SHREE DEVI INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University & Recognized by AICTE)

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Course Outcomes and CO-PO-PSO articulation Matrix

Batch: 2019-23

Semester-III/IV

Subject: MATHEMATICS IV	**Subject Code:** 21MAT31
Course Outcomes	
CO1	To solve ordinary differential equations using Laplace transform
CO2	Demonstrate the Fourier series to study the behavior of periodic functions and their applications in system communications, digital signal processing and field theory
CO3	To use Fourier transforms to analyze problems involving continuous-time signals and to apply Z-Transform techniques to solve difference equations
CO4	To solve mathematical models represented by initial or boundary value problems involving partial differential equations
CO5	Determine the extremals of functionals using calculus of variations and solve problems arising in dynamics of rigid bodies and vibrational analysis.

CO-PO-PSO Mapping

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
CO1	3	2	-	2	2	-	-	-	-	-	-	1			
CO2	3	2	-	2	2	-	-	-	-	-	-	1			
CO3	3	2	-	2	2	-	-	-	-	-	-	1			
CO4	3	2	-	2	2	-	-	-	-	-	-	1			
CO5	3	2	-	2	2	-	-	-	-	-	-	1			
Average	3	2	-	2	2	-	-	-	-	-	-	1			

Subject: Aircraft Materials and Processes (+MANUFACTURING PROCESS LAB)	**Subject Code:** 21AE32
Course Outcomes	
CO1	Apply the knowledge about the mechanical behavior of different aircraft & aerospace materials.
CO2	Explain the Characteristics and applications of Aluminum alloys, Ceramics and Composites Materials.
CO3	Evaluate the importance of high temperature materials and their characterization
CO4	Understand the Heat Treatment processes of aircraft metals and alloys

CO-PO-PSO Mapping

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	1	2	3
CO1	2	1	1	1	2	-	-	-	-	-	-	2			
CO2	2	1	1	1	2	-	-	-	-	-	-	2			
CO3	2	1	1	1	2	-	-	-	-	-	-	2			

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CO4	2	1	1	1	2	-	-	-	-	-	-	2			
Average	2	1	1	1	2	-	-	-	-	-	-	2			

Subject: FLUID MECHANICS							**Subject Code:** 21AE33								
Course Outcomes															
CO1	Evaluate the effect of fluid properties.														
CO2	Apply the governing laws of fluid flow														
CO3	Classify different types of fluid flows.														
CO-PO-PSO Mapping															
COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	1	2	3
CO1	2	2	-	1	1	-	-	-	-	-	2	1			
CO2	2	2	-	1	1	-	-	-	-	-	2	1			
CO3	2	2	-	1	1	-	-	-	-	-	2	1			
Average	2	2	-	1	1	-	-	-	-	-	2	1			

Subject: ELEMENTS OF AERONAUTICS							**Subject Code:** 21AE34								
Course Outcomes															
CO1	Appreciate and apply the basic principle of aviation.														
CO2	Apply the concepts of fundaments of flight, basics of aircraft structures, aircraft propulsion and aircraft materials during the development of an aircraft.														
CO3	Comprehend the complexities involved during development of flight vehicles.														
CO-PO-PSO Mapping															
COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	1	2	3
CO1	2	2	-	1	-	-	-	-	-	-	2	1			
CO2	2	2	-	1	-	-	-	-	-	-	2	1			
CO3	2	2	-	1	-	-	-	-	-	-	2	1			
Average	2	2	-	1	-	-	-	-	-	-	2	1			

Subject: COMPUTER AIDED AIRCRAFT DRAWING							**Subject Code:** 21AEL35								
Course Outcomes															
CO1	Distinguish drawings of machine and aircraft components														
CO2	Identify assembly drawings either manually or by using standard CAD packages														
CO3	Practice with standard components and their assembly of an aircraft.														
CO-PO-PSO Mapping															
COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	1	2	3
CO1	-	-	3	3	-	-	-	-	-	-	2	3			
CO2	-	-	3	3	-	-	-	-	-	-	2	3			

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CO3	-	-	3	3	-	-	-	-	-	-	2	3			
Average	-	-	3	3	-	-	-	-	-	-	2	3			

