Time: 1-hour   Max. Marks: 50
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For the students: - All the Questions are compulsory and carry equal marks.

Q1.	Which of the following relation is correct in working stress method?
Option A:	Permissible Stress = Yield Stress x Factor of Safety
Option B:	Permissible Stress = Yield Stress / Factor of Safety
Option C:	Yield Stress = Permissible Stress / Factor of Safety
Option D:	Permissible Stress = Yield Stress – Factor of Safety
Q2.	If the depth of actual neutral axis is more than the critical neutral axis, then the section is
Option A:	Balanced
Option B:	Under-reinforced
Option C:	Over-reinforced
Option D:	Transformed
Q3.	Modular ratio m is given by
Option A:	280 / 3 σ_{cbc}
Option B:	280 / 4 σ_{cbc}
Option C:	280 / 5 σ_{cbc}
Option D:	280 / 6 σ_{cbc}
Q4.	If the depth of actual neutral axis is more than the critical neutral axis, then the section is_____
Option A:	Balanced
Option B:	Under-reinforced
Option C:	Over-reinforced
Option D:	Transformed
Q5.	As per IS 456-2000 in working stress method, the permissible compressive stress in bars, in beams or slabs when compressive resistance of concrete is taken in account, can be taken as ___ times the compressive stress in surrounding concrete or permissible stress in steel in compression, whichever is lesser.
Option A:	1.5
Option B:	2
Option C:	1.15
Option D:	1.37
Q6.	Q in WSM is called as
Option A:	lever arm constant
Option B:	Neutral axis constant
Option C:	Moment of resistance constant
Option D:	Loading constant

Q7.	Shear reinforcement in beams are provided in the form of
Option A:	Vertical stirrups
Option B:	Horizontal stirrups
Option C:	Structural steel
Option D:	Rebar
Q8.	As per IS 456-2000 in which condition minimum shear reinforcement is to be provided?
Option A:	When actual shear is greater than shear capacity of concrete
Option B:	When actual shear is lesser than shear capacity of concrete
Option C:	Every time
Option D:	No requirement
Q9.	The minimum number of bars to be provided in square or rectangular column are
Option A:	2
Option B:	4
Option C:	6
Option D:	8
Q10.	In an under-reinforced concrete section
Option A:	Steel will reach its permissible stress first
Option B:	Concrete will reach its permissible stress first
Option C:	Both Steel and Concrete will reach their permissible stress
Option D:	None of these
Q11.	For Fe 415 the permissible stress in WSM as per IS 456-2000 is
Option A:	250 N/mm^2
Option B:	150 N/mm^2
Option C:	50 N/mm^2
Option D:	230 N/mm^2
Q12.	k in WSM is called as
Option A:	lever arm constant
Option B:	neutral axis constant
Option C:	moment of resistance constant
Option D:	loading constant
Q13.	The minimum reinforcement in a slab takes care of
Option A:	Shear force
Option B:	Bending moment
Option C:	Support to main reinforcement
Option D:	Axial force
Q14.	The main reinforcement in RCC cantilever slab is placed at
Option A:	Top face along the span
Option B:	Bottom face along the span
Option C:	Top face along width
Option D:	Bottom face along width

Q15.	As per IS 456-2000, the minimum depth at the end of isolated slope footing shall not be less than
Option A:	300 mm
Option B:	200 mm
Option C:	150 mm
Option D:	400 mm
Q16.	Working stress method is also known as
Option A:	Plastic method
Option B:	Rebound method
Option C:	Modular ratio method
Option D:	Permissible stress method
Q17.	Loss due to creep of concrete ranges up to
Option A:	1 to 2 %
Option B:	2 to 3 %
Option C:	5 to 10 %
Option D:	10 to 20 %
Q18.	Freyssinet System is commonly used for
Option A:	Pre-tensioning
Option B:	Post-tensioning
Option C:	In both pre and post tensioning
Option D:	Column jacketing
Q19.	----------- is made of a bundle of wires spun together.
Option A:	Strand
Option B:	Wire
Option C:	Tendon
Option D:	Concrete
Q20.	What is the minimum grade of concrete for PSC construction?
Option A:	M20
Option B:	M30
Option C:	M40
Option D:	M25
Q21.	WSM is ____
Option A:	Deterministic method
Option B:	Probabilistic method
Option C:	Both Deterministic and Probabilistic method
Option D:	None
Q22.	The loss of prestress with time at constant strain in steel is called as
Option A:	Anchorage loss
Option B:	Shrinkage
Option C:	Creep

Option D:	Relaxation of steel and elastic shortening of concrete
Q23.	The loss of prestress due to friction can be reduced by
Option A:	Using grouting
Option B:	Jacking from the two ends
Option C:	Using concordant profile
Option D:	None
Q24.	The permissible stress in concrete for flexure in WSM for M20 concrete is
Option A:	7 N/mm^2
Option B:	8 N/mm^2
Option C:	9 N/mm^2
Option D:	10 N/mm^2
Q25.	The permissible stress in concrete for direct compression in WSM for M20 concrete is
Option A:	5 N/mm^2
Option B:	6 N/mm^2
Option C:	7 N/mm^2
Option D:	8 N/mm^2

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Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	B
Q2.	C
Q3.	A
Q4	C
Q5	A
Q6	C
Q7	A
Q8.	A
Q9.	B
Q10.	A
Q11.	D
Q12.	B
Q13.	C
Q14.	A
Q15.	C
Q16.	C
Q17.	C
Q18.	A
Q19.	A
Q20.	B
Q21.	A
Q22.	D
Q23.	B
Q24.	A
Q25.	A