

Course code	Course Name	L-T-P Credits	Year of Introduction
AO468	AIRFRAME MAINTENANCE AND REPAIR	3-0-0-3	2016
Prerequisite : Nil			
Course Objectives			
<ul style="list-style-type: none"> To study the maintenance aspect of airframe systems and rectification of snags 			
Syllabus			
Equipment used in welding shop and their maintenance -N.D.T. Testing -Inspection and Repair of composite components –Pneumatic Power System Maintenance.			
Expected outcome			
The students will be able to			
<ol style="list-style-type: none"> know the welding process of aircraft structural components. know the maintenance and repair process of plastics and composites in Aircraft. understand the jacking, assembly and rigging process of aircraft get an understanding of hydraulic and pneumatic system in aircraft. acquaint with the safety practices in aircraft. 			
Text Books:			
<ol style="list-style-type: none"> KROES, WATKINS, DELP, “Aircraft Maintenance and Repair”, McGraw-Hill, New York, 1992 “Aviation Maintenance Technician Hand Book - Airframe Vol.I& II”, U.S. Dept. of Transportation, Federal Aviation Administration, The English Book Store, New Delhi. 			
References:			
<ol style="list-style-type: none"> LARRY REITHMEIR, “Aircraft Repair Manual”, Palamar Books, Marquette, 1992. BRIMM D.J. BOGGES H.E., “Aircraft Maintenance”, Pitman Publishing corp. New York, 1940 Civil Aircraft inspection Procedures-CAP 459-Vol.I & II, Sterling Book house ,Mumbai. 			
Course Plan			
Module	Contents	Hours	End Sem. Exam Marks
I	Equipment used in welding shop and their maintenance – Ensuring quality welds	1	15%
	Welding jigs and fixtures – Soldering and brazing.	1	
	Inspection of damage – Classification – Repair or replacement – Sheet metal inspection	2	
	N.D.T. Testing – Riveted repair design, Damage investigation – reverse technology.	2	
II	Review of types of plastics used in airplanes	1	15%
	– Maintenance and repair of plastic components – Repair of cracks, holes etc., various repair schemes – Scopes.	3	
	Inspection and Repair of composite components	2	
	Special precautions – Autoclaves.	2	
FIRST INTERNAL EXAMINATION			

III	Inspection and maintenance of Hydraulic system – sampling	2	15%
	Flushing , Draining - Routine maintenance	2	
	Pneumatic Power System Maintenance.	3	
IV	Inspection and maintenance of landing gear systems.	2	15%
	Bleeding of Shock Struts ,Aircraft wheel inspection	2	
	Brake Inspection and Servicing , Bleeding of Brake System	2	
	Inspection and maintenance of air-conditioning and pressurization system	2	
SECOND INTERNAL EXAMINATION			
V	Installation and maintenance of Instruments – handling – Testing – Inspection	1	20%
	. Inspection and maintenance of auxiliary systems – Fire protection systems	1	
	Ice protection system – Rain removal system	1	
	Position and warning system – Auxiliary Power Units (APUs)	2	
VI	Hazardous materials storage and handling	2	20%
	Aircraft furnishing practices – Equipment.	2	
	Trouble shooting - Theory and practices.	2	
END SEMESTER EXAM			

Question Paper Pattern

Maximum marks: 100

Exam duration: 3 hours

The question paper shall consist of three parts

Part A

4 questions uniformly covering modules I and II. Each question carries 10 marks
Students will have to answer any three questions out of 4 (3X10 marks =30 marks)

Part B

4 questions uniformly covering modules III and IV. Each question carries 10 marks
Students will have to answer any three questions out of 4 (3X10 marks =30 marks)

Part C

6 questions uniformly covering modules V and VI. Each question carries 10 marks
Students will have to answer any four questions out of 6 (4X10 marks =40 marks)

Note: In all parts, each question can have a maximum of four sub questions, if needed