GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : ME201 pract SUBJECT NAME : strength of materials

FACULTY NAME : Pramandra kumar gupta DESIGNATION : Lecturer

Translata Kana		1			
TOPIC	LECTURE /	MONTHS IN	ACTUAL	REASON FOR NOT	E-CONTENTS
	PRACTICAL	WHICH THE	DATE OF	COVERING THE TOPIC	PROVIDED TO
	CLASSES	TOPIC WILL	COVERING		STUDENTS RELATED
				IN DOE TIME	
	REQUIRED	BE	OF THE		TO TOPIC
	TO COVER	COVERED	TOPIC		
	TOPIC				
Study of extensometers	1	ou a			
Study of extensioneters	ı	aug			
	1	aug			
Study and operation of UTM					
	4	1			
Tensile test on mild steel specimen and	1	sept			
plotting stress strain curve.					
Bending test on timber beams.	1	sept			
Bonding toot on unibor bodino.		оорі			
Compression test on common structural	2	oct			
materials viz. timber, cast iron etc.					
·					
Determination of touch according and	0				
Determination of toughness of cast iron and	2	nov			
mild steel specimen by Charpy and Izod test.					
Hardness test by Brinell and Rockwell test.	1	dec			
Determination of deflection for various types of	1	jan			
loading					
Torsion test on brass and mild steel	1	jan			
Torsion test on brass and mild steel	ı	jan			
Determination of stiffness of close coiled	1	feb			
			1		
		<u> </u>	I	<u>l</u>	

TOTAL	12		

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : ME201 SUBJECT NAME : Strength Of Materials

FACULTY NAME : Pramandra Kumar Gupta DESIGNATION : lect. Mech

Transfer transfer	•						
TOPIC	LECTURE /	MONTHS IN	ACTUAL	REASON FOR NOT	E-CONTENTS		
	PRACTICAL	WHICH THE	DATE OF	COVERING THE TOPIC	PROVIDED TO		
	CLASSES	TOPIC WILL	COVERING	IN DUE TIME	STUDENTS RELATED		
	REQUIRED	BE	OF THE		TO TOPIC		
	TO COVER	COVERED	TOPIC				
	TOPIC						
Various mechanical properties,Concept of	2	Aug					
stress and strain,Hook's law	2	Aug					
Stress and strain, nook's law							
	2	Aug					
Working stress and factor of safety, Stress							
and strain calculationsTemperature stresses							
Shear stresses, Poisson's ratio and	2	Aug					
·							
volumetric strain							
Relationship between elastic constants	2	sept					
(Derivation)							
Compound Stress:,Stress components on an	2	sept					
inclined plane	_	000.					
mounted plants							
Male and Breat and a	0						
Mohr's circle:Principal stresses and	2	sept					
planes, Mohr's circle method for principal							
stresses							
Stresses							
	2	sept					
Strain energy from stress - strain							
diagram,Strain energy from stress - strain							
diagram,Proof resilience							
Types of loading - gradual, sudden, impact	2	oct					
rypes of loading - graddar, sudden, impact	2	OCI					
Bending Moments and Shear Force:Types of	2	oct					
supportTypes of support							
Types of load,Shear force and bending	3	oct					
momentBending moment and shear force	· ·	001					
diagrams (for point loads, U.D.L. and their							
combinations)							
combinations)							
Concept of moment of Inertia Radius of	2	oct/nov					
gyration Moment of Inertia readius of	2	OCI/HOV					
gyration Moment of mentia of various section							
Moment of inertia of unsymmetrical section	2	nov					
like: T-section, channel section, L-section etc.							
Concept of handing atrees. Assumptions in	2	n					
Concept of bending stress Assumptions in	2	nov					
theory of simple bending							
Design criterion and section modulus	2	nov					
Chaor Stroop in Deams Consent Heart	2	4					
Shear Stress in Beams, Concept, Use of	2	dec					
equation							
Shear stress distribution diagram of various	2	dec					
sections							
	-						
Concept of deflection of a beam, Use of	2	jan					
standard formula for calculating deflection (for							
point loads, U.D.L. and their combination)							
Cantilever beam, Simply supported beam	2	jan					
, , , , , , , , , , , , , , , , , , , ,							
		-	-				

Concept of column and struts,Modes of failure, Types of column; long and short Buckling loads Slenderness ratio	2	jan			
Euler's formula (without proof), Rankine's formula	2	feb			
Torsion of Shaft ,Concept of torsion,Derivation and use of torsion equation	2	feb			
Combined stress due to bending and torsion in solid and hollow shaft	2	feb			
Introduction and classification of springs, Flat carriage springs	2	feb			
Application of flat carriage springs	1	march			
Closely coiled helical springs, Application of closely coiled helical springs	2	march			
Determination of deflection, angle of twist, number of coils and stiffness under axial loading in	2	march			
Thin Cylindrical Shells, Stresses due to internal pressure, Design of thin cylinders - calculation of the various dimensions of a thin cylinder	2	march			
Circumferential stress or hoop stress	2	apr			
Combined Direct and Bending Stress, Effect of eccentricity,Stress due to eccentric load	2	apr			
Middle third rule,Quarter rule	2	apr			
TOTAL	60			•	