

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-2018

B.E. AERONAUTICAL ENGINEERING

III SEMESTER

S · N o	Subject Code	Title	Teachin g Dept.	Teaching Hours /Week		Examination				Cred its
				The ory	Practi cal/ Drawi ng	Durati on	Theory / Practic al Marks	I.A. Mark s	Total Marks	
1	17MAT31	ENGINEERING MATHEMATICS -III	Mathema tics	04		03	60	40	100	4
2	17AE32	ELEMENTS OF AERONAUTICS		04		03	60	40	100	4
3	17AE33	AERO THERMODYNA MICS		04		03	60	40	100	4
4	17AE34	MECHANICS OF MATERIALS		04		03	60	40	100	4
5	17AE35	MECHANICS OF FLUIDS		04		03	60	40	100	4
6	17AE36	MEASUREMEN T & METROLOGY		03		03	60	40	100	3
7	17AEL37A/ 17AEL37B	MEASUREMEN T AND METROLOGY LAB/ MATERIAL TESTING LAB			1I+2P	03	60	40	100	2
8	17AEL38	MACHINE SHOP LAB			1I+2P	03	60	40	100	2
9	17KL/CPH39/ 49 Core Course	Kannada/Constituti on of India, Professional	Humaniti es	1		1	30	20	50	1
TOTAL				24	6	25	510	340	850	28

1. Core subject: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

2a. Foundation Course: The courses based upon the content that leads to Knowledge enhancement.

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IV SEMESTER

Sl. No	Subject Code	Title	Teaching Dept .	Teaching Hours /Week		Examination				Credits
				Theor y	Prac tical/ Dra wing	Durat ion	The ory/ Prac tical Mar ks	I.A. Marks	Total Marks	
1	17MAT 41	ENGINEERING MATHEMATICS-IV	Math emati cs	04		03	60	40	100	4
2	17AE42	AERODYNAMICS - I		04		03	60	40	100	4
3	17AE43	AIRCRAFT PROPULSION		04		03	60	40	100	4
4	17AE44	MECHANISMS AND MACHINE THEORY		04		03	60	40	100	4
5	17AE45	AIRCRAFT MATERIAL SCIENCE		04		03	60	40	100	4
6	17AE46	TURBOMACHINES		03		03	60	40	100	3
7	17AEL47A/ 17AEL47B	MATERIAL TESTING LAB/ MEASUREMENT AND METROLOGY LAB			1I+2 P	03	60	40	100	2
8	17AEL48	COMPUTER AIDED AIRCRAFT DRAWING			1I+2 P	03	60	40	100	2
9	17KL/CPH39 /49 Core Course	Kannada/Constitution of India, Professional	Huma nities	1		1	30	20	50	1
TOTAL				24	06	25	510	340	850	28

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V SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/Dr awing	Durati on	Theory / Practic al Marks	I.A. Mark s	Total Marks	
1	17AE51	MANAGEMENT AND ENTREPRENEURSHIP	04		03	60	40	100	4
2	17AE52	INTRODUCTION TO COMPOSITE MATERIALS	04		03	60	40	100	4
3	17AE53	HEAT AND MASS TRANSFER	04		03	60	40	100	4
4	17AE54	AIRCRAFT STRUCTURES-I	04		03	60	40	100	4
5	17AE55X	PROFESSIONAL ELECTIVE	03		03	60	40	100	3
6	17AEL56X	OPEN ELECTIVE	03		03	60	40	100	3
7	17AEL57	AERODYNAMICS LAB		1I+2P	03	60	40	100	2
8	17AEL58	ENERGY CONVERSION & FLUID MECHANICS LAB		1I+2P	03	60	40	100	2
TOTAL			22	06	24	480	320	800	26

Professional Elective		Open Elective	
17AE551	FUELS & COMBUSTION	17AE561	HISTORY OF FLIGHT & TECHNOLOGY FORECAST
17AE552	GAS DYNAMICS	17AE562	ELEMENTS OF AERONAUTICS
17AE553	THEORY OF VIBRATIONS	17AE563	AIRCRAFT TRANSPORTATION SYSTEMS
17AE554	AIRCRAFT ELECTRICAL SYSTEMS & INSTRUMENTATION	17AE564	BASICS OF ROCKETS AND MISSILES

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- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. Open Elective:** Electives from other technical and/or emerging subject areas.

