Program: BE Civil Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester VI

Course Code: CEC606 and Course Name: TRPC

Time: 1hour Max. Marks: 50

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

Q1.	The modular ratio m is given by
Option A:	280/3 σcbc
Option B:	280/3σst
Option C:	280/5σcbc
Option D:	280/σ cbc
Q2.	For Fe 415 steel , permissible stress is
Option A:	250 N/mm^2
Option B:	150 N/mm^2
Option C:	230N/mm^2
Option D:	200N/mm^2
Q3.	In Working Stress Method, which of the following relation is correct?
Option A:	Working Stress ≤ Permissible Stress
Option B:	Working Stress ≥ Permissible Stress
Option C:	Working Stress = Permissible Stress
Option D:	Working Stress > Permissible Stress
Q4.	A T-beam behaves as a rectangular beam of a width equal to its flange if its neutral axis
Option A:	Remains within the flange
Option B:	Remains below the slab
Option C:	Coincides the geometrical centre of the beam
Option D:	Remains above the web
Q5.	In a single reinforced beam, if the permissible stress in steel reaches earlier than that in concrete, the beam section is called
Option A:	Over-reinforced section
Option B:	Under-reinforced section
Option C:	Economic section
Option D:	Critical section

Q6.	What is the moment of resistsnce of a beam?
Option A:	Maximum moment carrying capacity
Option B:	Minimum moment carrying capacity
Option C:	Extra moment carrying capacity
Option D:	Eccentric moment carrying capacity
Q7.	For longitudinal reinforcing bars in column, the nominal cover should not be less than
Option A:	40mm,or diameter of longitudinal bar
Option B:	50mm
Option C:	30mm or diameter of longitudinal bar
Option D:	60mm or diameter of longitudinal bar
Q8.	In long column the formula for reduction coefficient is
Option A:	Cr = 1.05 - leff/48b
Option B:	Cr = 1.25 - leff/48b
Option C:	Cr = 1 - leff/48
Option D:	Cr = 1.5 - leff/48b
Q9.	A short column 300 x 400mm has to carry a load of 1000 kN . Find the area of steel if бcc = 5 N/mm^2 and бsc = 190 N/mm^2.
Option A:	3000 mm^2
Option B:	3210 mm^2
Option C:	2000 mm^2
Option D:	2162 mm^2
Q10.	Calculate development length for a beam Ƭbd =0.6 N/mm^2 and Бst =140 N/mm^2
Option A:	38 Ø
Option B:	58.3 Ø
Option C:	20 Ø
Option D:	10 Ø
Q11.	Shear reinforcement is to be provided when
Option A:	Ƭv = 0
Option B:	Ƭv<Ƭc
Option C:	Ƭv>Ƭc
Option D:	Ƭv =Ƭc
Q12.	In case of one-way continuous slab (L/d) ratio should not exceed
Option A:	7
Option B:	26
Option C:	20
Option D:	30
Q13.	What is the Maximum diameter of bar for R.C slab having thickness D is

	restricted to ?
Option A:	D/4
Option B:	D/5
Option C:	D/6
Option D:	D/8
Q14.	R.C T-beam having clear length L_0 = 12 m is spaced at 3.25m with web of 0.4m wide and 1m deep, supports flange slab of 100mm thick, the effective flange width of beam will be
Option A:	2m
Option B:	3m
Option C:	2.5 m
Option D:	3.25m
Q15.	The self weight of a foundation is assumed as
Option A:	1%
Option B:	5%
Option C:	2%
Option D:	10%
Q16.	A square column of 400mm x 400mm is having an isolated footing of size 2m x 2m.Net upward soil pressure intensity is 250 KN/m^2.Calculate the maximum B.M. acting on the footing.
Option A:	260 kN-m
Option B:	100 kN-m
Option C:	160 kN-m
Option D:	200 kN-m
Q17.	In footing the critical section for punching shear shall be
Option A:	At the face of the column .
Option B:	At a perimeter section at distance of d/2 from the face of the column
Option C:	At a distance of d from the face of the column
Option D:	At the Edge of the footing
Q18.	The phenomena of development of internal tensile stresses in a concrete member by means of tensioning devices are called as
Option A:	Pre-tensioning
Option B:	Post tensioning
Option C:	Pre stressing of concrete
Option D:	Thermoelectric prestressing
Q19.	Which of the following is categorized as long term loss of pre-stress in pre-stressed concrete ?
Option A:	Loss due to elastic shortening
Option B:	Loss due to friction
Option C:	Loss due to creep

Option D:	Loss due to anchorage slip
Q20.	A concrete beam of rectangular cross section of 200 mm X 400 mm is pre-stressed with a force of 400kN at eccentricity of 100 mm. The maximum compressive stress in the concrete is
Option A:	12.5 N/mm^2
Option B:	7.5 N/mm^2
Option C:	5 N/mm^2
Option D:	2.5 N/mm^2
Q21.	As per IS: 1343: 2012, total shrinkage for a pre-tensioned beam is
Option A:	3.0X 10^{-2}
Option B:	3.0X10^{-3}
Option C:	3.0X10^{-4}
Option D:	3.0X10^{-5}
Q22.	A simply supported rectangular beam of length L with parabolic tendons with zero eccentricity at support is prestressed with force P. The beam is carrying a ULD of w kN/m. Neglecting self weight of the beam, the maximum dip at the mid span to balance the external load should be
Option A:	$e = \frac{wL^2}{8P}$
Option B:	$e = \frac{wP}{8L^2}$
Option C:	$e = \frac{wL^2}{12P}$
Option D:	$e = \frac{wL}{12P}$
Q23.	the clear cover to cables in PSC post tension girder should not be less than
Option A:	25mm
Option B:	30mm
Option C:	50mm
Option D:	100mm
Q24.	The locus of point of application of resultant in prestressing structure is called
Option A:	Cable line
Option B:	Force line
Option C:	Pressure line
Option D:	Tension line
Q25.	The zone of cross section if subjected to compressive load does not produce any tensile stresses is called
Option A:	Kern point

Option B:	Center of gravity
Option C:	Center of mass
Option D:	Point of load application

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	C
Q3.	A
Q4	A
Q5	B
Q6	A
Q7	A
Q8.	B
Q9.	D
Q10.	B
Q11.	C
Q12.	B
Q13.	D
Q14.	B
Q15.	D

Q16.	C
Q17.	B
Q18.	C
Q19.	C
Q20.	A
Q21.	C
Q22.	A
Q23.	C
Q24.	C
Q25.	A