

**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

Scheme of Instruction and Evaluation for 2 year Postgraduate program  
**M.TECH (DESIGN ENGINEERING)**

**SEMESTER - I**

Course Code	Course Name	Periods per week			Credits	Evaluation Scheme				
		L	T	P		CIE			ESE	Total Marks
						TA	MSE	TOTAL		
P14DE101	Optimization Techniques in Engineering Design	3	1	-	4	15	25	40	60	100
P14DE102	Stress Analysis	3	1	-	4	15	25	40	60	100
P14DE103	Mechanical Vibrations	3	1	-	4	15	25	40	60	100
P14DE104	Computer Aided Engineering Design	3	1	-	4	15	25	40	60	100
P14DE105	ELECTIVE – I	3	1	-	4	15	25	40	60	100
P14DE106	ELECTIVE – II	3	1	-	4	15	25	40	60	100
P14DE107	Mechanical Vibrations Lab	-		3	2	40	-	40	60	100
P14DE108	CAD Lab	-		3	2	40	-	40	60	100
P14DE109	Seminar	-		-	2	100	-	100	-	100
		<b>24</b>	<b>6</b>		<b>30</b>	<b>270</b>	<b>150</b>	<b>420</b>	480	<b>900</b>

**Elective-I:** P14DE105A: Principles of Product Design  
P14DE105B: Design for manufacture & Assembly  
P14DE105C: Rapid prototyping Techniques  
P14DE105D: Design of Experiments

**Elective-II:** P14DE106A: Design of Heat Transfer Equipment  
P14DE106B: Computational Fluid Dynamics  
P14DE106C: HVAC Systems & Applications  
P14DE106D: Advanced Fluid Mechanics

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**SEMESTER - II**

Course Code	Course Name	Periods per week			Credits	Scheme of Evaluation				
		L	T	P		CIE			ESE	Total Marks
						TA	MSE	TOTAL		
P14DE201	Advanced Finite Element Analysis	3	1	-	4	15	25	40	60	100
P14DE202	Composite Materials	3	1	-	4	15	25	40	60	100
P14DE203	Advanced Design of Machine Components	3	1	-	4	15	25	40	60	100
P14DE204	Automation & Robotics	3	1	-	4	15	25	40	60	100
P14DE205	Elective-III	3	1	-	4	15	25	40	60	100
P14DE206	Elective – IV	3	1	-	4	15	25	40	60	100
P14DE207	FEM Lab	-		3	2	40	-	40	60	100
P14DE208	Automation & Robotics Lab	-		3	2	40	-	40	60	100
P14DE209	Comprehensive Viva-Voce	-		-	2	-	-	-	100	100
		<b>24</b>	<b>6</b>		<b>30</b>	<b>170</b>	<b>150</b>	<b>320</b>	<b>580</b>	<b>900</b>

**Elective-III:**  
P14DE205 A : Fault Diagnosis of Machines  
P14DE205 B : Fatigue, Fracture & Failure Analysis  
P14DE205C : Vibrations of Continuous systems& Noise control  
P14DE205D : Design of Pressure Vessels and Piping

**Elective-IV:**  
P14DE206A :Advanced Material Science  
P14DE206B: MEMS & Nano Technology  
P14DE206C : Smart Structures  
P14DE206D : Industrial Tribology

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**SEMESTER - III**

<b>Course Code</b>	<b>Course Name</b>	<b>Duration</b>	<b>Credits</b>	<b>Scheme of Evaluation</b>				
				<b>CIE</b>			<b>ESE</b>	<b>Total marks</b>
				<b>TA</b>	<b>MSE</b>	<b>TOTAL</b>		
P14DE301	Industrial Training	8 Weeks	4	100	-	100	-	100
P14DE302	Dissertation	16 Weeks	8	100	-	100	-	100
<b>TOTAL</b>			<b>12</b>	<b>200</b>	<b>-</b>	<b>200</b>	<b>-</b>	<b>200</b>

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**SEMESTER - IV**

Course Code	Course Name	Duration	Credits	Scheme of Evaluation				
				CIE			ESE	Total marks
				TA	MSE	TOTAL		
P14DE401	Dissertation	24 Weeks	12	40	-	40	60	100
TOTAL			<b>12</b>	<b>40</b>	<b>-</b>	<b>40</b>	<b>60</b>	<b>100</b>