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VI SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/Drawing	Duration	Theory/Practical Marks	I.A. Marks	Total Marks	
1	17AE61	AERODYNAMICS-II	04		03	60	40	100	4
2	17AE62	GAS TURBINE TECHNOLOGY	04		03	60	40	100	4
3	17AE63	AIRCRAFT PERFORMANCE	04		03	60	40	100	4
4	17AE64	AIRCRAFT STRUCTURES-II	04		03	60	40	100	4
5	17AE65X	PROFESSIONAL ELECTIVE	03		03	60	40	100	3
6	17AE66X	OPEN ELECTIVE	03		03	60	40	100	3
7	17AEL67	AIRCRAFT PROPULSION LAB		1I+2P	03	60	40	100	2
8	17AEL68	AIRCRAFT STRUCTURES LAB		1I+2P	03	60	40	100	2
TOTAL			22	06	24	480	320	800	26

PROFESSIONAL ELECTIVE		OPEN ELECTIVE	
17AE651	FINITE ELEMENT METHOD	17AE661	UNMANNED AERIAL VEHICLES BASICS & APPLICATIONS
17AE652	EXPERIMENTAL AERODYNAMICS	17AE662	FUNDAMENTALS OF AERODYNAMIC THEORY
17AE653	SPACE MECHANICS	17AE663	ELEMENTS OF JET PROPULSION SYSTEMS
17AE654	EXPERIMENTAL STRESS ANALYSIS	17AE664	MAINTENANCE, OVERHAUL & REPAIR OF AIRCRAFT SYSTEMS

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CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-2018
Aeronautical Engineering
VII Semester

S. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/Draw ing	Duratio n	I.A. Mark s	Theory / Practic al Marks	Total Mark s	
1	17AE71	CONTROL ENGINEERING	04		03	40	60	100	4
2	17AE72	COMPUTATIONAL FLUID DYNAMICS	04		03	40	60	100	4
3	17AE73	AIRCRAFT STABILITY AND CONTROL	04		03	40	60	100	4
4	17AE74X	PROFESSIONAL ELECTIVE	03		03	40	60	100	3
5	17AE75X	PROFESSIONAL ELECTIVE	03		03	40	60	100	3
6	17AEL76	FLIGHT SIMULATION LAB		1I+2P	03	40	60	100	2
7	17AEL77	MODELING AND ANALYSIS LAB		1I+2P	03	40	60	100	2
8	17AEP78	Project Phase –I + Project Seminar	-		-	100	-	100	2
TOTAL			18	9	21	380	420	800	24

Professional Elective (17AE74X)		Professional Elective (17AE75X)	
17AE741	FATIGUE AND FRACTURE MECHANICS	17AE751	OPERATIONS RESEARCH
17AE742	HIGH PERFORMANCE COMPUTING	17AE752	WIND TUNNEL TECHNIQUES
17AE743	HELICOPTER DYNAMICS	17AE753	NUMERICAL METHODS
17AE744	AERO-ELASTICITY	17AE754	GUIDANCE, NAVIGATION & CONTROL

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- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. Project Phase –I + Project Seminar:** Literature Survey, Problem Identification, objectives and Methodology. Submission of synopsis and seminar.

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Aeronautical Engineering
VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/Drawi ng	Duratio n	I.A. Mark s	Theory/ Practic al Marks	Total Mark s	
1	17AE81	AVIONICS	4	-	3	40	60	100	4
2	17AE82	FLIGHT VEHICLE DESIGN	4	-	3	40	60	100	4
3	17AE83X	Professional Elective	3	-	3	40	60	100	3
4	17AE84	Internship / Professional Practice	Industry Oriented		3	50	50	100	2
5	17AEP85	Project Work Phase -II	-	6	3	100	100	200	6
6	17AES86	Seminar	-	4	-	100	-	100	1
TOTAL			11	10	15	310	390	700	20

Professional Elective	
17AE831	FLIGHT TESTING
17AE832	BOUNDARY LAYER THEORY
17AE833	OPTIMIZATION TECHNIQUES
17AE834	CRYOGENICS

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- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. Internship / Professional Practice:** To be carried between the 6th and 7th semester vacation or 7th and 8th semester vacation period.