



JOY UNIVERSITY
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School of Computational Intelligence
Department of Aeronautical Engineering
B. Tech Aeronautical Engineering - Programme Structure
Semester I

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BTAN1111	Mathematics - I	3	1	0	4	4
2.	BTAN1112	Fundamentals of Computational Physics	3	1	0	4	4
3.	AEEN1111	Effective Communication	2	0	0	2	2
4.	BTAN1113	Fundamentals of Computing	3	0	0	3	3
5.	BTAN1114	Engineering Mechanics	2	1	0	3	3
6.	BTAN1115	Introduction to Programming	3	0	0	3	3
7.	BTAN1116	Engineering Drawing	1	1	2	4	3
8.	BTAN2111	Fundamentals of Computing Lab	0	0	2	2	1
9.	BTAN2112	Programming Lab	0	0	2	2	1
		TOTAL	16	5	6	27	24

Semester II

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/ Wk	Credits
1.	BTAN1121	Mathematics - II	3	1	0	4	4
2.	AEEV1121	Environmental Science	2	0	0	2	2
3.	BTAN1122	Fundamentals of Instrumentation & Process Control	3	1	0	4	4
4.	BTAN1123	Fundamentals of Electrical & Electronics Engineering	3	0	0	3	3
5.	BTAN1124	Fundamentals of Mechanical and Civil Engineering	3	1	0	4	4
6.	BTAN1125	Principles of Management and Engineering Economics	3	0	0	3	3
7.	BTAN2121	Engineering Realization	0	1	2	3	2
8.	BTAN2122	Computer Hardware Lab	0	0	2	2	1
9.	BTAN2123	Engineering Visualization	0	0	2	2	1
		TOTAL	16	5	6	27	24

Semester III

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/ Wk	Credits
1.	BTAN1211	Mathematics - III	2	1	0	3	3
2.	BTAN1212	Materials Engineering And Metallurgy	3	0	0	3	3
3.	BTAN1213	Fluid Mechanics & Hydraulics	2	1	0	3	3
4.	BTAN1214	Thermodynamics	2	1	0	3	3
5.	BTAN1215	Manufacturing Processes	3	0	0	3	3
6.	BTAN1216	Mechanics of Solids	2	1	0	3	3
7.	BTAN2211	Material Testing Laboratory	0	0	3	3	1.5
8.	BTAN2212	Fluid Mechanics & Hydraulics Laboratory	0	0	3	3	1.5
9.	BTAN2213	Composite Materials Lab	0	0	2	2	1
10.	BTAN2214	Entrepreneurship Development	0	0	2	2	1
		TOTAL	14	4	10	28	23

Semester IV

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/ Wk	Credits
1.	BTAN1221	Kinematics and Dynamics of Mechanisms	2	1	0	3	3
2.	BTAN1222	Aircraft Systems and Instruments	3	0	0	3	3
3.	BTAN1223	Heat & Mass Transport Analysis	2	1	0	3	3
4.	BTAN1224	Aerodynamics - I	2	1	0	3	3
5.	BTAN1225	Measurements and Instrumentation	3	0	0	3	3
6.	BTAN1226	Aircraft Structures -I	2	1	0	3	3
7.	BTAN2221	Kinematics and Dynamics Laboratory	0	0	3	3	1.5
8.	BTAN2222	Measurements and Instrumentation Laboratory	0	0	2	2	1
9.	BTAN2223	Aircraft Systems and Instruments Lab	0	0	2	2	1
10.	BTAN2224	Heat Transfer Laboratory	0	0	3	3	1.5
		TOTAL	14	4	10	28	23

Semester V

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/ Wk	Credits
1.	BTAN1311	Aerodynamics - II	2	1	0	3	3
2.	BTAN1312	Aircraft Structures -II	2	1	0	3	3
3.	BTAN1313	Avionics	3	0	0	3	3
4.	BTAN1314	Aerospace Propulsion	2	1	0	3	3
5.	PEAN131#	Elective-I (<i>Programme Specific Elective</i>)	3	0	0	3	3
6.	PEAN131#	Elective-II (<i>Programme Specific Elective</i>)	3	0	0	3	3
7.	BTAN2311	Aerodynamics Laboratory	0	0	3	3	1.5
8.	BTAN2312	Propulsion Lab	0	0	2	2	1
9.	BTAN2313	Avionics Lab	0	0	2	2	1
10.	BTAN2314	Aircraft Structures Laboratory	0	0	3	3	1.5
		TOTAL	15	3	10	28	23

