



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

AERONAUTICAL ENGINEERING

ASSIGNMENT

Course Name	:	INTRODUCTION TO AEROSPACE ENGINEERING
Course Code	:	A6-2113
Class	:	II B. Tech I Semester
Branch	:	Aeronautical
Year	:	2016 – 2017
Course Coordinator	:	Ms. G. Sravanthi Assistant Professor
Course Faculty	:	Ms.G. Sravanthi Assistant Professor, Mr. R. Suresh Kumar, Assistant professor

OBJECTIVES

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited.

In line with this, Faculty of Institute of Aeronautical Engineering, Hyderabad has taken a lead in incorporating philosophy of outcome based education in the process of problem solving and career development. So, all students of the institute should understand the depth and approach of course to be taught through this question bank, which will enhance learner's learning process.

S. No	Question	Blooms Taxonomy Level	Course Outcome
ASSIGNMENT-I			
UNIT-I HISTORY OF FLIGHT-THE AEROSPACE ENVIRONMENT			
1	Explain in detail the design configurations of the first heavier than air aircraft developed by the Wright brothers?	Understand	1
2	Describe the various stages of aircraft evolution	Apply	1
3	What are Hot air balloons? How they changed the face of the aeronautical history the aviation industry characteristics	Apply	1
4	Explain the greatest success stories in the history of aircraft technology	Analyze	1
5	Explain all the different space missions and justify your answer with an example	Analyze	1
6	What are the effects that the spacecraft may experience in the space? Briefly explain these effects	Apply	1
7	Explain briefly the impact of space exploration on mankind?	understand	1
8	What are aerodromes? Describe about the inventor of aerodromes	Apply	1
9	Explain the various functions of various aerospace agencies?	Apply	1
10	Explain briefly whether they are successful in their first flights, and also describe the persons who successful in their early attempts of flying	Apply	1
UNIT-II AERODYNAMICS AND FLIGHT VEHICLES			
1	Sketch the various parts of an airplane?	Understand	2
2	List the different components of a retractable under carriage of an aircraft?	Understand	2
3	Define wing loading and aspect ratio?	Understand	2
4	Write the different types of tail configurations that are used in aircraft?	Understand	2
5	Distinguish between high wing and low wing configurations?	Understand	2
6	What do you understand by the term "Blended body design"?	Analyze	2
7	What are High lift devices? Describe a typical leading edge high lift device control	Understand	2

S. No	Question	Blooms Taxonomy Level	Course Outcome
	system		
8	Distinguish between rocket engines and jet engines	Understand	2
9	List out the various types of moments on the vehicle.	understand	2
10	Narrate different concepts used in propeller and the jet engine	Apply & analyze	2
UNIT-III FLIGHT VEHICLE PRERFORMANCE AND STABILITY			
1	Explain performance parameters of flight vehicle	Apply	3
2	Write about turns, side slips, take-off and landing	Understand	3
3	Distinguish between static and dynamic stability	Understand	3
4	Explain longitudinal and lateral stability conditions	Understand	3
5	Write a note on cruise ,climb, range and endurance	Understand	3
ASSIGNMENT-II			
1	Explain the concept of accelerated flight symmetric maneuvers	Understand	3
2	List different types of stability conditions of flight performance	Understand	3
3	Explain what is a handling qualities of the airplanes with neat diagram	Apply	3
4	Explain the working principles of sideslips ,takeoff and landing conditions	Analyze	3
5	List out various types performance and stability conditions. Discuss its working principle briefly	Analyze	3
UNIT-IV SATELLITE SYSTEMS ENGINEERING-HUMAN SPACE EXPLORATION			
1	What are the types of space missions	Apply	4
2	Write about operational satellite system	Apply	4
3	What are the materials used in satellite system	Apply	4
4	State communication and telemetry engineering	Analyze	4
5	What are different types of mission objectives involved in satellite system engineering	Apply	4
6	Discuss human space exploration	understand	4
7	Write about the Soviet and US missions with neat sketches	Understand	4
8	Describe the flight safety and life support in space sketches.	Understand	4
9	Explain the Skylab, Apollo-Soyuz, Space Shuttle	Understand	4
10	Explain the Mercury, Gemini, Apollo (manned flight to the moon)	Understand	4
ASSIGNMENT – V			
UNIT-V INTRODUCTION TO ENGINEERING DESIGN, AIR TRANSPORTATION			
1	What is design and Write the classification of design	Understand	5
2	Explain the design process ,design thinking ,design drawing	Understand	5
3	Write a note on principle constituents of ATS	Understand	5
4	How national and international regulations are issued to aircrafts	Understand	5
5	Describe a Flight safety and security condition with a example	Understand	5
6	Describe missile and space technology adopted with respect to aerospace	Apply	5
7	Discuss how organization role involved in ATS	Understand	5
8	Illustrate the different levels of flight safety and security	Remember	5
9	Explain Concurrent engineering and Computer aided engineering	Remember	5
10	Explain design as a critical component of engineering education	Analyze	5

Prepared By: Ms. G.Sravanthi Assistant Professor, Mr. R. Suresh Kumar, Assistant Professor

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