

COURSE TEACHING STRUCTURE

Class: FE

Unit 1: Resolution and Composition of Forces-15 Marks

Sr. No.	Topic Detail	Durati on (in Minut es)	Topic Based On	Marking Scheme
1	Introduction of subject , Principle of statics , Force and its description	1hr	Theory	--
2	Force system-types ,its effect etc	1hr	Theory	01
3	Coplanar forces system-Concurrent and non-concurrent forces co-linear and non-collinear forces	1hr	Theory	03
4	Resultant of concurrent forces- law of parallelogram and its numerical.	2hrs	Theory & Numerical	07
5	Triangle law /sine rule	2hrs	Theory & Numerical	07
6	Resolution and composition of forces	2hrs	Theory & Numerical	07
7	Resultant of non-concurrent forces Moment of a force, Couple, Varignon's theorem	2hrs	Theory	03
8	Resultant of parallel and general force system	2hrs	Theory & Numerical	07
9	Equivalent force couple system	1hr	Theory & Numerical	03
10	Revision	1hrs	--	
11	Unit Test	30 min	Theory & Numerical	15
12	Force system-types ,its effect etc	1hr	Theory	01

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Unit 2: Disteributed forces and Friction

Sr. No.	Topic Detail	Durati on (in Minut es)	Topic Based On	Marking Scheme
1	Moment of area defination,center of gravity ,centriod .	30min	Theory	1
2	Centroid of plane lamina- Equations of location of centroid for regular firguers like rectangle,triangle,circle,sectors etc.	1hr	Theory	4
3	Numericals on centroid of plane lamina	1hr	Numericals	3
4	Centroid of wire bends and its numericals	1.5hrs	Theory & Numericals	2
5	Moment of inertia and its numericals	1.5 hrs	Theory & Numericals	3
6	Friction -defination,laws of frictions	1hr	Theory	3
7	Application of friction on inclined planes and its numericals	1.5hrs	Theory & Numericals	4
8	Wedges and laders numericals	1hr	Theory & Numericals	2
9	Application of flat belts and numericals	1hr	Theory & Numericals	3
10	Mcq practice	1.5 hrs		

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Unit 3: Equilibrium

Sr. No.	Topic Detail	Durati on (in Minut es)	Topic Based On	Marking Scheme
1	Free body diagram ad its examples	30min	Theory	--
2	Equilibrium -definations Conditions of equilibrium for concurrent ,parallel and general force sysyems	1hr	Theory	2
3	Equilibrium of three forces in plane - lamis theorm	1hrs	Theory	1
4	Numericals on equilibrium of concurrent forces (lamis theorm)	1hr	Numericals	2
5	Beams-its types ,simple and compound beams	1hr	Theory	2
6	Types of supports and reactions	30min	Theory	1
7	Types of loads on the beam	1hrs	Theory	2
8	Numericals on beams	1.5hrs	numericals	4
9	Forces in space	1hr	Theory	1
10	Resultant of concurrent force in space and its numericals	1.5 hrs	Theory & Numericals	4
11	Resultant of parallel forcein space and its numericals	1.5hrs	Theory & Numericals	2
12	Equilibrium of concurrent force in space and its numericals	1.5hrs	Theory & Numericals	2
13	Equilibrium of parallel force in space and its numericals	1.5hrs	Theory & Numericals	2
14	Mcq practice	2hrs		

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Unit 4: Analysis of Structures

Sr. No.	Topic Detail	Durati on (in Minut es)	Topic Based On	Marking Scheme
1	Two force members, truss-defination ,types etc,	1hr	Theory	2
2	Analyssis of truss by method of joint and its numericals	3hrs	Theory & Numericals	4
3	Analyssis of truss by method of section its numericals	2hrs	Theory & Numericals	3
4	Analyssis of plane frame, multiforce members and numericals	2hrs	Theory & Numericals	2
5	Cables -introduction and applications	2hrs	Theory & Numericals	4
6	Mcq practice	2hrs		

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