MIT ART, DESIGN AND TECHNOLOGY UNIVERSITY, PUNE

MIT SCHOOL OF ENGINEERING, PUNE

STRUCTURE AND SYLLABUS

FOR

B. Tech. Aerospace Engineering

UNDER FACULTY OF TECHNOLOGY

(w.e.f. 2017-2018)

Department of Aerospace Engineering

B. Tech. (Aerospace Engineering)

(2017 Regulations)

(Minimum Credits to be earned: 190)

SEMESTER-I

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTAE101	Linear Algebra and Calculus	3	2	0	4	40	60	100
17BTAE102	Engineering Chemistry	3	0	0	3	40	60	100
17BTAE103	Basics of Electrical and Electronics Engineering	3	1	0	4	40	60	100
17BTAE104	Fundamentals of Computer Programming	3	0	0	3	40	60	100
17BTAE105	Engineering Graphics	3	0	2	4	40	60	100
17BTAE106	Engineering Mechanics I	3	0	0	3	40	60	100
17BTAE111	Chemistry Laboratory	0	0	2	1	40	60**	100
17BTAE112	C Programming Laboratory	0	0	4	2	40	60**	100
17BTAE113	Engineering Practices	0	0	2	1	50	--	50
Total		**18**	**3**	**10**	**25**	**370**	**480**	**850**

SEMESTER-II

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTAE201	Differential Equations, Partial Differentiation and Multiple Integrals	3	2	0	4	40	60	100
17BTAE202	Engineering Physics	3	0	0	3	40	60	100
17BTAE203	Materials Engineering and Aerospace Materials	3	1	0	4	40	60	100
17BTAE204	Thermodynamics	3	0	0	3	40	60	100
17BTAE205	Engineering Mechanics II	3	1	0	4	40	60	100
17BTAE206	Environmental Science	3	0	0	4	40	60	100
17BTAE211	Physics Laboratory	0	0	2	1	40	60**	100
17BTAE212	Thermodynamics Laboratory	0	0	4	2	40	60**	100
Total		**18**	**4**	**8**	**25**	**320**	**480**	**800**

CA = Continuous Assessment, FE= Final Examination,
****Final Lab exam will be conducted with viva-voce of the respective practical (50 exam +10 viva = 60)**
Coding for course/ subject: 17BTAE101, Where; **17** = Year of BOS, **AE** = Branch Code, **1**= Semester No., **01 to N** = Sequence No of Subject. **For,** SE to BE& also PG follow the above scheme of regulation.

SEMESTER-III

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTAE301	Machines & Mechanisms	4	0	0	4	40	60	100
17BTAE302	Introduction to Aerospace Engineering	4	0	0	4	40	60	100
17BTAE303	Applied Thermodynamics	4	0	0	4	40	60	100
17BTMT304	Linear Differential Equations and Complex Analysis	3	1	0	4	40	60	100
17BTAE305	Mechanics of Solids	3	0	2	4	40	60	100
17BTAE311	Applied Thermodynamics Lab	0	0	2	1	40	60**	100
17BTAE312	Machines & Mechanisms Lab	0	0	2	1	40	60**	100
17BTAE313	Machine Drawing	1	2	0	3	100	--	100
Total		**19**	**4**	**6**	**25**	**380**	**420**	**800**

SEMESTER-IV

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTAE401	Numerical Methods and Analysis	4	0	0	4	40	60	100
17BTAE402	Fluid Mechanics	4	0	0	4	40	60	100
17BTAE403	Manufacturing Technology	3	0	2	4	40	60	100
17BTAE404	Aerodynamics - I	4	0	0	4	40	60	100
17BTAE405	Electronics & Instrumentation	4	0	0	4	40	60	100
17BTAE411	Numerical Methods and Analysis Lab	0	0	2	1	40	60**	100
17BTAE412	Fluid Mechanics and Aerodynamics Lab	0	0	4	2	40	60**	100
17BTAE413	Electronics & Instrumentation Lab	0	0	4	2	100	--	100
Total		**19**	**0**	**12**	**25**	**380**	**420**	**800**

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SEMESTER-V

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTAE501	Flight Dynamics - I	4	0	0	4	40	60	100
17BTAE502	Aircraft Structures	3	0	2	4	40	60	100
17BTAE503	Aircraft Propulsion	4	0	0	4	40	60	100
17BTAE504	Aerodynamics-II	4	0	0	4	40	60	100
17BTAE505	Control Theory	4	0	0	4	40	60	100
17BTAE511	Aircraft Propulsion Lab	0	0	2	1	40	60**	100
17BTAE512	Flight Dynamics and Aerodynamics Lab	0	0	4	2	40	60**	100
17BTAE513	Control Theory Lab	0	0	4	2	100	--	100
Total		**19**	**0**	**12**	**25**	**380**	**420**	**800**

SEMESTER-VI

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTAE601	Flight Dynamics - II	4	0	0	4	40	60	100
17BTAE602	Avionics	4	0	0	4	40	60	100
17BTAE603	Rocket Propulsion	3	0	2	4	40	60	100
17BTAE604	Heat Transfer	4	0	0	4	40	60	100
17BTAE605	Economics and Management for Engineers	4	0	0	4	40	60	100
17BTAE611	Avionics Lab	0	0	2	1	40	60	100
17BTAE612	Computer Aided Drawing and Design Lab	0	0	4	2	40	60	100
17BTAE620	Mini Project	0	0	4	2	100	--	100
Total		**18**	**0**	**12**	**24**	**380**	**420**	**800**

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SEMESTER-VII

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTAE701	Introduction to Space Technology	4	0	0	4	40	60	100
17BTAE702	Vibrations & Aeroelasticity	4	0	0	4	40	60	100
17BTAE703	Aircraft Design	4	0	0	4			
17BTAE___	Elective I	3	1	0	4	40	60	100
17BTAE___	Elective-II	3	1	0	4	40	60	100
17BTAE711	Aircraft Design Lab	0	0	4	2	40	60**	100
17BTAE712	Vibrations & Aeroelasticity Lab	0	0	2	1	40	60**	100
17BTAE720	Project Phase-I	0	0	4	2	100	--	100
Total		**18**	**2**	**10**	**25**	**380**	**420**	**800**

SEMESTER-VIII

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTAE___	Elective-III	3	0	0	3	40	60	100
17BTAE___	Elective-IV	3	0	0	3	40	60	100
17BTAE820	Project Phase-II	0	0	20	10	100	200	300
Total		**6**	**0**	**20**	**16**	**180**	**320**	**500**

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LIST OF ELECTIVES

Elective	Course Name	
Elective-I	17BTAE001	TQM & Reliability Engineering
	17BTAE002	Introduction to Composite Materials & Structures
	17BTAE003	Operations Research
	17BTAE004	Aircraft Systems
Elective-II	17BTAE005	Computational Fluid Dynamics
	17BTAE006	Aircraft Controls
	17BTAE007	Optimization
	17BTAE008	Introduction to Helicopter
Elective-III	17BTAE009	Aircraft Engine and Instrument Systems
	17BTAE010	Finite Element Analysis
	17BTAE011	Cryogenics
	17BTAE012	Spacecraft Technology
Elective-IV	17BTAE013	Airframe Maintenance and Repair
	17BTAE014	Aircraft Maintenance Management
	17BTAE015	Supply Chain Management
		Any one online course should be selected through NPTEL