Semester VI

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BTAN1321	Computational Fluid Mechanics	2	1	0	3	3
2.	BTAN1322	Design of Machine Elements	2	1	0	3	3
3.	BTAN1323	Aircraft Design	2	1	0	3	3
4.	BTAN1324	Flight Dynamics and Control	2	1	0	3	3
5.	PEAN132#	Elective-III (<i>Programme Specific Elective</i>)	3	0	0	3	3
6.	PEAN132#	Elective-IV (<i>Programme Specific Elective</i>)	3	0	0	3	3
7.	BTAN2321	Aero Engine Laboratory	0	0	2	2	1
8.	BTAN2322	Computational Fluid Mechanics Lab	0	0	2	2	1
9.	BTAN2323	Aircraft Design Lab	0	0	3	3	1.5
10.	BTAN2324	Flight Training / Flight Simulation Laboratory	0	0	3	3	1.5
		TOTAL	14	4	10	28	23

Semester VII

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BTAN1411	Drone Technology	3	0	0	3	3
2.	BTAN1412	Industrial Engineering & Operation Research	2	1	0	3	3
3.	PEAN141#	Elective-V (<i>Programme Specific Elective</i>)	3	0	0	3	3
4.	GEAN141#	Elective-VI (<i>Global Elective</i>)	3	0	0	3	3
5.	BTAN3411	Project- Phase I	-	-	-	-	4
6.	BTAN3412	Industrial/ Research Internship	-	-	-	-	3
7.	BTAN3413	Seminar	-	-	-	-	3
		TOTAL	11	1	0	12	22

Semester VIII

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BTAN1421	Professional Ethics	3	0	0	3	3
2.	PEAN142#	Elective-VII (<i>Programme Specific Elective</i>)	3	0	0	3	3
3.	GEAN142#	Elective-VIII (<i>Global Elective</i>)	3	0	0	3	3
4.	GEAN142#	Elective-IX (<i>Global Elective</i>)	3	0	0	3	3
5.	BTAN3421	Project- Phase II	-	-	-	-	8
TOTAL			12	0	0	12	20

#Out of the 9 electives in the programme, 6 are programme specific electives and 2 should be Global Electives offered by Department of Aeronautical Engineering.

B. Tech Aeronautical Engineering – Programme Specific Electives							
Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1	PEAN1311	Sensors and Transducers in Engineering	3	0	0	3	3
2	PEAN1312	Cryogenics	2	1	0	3	3
3	PEAN1313	Mechanics of Composite Materials	2	1	0	3	3
4	PEAN1314	Vibration Engineering	2	1	0	3	3
5	PEAN1321	Refrigeration and Air Conditioning	2	1	0	3	3
6	PEAN1322	Engineering Failure Analysis	2	1	0	3	3
7	PEAN1323	Additive Manufacturing	2	1	0	3	3
8	PEAN1324	Vibration Engineering	2	1	0	3	3
9	PEAN1325	Reliability Engineering	2	1	0	3	3
10	PEAN1326	Human Computer Interaction	2	1	0	3	3
11	PEAN1411	Non Traditional Manufacturing Processes	2	1	0	3	3
12	PEAN1412	Tool Design	2	1	0	3	3
13	PEAN1421	Radar and Remote Sensing	2	1	0	3	3
14	PEAN1422	Unmanned Aircraft Systems	2	1	0	3	3

Global Electives – Department of Aeronautical Engineering							
Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1	GEAN1411	Finite Element Methods	2	1	0	3	3
2	GEAN1412	Soft Computing	2	1	0	3	3
3	GEAN1413	Condition Monitoring and Fault Diagnostics	2	1	0	3	3
4	GEAN1414	Electromagnetic Compatibility	2	1	0	3	3

Credit Summary

Semesters	Credits
Semester- I	24
Semester- II	24
Semester- III	23
Semester- IV	23
Semester- V	23
Semester- VI	23
Semester- VII	22
Semester VIII	20
Total	182