

GOVERNMENT POLYTECHNIC GARIYABAND

GARIYABAND (C.G.)

LESSION PLAN

SESSION - JULY-DEC 2024

NAME OF FACULTY : CHANDRESH KUMAR DEWANGAN

DESIGNATION : LECTURER (MECHANICAL)

DEPARTMENT : MECHANICAL ENGINEERING

COURSE : STRENGTH OF MATERIAL

COURSE CODE : ~~2000352(037)~~

SEMESTER : III

SESSION STARTS FROM : 02.09.2024

2037372(037)

Lecture No.	Unit No.	Topics to be Covered	Planned Date	Execution Date	Remarks
1	I	Types of Loads & Structures	02.09.2024	07/09/24	Lecture + Board
2	I	Direct Stress & Strain	03.09.2024	07/09/24	Lecture + Numerical
3	I	Hooke's Law, Stress-Strain Curve	04.09.2024	11/09/24	PPT + Board
4	I	Elastic Constants, Poisson's Ratio	05.09.2024	14/09/24	Lecture + Numerical
5	I	Temperature Stress	09.09.2024	18/09/24	Lecture + Examples
6	I	Shear Stress & Strain	10.09.2024	18/09/24	Board Work
7	I	Bulk Modulus & Volumetric Strain	11.09.2024	18/09/24	Lecture
8	I	Strain Energy & Numericals	12.09.2024	18/09/24	Tutorial
9	II	Types of Beams & Loadings	16.09.2024	23/09/24	Lecture
10	II	Shear Force Concept	17.09.2024	23/09/24	Board + Diagram
11	II	Bending Moment Concept	18.09.2024	25/09/24	Lecture + Examples
12	II	SFD – Cantilever (Point Load)	19.09.2024	30/09/24	Numerical
13	II	SFD – Cantilever (UDL)	23.09.2024	30/09/24	Numerical
14	II	SFD – Simply Supported (Point Load)	24.09.2024	03/10/24	Numerical
15	II	SFD – Simply Supported (UDL)	25.09.2024	03/10/24	Tutorial
16	III	Bending Theory & Assumptions	26.09.2024	07/10/24	Lecture
17	III	Bending Equation Derivation	30.09.2024	07/10/24	Derivation + Board
18	III	Neutral Axis & Section Modulus	01.10.2024	08/10/24	Numerical

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19	III	Bending Stress in Sections	03.10.2024	09/10/24	Numerical
20	III	Axial & Eccentric Loading	07.10.2024	15/10/24	Lecture
21	III	Resultant Stress in Eccentric Loading	08.10.2024	15/10/24	Numerical
22	III	Shear Stress in Beams	09.10.2024	16/10/24	Lecture
23	III	Numerical Practice	10.10.2024	16/10/24	Tutorial
24	IV	Introduction to Deflection	14.10.2024	21/10/24	Lecture
25	IV	Deflection – Cantilever (Point Load)	15.10.2024	22/10/24	Derivation
26	IV	Deflection – Cantilever (UDL)	16.10.2024	23/10/24	Numerical
27	IV	Deflection – Simply Supported (Point Load)	17.10.2024	04/11/24	Numerical
28	IV	Deflection – Simply Supported (UDL)	21.10.2024	05/11/24	Numerical
29	IV	Deflection Numericals	22.10.2024	06/11/24	Tutorial
30	V	Types of Springs	23.10.2024	12/11/24	Lecture
31	V	Helical Spring – Deflection	24.10.2024	12/11/24	Derivation
32	V	Helical Spring – Stress	28.10.2024	13/11/24	Numerical
33	V	Leaf Spring	29.10.2024	18/11/24	Lecture
34	V	Strain Energy in Spring	30.10.2024	19/11/24	Numerical
35	V	Spring Numericals	31.10.2024	20/11/24	Tutorial
36	VI	Combined Loading Concept	04.11.2024	25/11/24	Lecture

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37	VI	Principal Stress Theory	05.11.2024	26/11/24	Derivation
38	VI	Inclined Plane Stress	06.11.2024	02/12/24	Numerical
39	VI	Maximum Shear Stress	07.11.2024	03/12/24	Numerical
40	VI	Mohr's Circle Theory	11.11.2024	04/12/24	Diagram + PPT
41	VI	Numerical – Analytical Method	12.11.2024	09/12/24	Tutorial
42	VI	Numerical – Mohr's Circle	13.11.2024	10/12/24	Tutorial
43	VII	Column & Strut Concept	14.11.2024	11/12/24	Lecture
44	VII	Euler's Buckling Theory	18.11.2024	18/12/24	Derivation
45	VII	Rankine's Formula	19.11.2024	23/12/24	Numerical
46	VII	Slenderness Ratio & Problems	20.11.2024	23/12/24	Tutorial
47	VIII	Torsion Theory	21.11.2024	30/12/24	Lecture
48	VIII	Torsion Equation	25.11.2024	31/12/24	Derivation
49	VIII	Power Transmitted by Shaft	26.11.2024	31/12/24	Numerical
50	VIII	Solid & Hollow Shaft Problems + Revision	27.11.2024	31/12/24	Revision + Tutorial

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