

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	Semester	:	2016-17 ODD
Sub. Name	:	Basics of Aerospace Engineering	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 Otto Lilienthal to the early developments of aircrafts.	CO1	10
	b.	Differentiate monoplane and biplane. Explain why a monoplane is aerodynamically more efficient than a biplane.	CO2	10
(OR)				
2.	a.	What are the basic flight instruments in an aviation six pack ? Explain the working of those instruments and their use.	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.	Explain with a neat sketch how lift is generated in an aerofoil.	CO1	10
	b.	Explain the 3 axes of an aircraft and the motions associated with relevant diagrams.	CO1	10
(OR)				
4.	a.	Explain the working and use of control devices in an aircraft wing with a neat sketch.	CO2	15
	b.	Write a note on the various applications of rockets.	CO1	5
5.	a.	Explain the various Fuselage configurations with their merits and demerits.	CO2	15
	b.	Draw and explain the stress-strain curve of a typical composite material.	CO1	5
(OR)				
6.	a.	Explain the different kinds of materials used for the construction of aircrafts.	CO2	15
	b.	Illustrate the use of thrust reversers in aircraft engines.	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 turbofan engine with a neat sketch.	CO1	15
	b.	Explain how thrust is generated in a solid propellant rocket.	CO1	5
<u>Compulsory:</u>				
9.	a.	Explain the 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.	Draw an aerofoil and explain its nomenclature.	CO1	5

ALL THE BEST