

Reg.No. _____



Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : **14AE2030**Sub. Name : **Basics of Aerospace Engineering**Semester : **2016-17 ODD**Duration : **3hrs**Max. marks : **100**

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Enumerate the contributions of Sir George Caley to the early developments of aircrafts.	CO1	15
	b.	State the advantages of Biplane over Monoplane.	CO2	5
(OR)				
2.	a.	Explain how lift is generated in an aerofoil with a neat sketch.	CO2	9
	b.	Explain the principle of a lighter-than-air aircraft ?	CO1	6
	c.	Differentiate “Airmen approach” vs “Chauffeurs approach”.	CO1	5
3.	a.	What are the engine equipments used in aircrafts and explain the working principle of the same.	CO1	10
	b.	Explain the stresses acting on an aircraft with relevant sketches.	CO1	10
(OR)				
4.	a.	Explain the working and use of control devices in an aircraft wing with a neat sketch.	CO2	15
	b.	Explain the different classification of aircrafts based on their usage.	CO1	5
5.	a.	Explain the various Fuselage configurations with their merits and demerits.	CO2	15
	b.	Explain the use of high temperature alloys in aerospace applications.	CO1	5
(OR)				
6.	a.	Explain the different kinds of metallic materials used for the construction of aircrafts.	CO2	15
	b.	What are air breathing engines ? What is the function of oxidizer in rocket engine.	CO2	5
7.	a.	Explain the theory of thrust generation in a Propeller with relevant sketch.	CO2	15
	b.	Why is the efficiency of a turbojet engine less than a propeller engine ?	CO1	5
(OR)				
8.	a.	Explain the working of a turboprop engine with a neat sketch.	CO1	15
	b.	Differentiate solid propellant and liquid propellant engines.	CO1	5
<u>Compulsory:</u>				
9.	a.	Explain the basic parts and functions of a typical aircraft with a neat sketch.	CO2	9
	b.	Draw the 4 basic forces acting on an aircraft.	CO2	6
	c.	Sketch and illustrate the difference between dihedral and anhedral wing.	CO1	5

ALL THE BEST