Program: Civil Engineering
Curriculum Scheme: Rev 2012
Examination: Second Year Semester IV
Course Code: CE-C 403 and Course Name: Structural Analysis I

Time: 1 hour Max. Marks: 50

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For the students:- All the Questions are compulsory and carry equal marks .

Q1.	Top most part of an arch is called _____
Option A:	Sofit
Option B:	Crown
Option C:	Center
Option D:	Abutment
Q2.	Internal bending moment generated in a three hinged arch is always
Option A:	0
Option B:	Infinite
Option C:	Varies
Option D:	Non zero value but remains constant
Q3.	Internal shear force generated in a three hinged arch is always:-
Option A:	0
Option B:	Infinite
Option C:	Varies
Option D:	Non zero value but remains constant
Q4.	A three hinged Parabolic arch span of 30 m with rise of 5 m is loaded with a UDL of 10kN/m of left half span. Calculate the horizontal thrust.
Option A:	112.5 kN
Option B:	75 kN
Option C:	150 kN
Option D:	50 kN
Q5.	Three hinged Parabolic arch loaded with a UDL W kN/m of span L m. BM at quarter span is.....
Option A:	WL^2/8
Option B:	0
Option C:	WL^2/4
Option D:	WL/4
Q6.	Beam loaded with a UDL w kN/m with span L. Maximum deflection is
Option A:	((wL^4)/(384EI))
Option B:	((wL^4)/(72EI))
Option C:	((wL^4)/(36EI))
Option D:	((wL^3)/(48EI))
Q7.	Beam loaded with a UDL w kN/m with span L. Slope at midspan is
Option A:	((wL^4)/(384EI))

Option B:	((wL^4)/(72EI))
Option C:	0
Option D:	((wL^3)/(48EI))
Q8.	Macaulay's method is used to determine _____
Option A:	deflection
Option B:	strength
Option C:	toughness
Option D:	all of the above
Q9.	Macaulay's method equation is .....
Option A:	EI(d2y/dx2)= M
Option B:	EI(d2y/dx2)= V
Option C:	EI(d2y/dx2)= W
Option D:	EI(d2y/dx2)= T
Q10.	In this Conjugate beam method, shear in Conjugate beam is .....in real beam
Option A:	Bending Moment
Option B:	Deflection
Option C:	Slope
Option D:	Shear Force
Q11.	In this Conjugate beam method, Bending moment in Conjugate beam is .....in real beam
Option A:	Bending Moment
Option B:	Deflection
Option C:	Slope
Option D:	Shear Force
Q12.	Fixed joint in Real beam is replaced by ..... in Conjugate beam
Option A:	Fixed
Option B:	Free
Option C:	Hinged
Option D:	Roller
Q13.	Internal Hinge in Real beam is replaced by ..... in Conjugate beam
Option A:	Fixed
Option B:	Internal Hinge
Option C:	Hinge
Option D:	Free
Q14.	Which is the following term is associated with Unit load method
Option A:	mM/EI
Option B:	M/mEI
Option C:	E/mMI
Option D:	I/EMm

Q15.	What will be equation used to calculate deflection in truss using Unit Load Method
Option A:	(PKL)/(AE)
Option B:	(1/4)((PKL)/(AE))
Option C:	(1/2)((PKL)/(AE))
Option D:	(1/3)((PKL)/(AE))
Q16.	In general tA/B implies
Option A:	Vertical deflection of tangent at B wrt that at A
Option B:	Vertical deflection of tangent at A wrt that at B
Option C:	Vertical deflection of extended tangent at B wrt tangent at A
Option D:	Vertical deflection of tangent at A wrt extended tangent at B
Q17.	The slenderness ratio is the ratio of
Option A:	Length of column to least radius of gyration
Option B:	Moment of inertia to area of cross-section
Option C:	Area of cross-section to moment of inertia
Option D:	Least radius of gyration to length of the column
Q18.	The Rankine formula holds good for
Option A:	Short column
Option B:	Long column
Option C:	Medium column
Option D:	Both short and long column
Q19.	For a column with Both end Fixed Leff=.....L
Option A:	1
Option B:	2
Option C:	4
Option D:	1/2
Q20.	For a column with one end Fixed and other enf free Leff=.....L
Option A:	4
Option B:	1
Option C:	½
Option D:	2
Q21.	in influence line diagrams (ILD)
Option A:	Points remain fixed, position of load changes
Option B:	Points change, position of loads remain fixed
Option C:	Both of them changes
Option D:	Neither of them changes
Q22.	For a cantilever beam what will be the value of ILD @R_A at mid span
Option A:	½
Option B:	1
Option C:	¾
Option D:	¼

Q23.	What will be the work done during additional application of dp1? Δ = displacement caused when force is increased by a small amount P = external force applied N = internal force in the member force applied L = length of member A = cross-sectional area of member E = Modulus of elasticity
Option A:	a) p1 dΔ1 + p2 dΔ2 + dp1d Δ1
Option B:	b) p1 dΔ1 + p2 dΔ2 + 1⁄2 dp1d Δ1
Option C:	c) p1 dΔ1 + 1⁄2 p2 dΔ2 + dp1d Δ1
Option D:	d) 1⁄2 p1 dΔ1 + p2 dΔ2 + dp1d Δ1
Q24.	The shape of cable under transverse uniformly distributed load is
Option A:	Parabolic
Option B:	Catenary
Option C:	Circular
Option D:	Triangular
Q25.	Unsymmetrical bending occurs due to _____
Option A:	The Beam cross section is unsymmetrical
Option B:	The shear Centre does not coincide with the neutral axis
Option C:	The Beam is subjected to trust in addition to bending moment
Option D:	The bending moment diagram is unsymmetrical