



Programme Structure and Syllabi for B.Tech. (Aerospace Engineering)

Course/ Subject Code	Subject	L	T	P	Credits
Semster-1					
	PHYSICS	3	1	0	4
	PHYSICS LAB	0	0	3	2
	CHEMISTRY	3	1	0	4
	CHEMISTRY LAB	0	0	3	2
	ENGINEERING MATHEMATICS-1	3	1	0	4
	ENGINEERING MECHANICS - I (STATICS)	3	0	2	4
	ENGINEERING DRAWING & COMPUTER GRAPHICS	1	0	3	3
	Semester Credit Total				23
Semster-2					
	ENGINEERING MATHEMATICS-2	3	1	0	4
	COMPUTER PROGRAMMING & NUMERICAL METHODS	3	0	0	3
	COMPUTER PROGRAMMING & NUMERICAL METHODS LAB	1	0	3	3
	ELECTRICAL TECHNOLOGY	3	1	0	4
	ELECTRICAL TECHNOLOGY LAB.	0	0	3	2
	INTRODUCTION TO BIOLOGY	3	0	0	3
	ENGINEERING MECHANICS - II (DYNAMICS)	3	1	0	4
	Semester Credit Total				23
Semster-3					
	FLUID MECHANICS & HEAT TRANSFER	3	1	0	4
	ENGLISH – I	2	1	0	3
	BASIC ELECTRONICS	3	1	0	4
	BASIC ELECTRONICS LAB.	0	0	3	2
	MATHEMATICS -3 (Half Semester Course)	3	0	0	1.5
	INTRODUCTION TO AEROSPACE ENGINEERING (Half Semester Course)	3	0	0	1.5
	SOLID MECHANICS	3	1	0	4
	MATERIALS AND MANUFACTURING PROCESSES	3	0	0	3
	Semester Credit Total				23
Semster-4					
	ENGLISH – II	2	0	1	3
	AERODYNAMICS - I	3	1	0	4
	AERODYNAMICS LAB-I	0	0	3	2
	HISTORY OF THE MODERN WORLD	3	0	0	3
	INTRODUCTION TO AUTOMATIC CONTROL	3	1	0	4
	AEROSPACE STRUCTURES - I	3	0	1	4



राजीव गाँधी राष्ट्रीय विमानन विश्वविद्यालय
RAJIV GANDHI NATIONAL AVIATION UNIVERSITY
 नागर विमानन मंत्रालय, भारत सरकार के तहत एक केंद्रीय विश्वविद्यालय
 (A Central University under Ministry of Civil Aviation, Govt. of India)
 2013 में संसद के एक अधिनियम द्वारा स्थापित
 Established by an Act of Parliament in 2013

	STRUCTURES LAB -I	0	0	3	2
	Semester Credit Total				22
	Semster-5				
	MECHANICS OF FLIGHT	3	1	0	4
	AERODYNAMICS - II	3	1	0	4
	AERODYNAMICS LAB-II	0	0	3	2
	AEROSPACE STRUCTURES - II	3	1	0	4
	STRUCTURES LAB -II	0	0	3	2
	AEROSPACE PROPULSION	3	1	0	4
	PROPULSION LABORATORY	0	0	3	2
	Semester Credit Total				22
	Semster-6				
	AIRCRAFT STABILITY AND CONTROL	3	1	0	4
	MECHANICAL VIBRATIONS	3	1	0	4
	AVIONICS	3	1	0	4
	SPACE MECHANICS	3	0	0	3
	INTRODUCTION TO MACRO- AND MICRO-ECONOMICS	3	0	0	3
	NUMERICAL METHODS IN AEROSPACE ENGINEERING	3	0	0	3
	NUMERICAL METHODS LAB	0	0	3	2
	Semester Credit Total				23
	Semster-7				
	PRINCIPLES OF AIRCRAFT DESIGN	1	0	3	3
	SUMMER TRAINING/INTERNSHIP	0	0	0	2
	AIRCRAFT MAINTENANCE – I	3	0	0	3
	AIRCRAFT MAINTENANCE WORKSHOP - I	0	0	3	2
	ELECTIVE I	3	0	0	3
	ELECTIVE II	3	0	0	3
	INTRODUCTION TO THE PRINCIPLES OF MANAGEMENT	3	0	0	3
	ELECTIVE III	3	0	0	3
	Semester Credit Total				22
	Semster-8				
	COMPREHENSIVE VIVA VOCE	0	0	0	2
	ELECTIVE IV	3	0	0	3
	ELECTIVE V	3	0	0	3
	AIRCRAFT MAINTENANCE – II	3	0	0	3
	AIRCRAFT MAINTENANCE WORKSHOP - II	0	0	3	2
	AVIATION MANAGEMENT	3	0	0	3
	PROJECT	0	0	0	4
	Semester Credit Total				20

Summary of Credits

Semester	1	2	3	4	5	6	7	8	Total
Credit	23	23	23	22	22	23	22	20	178



Electives: (all electives are of 3-0-0 contact hours and 3 credits)

Course/ Subject Code	A: Aerodynamics	
	Computational Fluid Dynamics	Elective I or II
	Advanced computational fluid dynamics (prerequisite: 1)	Elective IV or V
	Industrial Aerodynamics	Any
	Theory of viscous flows	Any
	B: Aircraft Structures	
	Finite element method	Elective I or II
	Advanced finite element method (prerequisite: 1)	Elective IV or V
	Composite structures	Any
	Fracture Mechanics	Any
	Vibration instrumentation & control	Any
	Aeroelasticity	Any
	C: Aircraft propulsion	
	Rocket propulsion	Any
	New propulsion systems	Any
	Principles of combustion and emission	Any
	D: Flight mechanics & automatic control	
	Automatic control of aircraft	Any
	Drone and unmanned aircraft technology	Any
	Helicopter engineering	Any
	Flight Laboratory (in collaboration with IIT Kanpur)	Any
	E: Humanities & social sciences	
	Values & Ethics	Any
	Economics of airlines operations	Any
	Introduction to Psychology	Any
	F: Miscellaneous topics	
	Soft computing, Artificial Intelligence & Machine Learning	Any