Course/Branch : B.E/Civil	**Year / Semester** :IV/VII	Format No.	NAC/TLP-07a.13
Subject Code : CE8703	**Subject Name** STRUCTURAL DESIGN AND DRAWING	Rev. No.	02
Unit No : I	**Unit Name** :RETAINING WALLS	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
UNIT I	RETAINING WALLS Reinforced concrete Cantilever and Counter Fort Retaining Walls–Horizontal Backfill with Surcharge–Design of Shear Key-Design and Drawing.	
1.	The area of the concrete in compression plus the area of reinforcement transferred on the basis of modular ratio, is called a) Transferred section b) Equivalent section **c) Cracked section** d) None of these	L1
2.	The gap between web plates and flange plates for fillet welds should not be more than A) 0.5 mm **B) 0.75 mm** C) 1.0 mm a) D) 1.25 mm	L1
3.	The depth 'd' of webs without horizontal stiffeners and consisting of tongue plates is taken lesser than the depth of the girder between the flanges less the sum of the depth of the tongue plates, and **a) Eight times the sum of the thickness of tongue plates** b) Six times the sum of the thickness of tongue plates c) Four times the sum of the thickness of tongue plates a) d) None of the above	L1
4.	For design of a column the eccentricity of loading shall be taken as the distance from the assumed point of application of the load to the centroid of the column, subject to a minimum of a) 10 mm b) 20 mm c) 30 mm **d) 50 mm**	L1
5.	The maximum area of compression reinforcement in a beam of cross section B x D is limited to a) 0.02 BD b) 0.03 BD **c) 0.04 BD** d) 0.05 BD	L1
6.	Moist curing of the exposed surfaces of concrete is done at least for a) 3 days b) 5 days **c) 7 days** d) 14 days	L1

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7.	Pick up the incorrect statement from the following: a) The gross section of the web of rolled I-beams is the depth of the beam multiplied by the web thickness **b) The gross section of the web of channels is the depth of the web multiplied by its thickness** c) The gross section of the web of plate girders is the depth of the web plate multiplied by its thinness d) None of these	L1
8.	For battened struts; the effective length is increased by a) 5% b) 7.5% **c) 10%** d) 12.5%	L1
9.	The test strength of the sample is taken as the average of the strength of a) 2 specimens **b) 3 specimens** c) 4 specimens d) 5 specimens	L1
10.	The maximum deflection of a structure should not normally exceed lesser of the span/350 or a) 10 mm b) 15 mm **c) 20 mm** d) 25 mm	L1
11.	Pick up the correct statement regarding columns a) The cross sectional area of longitudinal reinforcement, should not be less than 0.8% nor more than 4% of its gross sectional area b) The minimum of longitudinal bars provided in rectangular and circular columns are 4 and 6 respectively c) If the effective length of a column is less than three times its lateral dimension, it is generally called a pedestal **d) All the above**	L1
12.	For heavily reinforced concrete member, the nominal maximum size of the aggregates should be restricted to a) 5 mm less than the minimum clear distance between the main bars b) 5 mm less than the minimum cover to the reinforcement **c) Smaller of (a) and (b)** d) Greater of (a) and (b).	L1

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13.	.The minimum pitch i.e., the distance between centres of rivet holes is not less than a) 1.5 times the hole diameter b) 2.0 times the hole diameter **c) 2.5 times the hole diameter** d) 3.0 times the hole diameter	L1
14.	.Dispersion of load through the flange to web is considered as dispersed uniformly at an angle θ ° is a) 10° b) 15° c) 20° **d) 30°**	L1
15.	The grade of concrete generally not used in the reinforced concrete, is **a) M 10** b) M 15 c) M 20 d) M 40	L1
16.	.The outstand of stiffeners should be (where t is the thickness of flat) a) 6 t b) 8 t c) 10 t **d) 12 t**	L1
17.	.For the plain reinforcing bars in compression, the permissible design bond stress in tension, is increased by a) 10% b) 15% c) 20% **d) 25%**	L1
18.	.The cover to the main reinforced may be reduced up to one third of the specified cover but not less than **a) 5 mm** b) 7 mm c) 10 mm d) 15 mm	L1
19.	The reduced level of third floor of a building near a column is 205.350 m. The reduced levels of the undersides of four beams supporting the fourth floor framing into the column mutually perpendicular are 208.350 m, 208.450 m, 208.500 m and 208.550 m. The supported length of the column is **a) 3.000 m** b) 3.100 m c) 3.150 m d) 3.200 m	L1

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20.	.The distance between, rivet line and the nearest edge of a joint not exposed to weather, is taken (where t is thickness in mm of the thinner outside plate). a) 6 t b) 8 t c) 10 t **d) 12 t**	L1
21.	Pick up the correct precaution while splicing the reinforcing bars a) These are provided away from the sections of maximum stress b) These are staggered c) These are provided if the B.M. is more than 50% of M.R. **d) All the above**	L1
22.	The over all depth of a solid slab is 20 cm and effective depth is 15 cm. The horizontal distance between parallel main reinforcement should not be more than a) 30 cm b) 40 cm c) 45 cm d) 60 cm	L1
23.	The grade of plain concrete to be used in sea water or structures exposed to sea water, should be a) M lo **b) M 15** c) M 20 d) M 30	L1
24.	.In case of continuous beams, the distance between the points of zero moment, may be obtained as (where l is the effective span). a) 0.5 l b) 0.6 l **c) 0.7 l** d) 0.8 l	L1
25.	The reinforcing bars in beams are not bundled in contact if the diameter of the bars, exceeds a) 12 mm b) 20 mm c) 35 mm **d) 36 mm**	L1