Program: BE Civil Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VIII

Course Code: CEC801 and Course Name: Design and Drawing of Reinforced Concrete Structures

Time: 1 hour Max. Marks: 50

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

Q1.	Determine Mulim for a beam size 230x400mm (effective depth).Use M20/Fe415
Option A:	101.56kNm
Option B:	189,5kNm
Option C:	142.5kNm
Option D:	163.6kNm
Q2.	If neutral axis lies in the flange,a T beam can be treated as rctangular beam of
Option A:	bw*d
Option B:	Df*d
Option C:	bf*d
Option D:	d'*d
Q3.	Determine Ast for under reinforced slab having effective depth 150mm, ultimate moment of resistance 10kNm, material M20/Fe415
Option A:	320mm2
Option B:	217mm2
Option C:	150mm2
Option D:	198mm2

Q4.	As per IS-456 critical section for one-way shear in isolated footing is at the
Option A:	Half the effective depth from the face of column
Option B:	Twice effective depth from the face of column
Option C:	Effective depth from the face of column
Option D:	Face of column
Q5.	Strength of column with helical reinforcement is
Option A:	10% more than strength of column with lateral ties
Option B:	5% more than strength of column with lateral ties
Option C:	12% more than strength of column with lateral ties
Option D:	15% more than strength of column with lateral ties
Q6.	If the diameter of longitudinal bars in a square column is 28 mm, the diameter of lateral ties should not be less than
Option A:	4 mm
Option B:	7 mm
Option C:	6 mm
Option D:	8 mm
Q7.	A thick concrete slab resting on a large soil area, reinforced with steel, supporting columns or walls and transferring loads from structures to the soil, is
Option A:	Isolated footing
Option B:	Pile foundation
Option C:	Raft foundation
Option D:	Plate foundation
Q8.	For structures like chimneys, silos, tanks, large machines, etc., which type of foundation is usually provided?
Option A:	Raft foundation
Option B:	Isolated circular footing
Option C:	Isolated square footing
Option D:	Isolated rectangular footing
Q9.	Raft foundation is provided when
Option A:	Structural loads are low and soil SBC is high
Option B:	Structural loads are high and soil SBC is low
Option C:	Structural loads are low and soil SBC is low
Option D:	Structural loads are high and soil SBC is high
Q10.	Which of the following is not the joint used in RCC water tanks
Option A:	Rigid joint
Option B:	Semi-rigid joint
Option C:	Flexible joint
Option D:	Roof slab joint

Q11.	In water tank design, the quantity of cement should also be less than ------ of concrete to keep the shrinkage low.
Option A:	530Kg/m^3
Option B:	430Kg/m^3
Option C:	330Kg/m^3
Option D:	230Kg/m^3
Q12.	**how much height of free board is taken while designing water tank**
Option A:	150-200mm
Option B:	20-50mm
Option C:	250-300mm
Option D:	50-90mm
Q13.	**In the fixed base joint the junction is between the tank wall and**
Option A:	slab
Option B:	footing
Option C:	beams
Option D:	columns
Q14.	In dog legged stair case tread provide for residential building
Option A:	280mm
Option B:	270mm
Option C:	260mm
Option D:	250mm
Q15.	Dog legged stairs always consist of
Option A:	Four flight
Option B:	Two flight
Option C:	Six flight
Option D:	Eight flight
Q16.	In dog legged stair to calculate weight of steps?
Option A:	1/2 (R*T)/T X Density of concrete
Option B:	1/6 (R*T)/T X Density of concrete
Option C:	1/4 (R*T)/T X Density of concrete
Option D:	1/3 (R*T)/T X Density of concrete

Q17.	A retaining wall of height 8m retains dry sand .In the initial state ,the soil is loose and has a void ratio of 0.5 ,ϒd =17.48 kN/m3 and Φ = 30 degree. subsequently, the backfill is compacted to a state where void ratio is 0.4, ϒd =18.8 kN/m3 and Φ = 35 degree .The ratio of initial passive thrust to the final passive thrust according to Rankines's earth pressure theory ,is
Option A:	0.77
Option B:	1.55
Option C:	0.64
Option D:	0.38
Q18.	Pick up the correct formula for Maximum pressure at any height of Maximum pressure at any height of cantilever retaining wall
Option A:	P=ka
Option B:	P = ka ϒ
Option C:	P = ka ϒ h
Option D:	P = ka h
Q19.	If height of retaining wall is 4m then which type of retaining wall should be provided ?
Option A:	counter fort wall
Option B:	complex wall
Option C:	cantilever wall
Option D:	porous wall
Q20.	Circular water tank of diameter 10m is used for storing water at depth of 7m. The maximum hoop tension will be ? (take unit weight of water as 10kN/m^3)
Option A:	700kN
Option B:	350kN
Option C:	500kN
Option D:	100kN
Q21.	The minimum HYSD reinforcement in the walls of a rectangular water tank of size (5x3x2 m) for each surface zone shall not be less than?
Option A:	0.24%
Option B:	0.35%
Option C:	0.40%
Option D:	0.60%

Q22.	Spacing of reinforcement bar for circular tank having diameter 10m and wall thickness 170mm will be
Option A:	300mm
Option B:	(0.75 x 170)mm
Option C:	170mm
Option D:	150mm
Q23.	In Approximate method , in Rectangular water tank bottom as Considered cantilever section.
Option A:	H/3
Option B:	H/4
Option C:	H/6
Option D:	H/2
Q24.	In Circular water tank the reinforcement for hoop forces is provided by
Option A:	Horizontal Direction
Option B:	Vertical Direction
Option C:	Inclined Direction
Option D:	Parallel to Force Direction
Q25.	**Why haunch bars are provided in water tank**
Option A:	to maintain tank in equilibrium
Option B:	to retain shear form on the wall
Option C:	to resist water pressure
Option D:	to increase the height of tank

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	C
Q3.	B
Q4	C
Q5	B
Q6	B
Q7	C
Q8.	A
Q9.	B
Q10.	B
Q11.	A
Q12.	C
Q13.	B
Q14.	D
Q15.	B
Q16.	A
Q17.	A

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