soldering	CO1	[K ₁]
3.	Give some of the identification methods for Acrylics based and Acetate based clear plastics	CO2	[K ₂]
4.	What are the three classifications of sheet metal damage?	CO2	[K ₁]
5.	Mention different types of jacks used in the aircraft hangar.	CO3	[K ₂]
6.	Why it is necessary to carry out a Leak rate test in case of maintenance of the pressurization system.	CO4	[K ₂]
7.	Define the Datum and Arm of an aircraft.	CO3	[K ₁]
8.	List down the inspection procedure for retractable landing gears.	CO4	[K ₂]
9.	Expand FACTOR? Give its importance in material handling.	CO5	[K ₂]
10.	What is APU? When do you need it?	CO6	[K ₁]

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	List down the important characteristics of a good weld and explain in detail the types and functions of welding Jigs and Fixtures	8	CO1	[K ₂]
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	b)	Explain the duties of a welding inspector and Brief about some of the important equipment used in the welding process	8	CO1	[K ₂]
12.	a)	Write in detail about the general design guidelines of a riveted repair design and explain the cleaning and forming processes of plastic components	8	CO2	[K ₃]
	b)	Explain any one NDT methods available in the Aircraft repair and maintenance industry with suitable sketch	8	CO3	[K ₂]
13.	a)	Explain the repair practices carried out on a composite structure for small holes, cracked structures, and replacement of skin panel with appropriate sketches	8	CO2	[K ₂]
	b)	Describe the parts, operation, and applications of the autoclave with suitable sketches	8	CO3	[K ₂]
14.	a)	Explain different controls of the helicopter using the suitable sketch and discuss the tracking and balancing methods of the helicopter's main rotor	8	CO4	[K ₃]
	b)	Explain in detail the procedure of "aircraft weighing" with suitable sketches	8	CO4	[K ₂]
15.	a)	Summarize the aircraft air-conditioning system inspection and maintenance process with the appropriate sketches.	8	CO5	[K ₃]
	b)	Discuss the hazardous material storage and handling process followed in the aircraft industry with the appropriate sketches	8	CO5	[K ₂]
16.		What do you mean by troubleshooting? Explain the various troubleshooting methods employed in the ECS and hydraulic system with suitable sketches.	16	CO6	[K ₃]
