REGULATION: 2013

S.NO	COURSE NAME		COURSE OUT COMES
1	C101 - Advanced Mathematical Methods (MA5151)	C101.1	Application of Laplace and Fourier transforms to initial value, initial–boundary value and boundary value problems in Partial Differential Equations.
		C101.2	Maximizing and minimizing the functional that occur in various branches of Engineering Disciplines.
		C101.3	Construct conformal mappings between various domains and use of conformal mapping in studying problems in physics and engineering particularly to fluid flow and heat flow problems.
		C101.4	Understand tensor algebra and its applications in applied sciences and engineering and develops ability to solve mathematical problems involving tensors.
		C101.5	Competently use tensor analysis as a tool in the field of applied sciences and related fields.
2	C102-Aerodynamics (AO5151)	C102.1	An ability to apply airfoil theory to predict airfoil performance
		C102.2	A knowledge of incompressible flow
		C102.3	A knowledge of compressible flow
		C102.4	A knowledge of high speed flows over wings and aircraft bodies
		C102.5	An exposure to Boundary layer theory and wind tunnels
3	C103-Aircraft Structural Mechanics (AO5101)	C103.1	Students will get knowledge on different types of beams
		C103.2	Ability to identify& resolve the structural design& its limitations .
		C103.3	Ability to improvise distribution their loads on aircraft member with safer limits.
		C103.4	Ability to understand the design of low weight to high strength panel member.
		C103.5	Ability to analyze the aircraft real structural components such as wings and fuselage.
	ropulsion)	C104.1	Students will learn the principles of operation of aircraft
		C104.2	Students will have knowledge propeller theory

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4	C104-Aerospace P... (AO5102)	C104.3	Students will have knowledge about design of inlet nozzle and combustion chamber
		C104.4	Students will have knowledge about design of compressors and turbines
		C104.5	Students will learn the principles of operation of spacecraft powerplants
5	C105-Theory of Vibrations (AO5103)	C105.1	Gaining understanding of single degree vibrating systems
		C105.2	Gaining understanding of multi degree vibrating systems
		C105.3	Ability to use numerical techniques for vibration problems
		C105.4	Solve Rayleigh and Holzer method to find natural frequency of an object.
		C105.5	Understand the formation of Aileron reversal, flutter and wing divergence.
6	C106- Experimental Stress Analysis (AO5004)	C106.1	Knowledge of stress and strain measurements in loaded components.
		C106.2	Acquiring information's the usage of strain gauges and photo elastic techniques of measurement .
		C106.3	Formulate and solve general three dimensional problems of stress-strain analysis especially fundamental problems of elasticity.
		C106.4	Analyze the strain gauge data under various loading condition by using gauge rosette method.
		C106.5	Experimentally evaluate the location and size of defect in solid and composite materials by using various Non-destructive Testing methods.
7	C107-Aerodynamics Laboratory (AO7111)	C107.1	Students will be in a position to use wind tunnel for pressure andforce measurements on symmentrical airfoil
		C107.2	Students will be in a position to use wind tunnel for pressure andforce measurements on cambered airfoil
		C107.3	Students will be in a position to use wind tunnel for pressure andforce measurements on smooth cylinder
		C107.4	students will be in a position to use wind tunnel for pressure andforce measurements on rough cylinder
		C107.5	Students will be in a position to use wind tunnel for Calibration of supersonic wind tunnel
	...ics (AO5251)	C108.1	Know about the forces and moments that are acting on an aircraft, the different types of drag, drag polar, ISA, variation of thrust, power, SFC with velocity and altitude.
		C108.2	Have understanding about performance in level flight, minimum drag and power required, climbing, gliding and turning flight, v-n diagram and load factor.