Subject: SOCIAL CONNECT & RESPONSIBILITIES												**Subject Code:** 21SCR36			
Course Outcomes															
CO1	Understand social responsibility														
CO2	Practice sustainability and creativity														
CO3	Showcase planning and organizational skills														
CO-PO-PSO Mapping															
COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	1	2	3
CO1	-	-	-	-	-	-	3	-	-	-	-	-			
CO2	-	-	-	-	-	-	3	-	-	-	-	-			
CO3	-	-	-	-	-	-	3	-	-	-	-	-			
Average	-	-	-	-	-	-	3	-	-	-	-	-			

Subject: Samskruthika Kannada												**Subject Code:** 21KSK37/47			
Course Outcomes															
CO1	Kannada language, literature and culture will be familiarized														
CO2	Will get interest on Kannada literature pre-modern, modern poetry and culture														
CO3	Familiarizing with technical persons														
CO4	Practice on kannada language, normal kannada and administrate kannada will be familiarized														
CO-PO-PSO Mapping															
COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	1	2	3
CO1	-	-	-	-	-	-	-	-	-	3	-	-			
CO2	-	-	-	-	-	-	-	-	-	3	-	-			
CO3	-	-	-	-	-	-	-	-	-	3	-	-			
CO4	-	-	-	-	-	-	-	-	-	3	-	-			
Average	-	-	-	-	-	-	-	-	-	3	-	-			

Subject: Constitution of India and Professional Ethics (CIP)	**Subject Code:** 21CIP37/47
Course Outcomes	
CO1	Analyze the basic structure of Indian Constitution
CO2	Remember their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution
CO3	Know about our Union Government, political structure & codes, procedures.
CO4	Understand our State Executive & Elections system of India
CO5	Remember the Amendments and Emergency Provisions, other important provisions

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	given by the constitution														
CO-PO-PSO Mapping															
COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	1	2	3
CO1	-	-	-	-	-	-	-	2	-	-	-	-			
CO2	-	-	-	-	-	-	-	2	-	-	-	-			
CO3	-	-	-	-	-	-	-	2	-	-	-	-			
CO4	-	-	-	-	-	-	-	2	-	-	-	-			
CO5	-	-	-	-	-	-	-	2	-	-	-	-			
Average	-	-	-	-	-	-	-	2	-	-	-	-			

Subject: Digitalization in Aeronautics		**Subject Code:** 21AE383													
Course Outcomes															
CO1	Apply digitalization in Aeronautics														
CO2	Implement digitalization in collaborative design, maintenance, repair and overhaul.														
CO3	Enhance the productivity thru digitalization in Aeronautics.														
CO-PO-PSO Mapping															
COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	1	2	3
CO1	-	-	-	-	3	-	-	-	-	-	-	3			
CO2	-	-	-	-	3	-	-	-	-	-	-	3			
CO3	-	-	-	-	3	-	-	-	-	-	-	3			
Average	-	-	-	-	3	-	-	-	-	-	-	3			

Subject: Complex analysis, probability and linear programming	**Subject Code:** 21MAT41
Course Outcomes	
CO1	Use the concept of an analytical function and complex potentials to solve the problems arising in fluid flow.
CO2	Utilize conformal transformation and complex integral arising aero foil theory, fluid flow visualization and image processing.
CO3	Apply discrete and continuous probability distributions in analyzing the probability models arising in the engineering field.
CO4	Analyze and solve linear programming models of real-life situations and solve LPP by the simple method
CO5	Learn techniques to solve Transportation and assignment problems.

CO-PO-PSO Mapping															
COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
CO1	3	2	-	2	2	-	-	-	-	-	-	1			

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CO2	3	2	-	2	2	-	-	-	-	-	-	1			
CO3	3	2	-	2	2	-	-	-	-	-	-	1			
CO4	3	2	-	2	2	-	-	-	-	-	-	1			
CO5	3	2	-	2	2	-	-	-	-	-	-	1			
Average	3	2	-	2	2	-	-	-	-	-	-	1			

