

## Lesson Plan

Name of the Faculty: Mr. Rohit Kumar Prasad

Discipline: Aeronautical Engineering

Semester: 5<sup>th</sup>

Subject: Aircraft Structure-II

Work Load (Lecture/Practical) per week (in hours): Lectures- , Practicals- 0

Week	Theory		Practical	
	Lecture day	Topic (including assignment/test)	Practical day	Topic
1 <sup>st</sup>	1 <sup>st</sup>	Bending stresses in beams of unsymmetrical sections	1 <sup>st</sup>	
	2 <sup>nd</sup>	Bending of symmetric sections with skew loads.		
	3 <sup>rd</sup>	Bending of symmetric sections with skew loads.		
	4 <sup>th</sup>	Numerical		
2 <sup>nd</sup>	5 <sup>th</sup>	Thin walled beams,	2 <sup>nd</sup>	
	6 <sup>th</sup>	Thin walled beams,		
	7 <sup>th</sup>	Concept of shear flow,		
	8 <sup>th</sup>	Concept of shear flow,		
3 <sup>rd</sup>	9 <sup>th</sup>	shear centre, Elastic axis.	3 <sup>rd</sup>	
	10 <sup>th</sup>	shear centre, Elastic axis.		
	11 <sup>th</sup>	With one axis of symmetry, with wall effective and ineffective in bending,		
	12 <sup>th</sup>	With one axis of symmetry, with wall effective and ineffective in bending,		
4 <sup>th</sup>	13 <sup>th</sup>	unsymmetrical beam sections	4 <sup>th</sup>	
	14 <sup>th</sup>	unsymmetrical beam sections		
	15 <sup>th</sup>	<b>Revision and Numerical</b>		
	16 <sup>th</sup>	<b>Numerical and Assignment</b>		
5 <sup>th</sup>	17 <sup>th</sup>	<b>Test</b>	5 <sup>th</sup>	
	18 <sup>th</sup>	Bredt – Batho formula,		
	19 <sup>th</sup>	Bredt – Batho formula,		
	20 <sup>th</sup>	Single and multi – cell structures.		
6 <sup>th</sup>	21 <sup>st</sup>	Single and multi – cell structures.	6 <sup>th</sup>	

	22 <sup>nd</sup>	Approximate methods..		
	23 <sup>rd</sup>	Approximate methods.		
	24 <sup>th</sup>	Shear flow in single & multicell structures under torsion.		
7 <sup>th</sup>	25 <sup>th</sup>	Shear flow in single & multicell structures under torsion.	7 <sup>th</sup>	
	26 <sup>th</sup>	Shear flow in single & multicell structures under torsion.		
	27 <sup>th</sup>	Shear flow in single and multicell under bending with walls effective and ineffective		
	28 <sup>th</sup>	Shear flow in single and multicell under bending with walls effective and ineffective		
8 <sup>th</sup>	29 <sup>th</sup>	Shear flow in single and multicell under bending with walls effective and ineffective	8 <sup>th</sup>	
	30 <sup>th</sup>	<b>Numerical and Assignment</b>		
	31 <sup>st</sup>	<b>Test</b>		
	32 <sup>nd</sup>	Rectangular sheets under compression,		
9 <sup>th</sup>	33 <sup>rd</sup>	Rectangular sheets under compression,	9 <sup>th</sup>	
	34 <sup>th</sup>	Local buckling stress of thin walled sections,		
	35 <sup>th</sup>	Local buckling stress of thin walled sections,		
	36 <sup>th</sup>	Crippling stresses by Needham's and Gerard's methods,		
10 <sup>th</sup>	37 <sup>th</sup>	Crippling stresses by Needham's and Gerard's methods,	10 <sup>th</sup>	
	38 <sup>th</sup>	Thin walled column strength.		
	39 <sup>th</sup>	Thin walled column strength.		
	40 <sup>th</sup>	<b>Numerical</b>		
11 <sup>th</sup>	41 <sup>st</sup>	Sheet stiffener panels.	11 <sup>th</sup>	
	42 <sup>nd</sup>	Sheet stiffener panels.		
	43 <sup>rd</sup>	Effective width,		
	44 <sup>th</sup>	inter rivet and sheet wrinkling failures		
12 <sup>th</sup>	45 <sup>th</sup>	inter rivet and sheet wrinkling failures	12 <sup>th</sup>	
	46 <sup>th</sup>	<b>Numerical</b>		
	47 <sup>th</sup>	<b>Numerical and Assignment</b>		
	48 <sup>th</sup>	<b>Test</b>		
13 <sup>th</sup>	49 <sup>th</sup>	Procedure – Shear and bending moment distribution for semi cantilever and other types of wings	13 <sup>th</sup>	

		and fuselage,		
	<b>50<sup>th</sup></b>	Procedure – Shear and bending moment distribution for semi cantilever and other types of wings and fuselage,		
	<b>51<sup>st</sup></b>	Procedure – Shear and bending moment distribution for semi cantilever and other types of wings and fuselage,		
	<b>52<sup>nd</sup></b>	thin webbed beam.		
<b>14<sup>th</sup></b>	<b>53<sup>rd</sup></b>	With parallel and non parallel flanges,	<b>14<sup>th</sup></b>	
	<b>54<sup>th</sup></b>	With parallel and non parallel flanges,		
	<b>55<sup>th</sup></b>	Shear resistant web beams,		
	<b>56<sup>th</sup></b>	Shear resistant web beams,		
<b>15<sup>th</sup></b>	<b>57<sup>th</sup></b>	Tension field web beams (Wagner's).	<b>15<sup>th</sup></b>	
	<b>58<sup>th</sup></b>	Tension field web beams (Wagner's).		
	<b>59<sup>th</sup></b>	<b>Numerical And Assignment</b>		
	<b>60<sup>th</sup></b>	<b>Test</b>		