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8	C108- Flight Mechan	C108.3	Knowledge about degrees of stability, stick fixed and stick free stability, stability criteria, effect of fuselage and CG location, stick forces, aerodynamic balancing.
		C108.4	Understanding about lateral control, rolling and yawing moments, static directional stability, rudder and aileron control requirements and rudder lock.
		C108.5	Understanding about dynamic longitudinal stability, stability derivatives, modes and stability criterion, lateral and directional dynamic stability.
9	C109-Finite Element Methods (AO5252)	C109.1	Write flow chart of finite element steps and understand the convergence of the problem
		C109.2	Solve stiffness matrix for bar, beam and frame problems using suitable boundary condition.
		C109.3	Plane stress and plane strain condition are used to understand 2d structures.
		C109.4	Modelling of 2d and 3d structures using isoparametric elements
		C109.5	Apply the concepts of finite element methods to solve fluid flow and heat transfer problems.
10	C110-Computational Fluid Dynamics for Aerospace Applications (AO5253)	C110.1	Derive the governing equations and boundary conditions for Fluid dynamics
		C110.2	Analyze Finite difference and Finite volume method for Diffusion
		C110.3	Analyze Finite volume method for Convective diffusion
		C110.4	Analyze Flow field problems
		C110.5	Explain the Turbulence models and Mesh generation techniques
11	C111-Composite Materials and Structures (AO5254)	C111.1	Understanding the mechanics of composite materials
		C111.2	Ability to analyse the laminated composites for various loading eases
		C111.3	Knowledge gained in manufacture of composites
		C111.4	Should analyze sandwich and laminated plates
		C111.5	Should be able to construct and analysis different composite technique
12	of Plates and Shells AO5005)	C112.1	students will get knowledge on the behaviour of plates
		C112.2	students will get knowledge on the behaviour of various shapes
		C112.3	students will get knowledge on eigen value analysis

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	C112-Theory (A	C112.4	students will get knowledge on approximation methods
		C112.5	students will get knowledge on the behaviour of plates and shells with different geometry under various types of loads
13	C113-Fatigue and Fracture Mechanics (AO5074)	C113.1	Ability to apply mathematical knowledge to define fatigue behaviors
		C113.2	Ability to perform fatigue design
		C113.3	Ability to analyse the fracture due to fatigue
		C113.4	Analyze for crack initiation & crack growth.
		C113.5	Analyze damage tolerant structures
14	C114-Structures Laboratory (AO7211)	C114.1	Students will acquire experimental knowledge on the unsymmetrical bending of beams
		C114.2	Finding the location of shear centre,
		C114.3	Obtaining the stresses in circular discs and beams using photoelastic techniques, calibration of photo – elastic materials.
15	C201-Experimental Aerodynamics (AO5012)	C201.1	Knowledge on measurement techniques in aerodynamic flow.
		C201.2	Acquiring basics of wind tunnel measurement systems
		C201.3	Specific instruments for flow parameter measurement like pressure, velocity
		C201.4	Analyze the model measurements, Lift and drag measurements through various techniques and testing of different models.
		C201.5	Apply the Wind tunnel boundary corrections and Scale effects
16	C202- Avionics (AO5092)	C202.1	Ability to built Digital avionics architecture
		C202.2	Ability to Design Navigation system
		C202.3	Ability to design and perform analysis on air system.
		C202.4	Integrate avionics systems using data buses.
		C202.5	Analyze the performance of various cockpit display technologies.Design autopilot for small aircrafts using MATLAB
	se I)	C203.1	Student apply the knowledge gained to create projects that meet industrial requirement

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17	C203-Project Work (Phase) (AO7311)	C203.2	Familiarize with designing solutions for complex engineering problems and design system components.
		C203.3	Applying ethics principles and to commit the responsibilities and norms of engineering practice,
		C203.4	Recognize the need for the preparation and the ability to engage in independent thereby also promoting to communicate effectively on complex engineering activities and being able to design and write effective documentation.
18	C204-Project Work (Phase II) (AO7411)	C204.1	Apply the knowledge of Engineering fundamentals, mathematics and an engineering specialization, thereby formulating research work and analyse complex engineering problems.
		C204.2	Familiarize with designing solutions for complex engineering problems and design system components, thereby formulating research based knowledge for the design of project work.
		C204.3	Impart appropriate techniques, resource and modern engineering and modeling to engineering design problems with an understanding of the limitations.
		C204.4	Applying Engineering ethics principles and to commit the responsibilities and norms of engineering practice, at the same time functioning effectively as a individual and holding good team work.
		C204.5	Recognize the need for the preparation and the ability to engage in independent and life-long learning process, thereby also promoting to communicate effectively on complexengineering activities and being able to design and write effective documentation