Subject: AERODYNAMICS												**Subject Code:** 21AE42		
Course Outcomes														
CO1	Evaluate typical airfoil characteristics and two-dimensional flows over airfoil													
CO2	Compute and analyze the incompressible flow over finite wings													
CO3	Apply finite wing theory and design high lift systems from the aerodynamics view point													
CO-PO-PSO Mapping														
COs	**POs**												**PSOs**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
CO1	2	2	-	1	1	-	-	-	-	-	2	1			
CO2	2	2	-	1	1	-	-	-	-	-	2	1			
CO3	2	2	-	1	1	-	-	-	-	-	2	1			
Average	2	2	-	1	1	-	-	-	-	-	2	1			

Subject: AERO ENGINEERING THERMODYNAMOCS												**Subject Code:** 21AE43		
Course Outcomes														
CO1	Apply the concepts and definitions of thermodynamics.													
CO2	Differentiate thermodynamic work and heat and apply I law and II law of thermodynamics to different process.													
CO3	Apply the principles of various gas cycles.													
CO-PO-PSO Mapping														
COs	**POs**												**PSOs**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
CO1	3	3	2	-	1	-	-	-	-	1	2	2			
CO2	3	3	2	-	1	-	-	-	-	1	2	2			
CO3	3	3	2	-	1	-	-	-	-	1	2	2			
Average	3	3	2	-	1	-	-	-	-	1	2	2			

Subject: MECHANICS OF MATERIALS												**Subject Code:** 21AE44		
Course Outcomes														
CO1	Apply the basic concepts of strength of materials.													
CO2	Compute stress, strain under different loadings													
CO3	Distinguish the different failure theories													
CO-PO-PSO Mapping														
COs	**POs**												**PSOs**	

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	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CO1	3	2	-	1	-	-	-	-	-	-	3	2			
CO2	3	2	-	1	-	-	-	-	-	-	3	2			
CO3	3	2	-	1	-	-	-	-	-	-	3	2			
Average	3	2	-	1	-	-	-	-	-	-	3	2			

Subject: BIOLOGY FOR ENGINEERS	**Subject Code:** 21BE45
Course Outcomes	
CO1	Elucidate the basic biological concepts via relevant industrial applications and case studies.
CO2	Evaluate the principles of design and development, for exploring novel bioengineering projects
CO3	Corroborate the concepts of biomimetics for specific requirements.
CO4	Think critically towards exploring innovative bio-based solutions for socially relevant problems.

CO-PO-PSO Mapping

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
CO1	2	-	-	-	-	-	-	-	-	-	-	1			
CO2	2	-	-	-	-	-	-	-	-	-	-	1			
CO3	2	-	-	-	-	-	-	-	-	-	-	1			
CO4	2	-	-	-	-	-	-	-	-	-	-	1			
Average	2	-	-	-	-	-	-	-	-	-	-	1			

Subject: HYDRAULICS AND PNEUMATICS SYSTEM LAB	**Subject Code:** 21AEL46
Course Outcomes	
CO1	Operate the hydraulic and pneumatic components.
CO2	Apply the suitable cylinders according to the applications
CO3	Appreciate the purpose of valves.

CO-PO-PSO Mapping

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
CO1	3	1	1	2	-	-	-	-	-	-	3	2			
CO2	3	1	1	2	-	-	-	-	-	-	3	2			
CO3	3	1	1	2	-	-	-	-	-	-	3	2			
Average	3	1	1	2	-	-	-	-	-	-	3	2			

Subject: UNIVERSAL HUMAN VALUES-II: UNDERSTANDING HARMONY and ETHICAL HUMAN CONDUCT	**Subject Code:** 21UHV49
Course Outcomes	

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CO1	Holistic vision of life, Socially responsible behavior.
CO2	Environmentally responsible work, Ethical human conduct.
CO3	Having Competence and Capabilities for Maintaining Health and Hygiene.
CO4	Appreciation and aspiration for excellence (merit) and gratitude for all.

CO-PO-PSO Mapping

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
CO1	-	-	-	-	-	-	-	3	-	-	-	-			
CO2	-	-	-	-	-	-	-	3	-	-	-	-			
CO3	-	-	-	-	-	-	-	3	-	-	-	-			
CO4	-	-	-	-	-	-	-	3	-	-	-	-			
Average	-	-	-	-	-	-	-	3	-	-	-	-			

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