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- Q:1) The shape of idealized stress-strain curve
- for concrete as prescribed by IS 456 2000 is
- A: Rectangular
- **B** : Parabolic
- **C : Rectangular parabolic**

RCC

D : None of these



- Q:2) Deflection can be controlled by using the
- appropriate :
- A : Aspect ratio
- **B : Modular ratio**
- C: Span / depth ratio

RCC

D: Water / cement ratio



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Q:3) The term 'Characteristic load' means that load which has a probability of not being exceeded, during the life of the structure is equal to : A:90% **B:95% C : 99%**

D:100%



Q : 4) For reinforced concrete members totally immersed in sea water, the additional cover thickness recommended by the code is : A : 25 mm

- B:30 mm
- C:35 mm
- D : 40 mm



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Q:5) The load factor for live load and dead load are:

A: 1.8 and 2.2

RCC

B: 1.5 and 1.5

C : 1.8 and 1.8

D: 2.2 and 2.2



Q:6) Minimum thickness of load bearing RCC wall should be :

wall should be

RCC

A : 5 cm

B : 10 cm

C : 15 cm

D : 20 cm



RCC

Q : 7) For wall column and vertical faces of all the structural members, the form work is generally removed after A : After 24 to 48 hours B : After 3 days C : After 7 days D : After 14 days



Q:8) The minimum thickness of a reinforced concrete wall should be :

A : 7.5 cm

RCC

B : 10 cm

C : 15 cm

D:12.5 cm



- Q : 9) The value of ultimate creep coefficient for concrete :
- A : Increases with age of loading
- **B** : Decreases with age of loading
- **C** : Remains constants

RCC

D : Is taken as 0.0003



Q: 10) Partial safety factors for concrete and

steel respectively may be taken as :

A: 1.5 and 1.15

- B : 1.5 and 1.78
- C: 3 and 1.78
- D:3 and 1.2



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Q:11) The characteristic strength of concrete

in the actual structure is taken as :

RCC

A : f_{ck} B : 0.85 f_{ck} C : 0.67 f_{ck} D : 0.447 f_{ck}



Q:12) For R.C.C. construction, the maximum

size of coarse aggregate is limited to :

A : 10 mm

- B : 15 mm
- C:20 mm
- D:25 mm



- Q : 13) The thermal expansion coefficient (α) of steel is:
- A : 13 \times 10⁻⁶/°C and closely resembles to α of concrete
- B : 11 \times 10⁻⁶/°C and differs widely from α of concrete
- C : 12 \times 10⁻⁶/°C and close to α of concrete
- D : 14 \times 10⁻⁶/°C but nearly equal to α of

concrete



Q : 14) The tensile strength of concrete in flexure as per IS : 456 is

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A : 0.6 $\sqrt{f_{ck}}$ B : 0.7 $\sqrt{f_{ck}}$ C : 0.75 $\sqrt{f_{ck}}$ D : 0.9 $\sqrt{f_{ck}}$



Q:15) The modulus of rupture of concrete gives :

- A : The direct tensile strength of the concrete
- **B** : The direct compressive strength of the
- concrete
- **C** : The tensile strength of the concrete under
- bending
- D : The characteristic strength of the concrete



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RCC 59 Website – everexam.org Daily Class – 7:30 PM Q : 16) As per IS : 456-2000, the organic content of water used for making concrete should not

be more than :

- A:200 mg/L
- B:250 mg/L
- C:100 mg/L
- D:150 mg/L



Q : 17) As per IS 456-2000, in the absence of test data, the approximate value of the total strain for design may be taken as : A : 0.0004 B : 0.0001 C : 0.0002 D : 0.0003



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Q:18) Mild steel used in RCC structure

conforms to;

RCC

A : IS : 432

B: IS: 1566

C: IS: 1786

D : IS : 2062



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D:300



Q : 20) Percentage of steel for balanced design of a singly reinforced rectangular section by limit state method depends on
A : Characteristic strength of concrete
B : Yield strength of steel
C : Modulus of elasticity of steel

D : Geometry of the section



Q:21) The assumption that the plane sections normal before bending remains normal after bending is used-

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A : Only in the working stress method of design

B : Only in the limit-state method of design

C : In both working stress and limit state

methods of design

RCC

D : Only in the ultimate load method of design



Q : 22) While estimating a reinforced cement structure the omitted cover of concrete is assumed

A : At the end of reinforcing bar not less than

15 mm or twice the diameter of the bar

B : In thin slabs, 12 mm minimum or diameter of the bar, whichever is more

C : For reinforcing longitudinal bar in a beam 25 mm minimum or diameter of the target bar whichever is more

D : All option are correct



- Q : 23) If the thickness of a structural member is small as compared to its length and width, it
- is classified as -
- A : One dimensional

- **B** : Two dimensional
- **C** : Three dimensional
- **D** : None of these



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Q : 24) According to IS : 456, the number of grades of concrete mixed is –

A:3

RCC

B:4

C : 5

D:7



Q : 25) As per IS specifications, the nominal concrete cover for moderate exposure should not be less than _____

A : 20 mm

- B:30 mm
- C:45 mm
- D : 50 mm



Q : 26) In limit state approach, spacing of main reinforcement controls primarily _____

A : Collapse

- **B** : Durability
- **C** : Deflection
- D : Cracking



Q:27) Pick up the correct statement from the following-

A : Dead load includes self-weight of the structure and super-improsed loads permanently attached to the structure B : Dead loads change their positions and vary in magnitude

C : Dead loads are known in the beginning of the design

D : None of these



Q:28) Permanent dimension changes due to loading of concrete is termed as :

A : Strain

- **B**: Extent
- C:Creep
- D : Ambit



RCC

Q : 29) How does an increase in the pitch of the roof affects the amount of load that can be placed on it? A : It increases B : It decreases C : Remains constant D : Depends upon case


- Q:30) Which of the following statement is true?
- A. Most of the loads applied to a building are environmental load.
- B. Most of the loads are dead followed by live loads
- A : Only A
- B: Only B
- C: Both A and B
- **D** : Neither A nor B



Q : 31) When not specific, the volume of steel

in RCC work is taken as

RCC

A: 1% to 6% of RCC volume

B: 2% to 4% of RCC volume

C: 4% to 6% of RCC volume

D: 0.6% to 1% of RCC volume



- Q:32) The beam outside a wall up to floor
- level above it, is known as

- A : Rafter
- **B**:Lintel
- C: Spandrel beam
- **D** : None of these



Q:33) With usual notations the depth of the neutral axis of a balanced section is given by A:mc/t = (d - n)/n B:t/mc = n/(d + n) C:t/mc = (d + n)/n D:mc/t = n/(d - n)



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Q:34) According to IS 456, the number of

grades of standard concrete mixes are

RCC

A:3

B:5

C:6

D:7



Q : 35) Which of the following shows the correct expression for target mean strength (f_{cm}) of concrete, if the characteristic strength and standard deviation is given by f_{ck} and σ respectively?

A : $f_{cm} = f_{ck} + 1.65 \sigma$ B : $f_{cm} = f_{ck} - 1.65 \sigma$

RCC

C: $f_{cm} = f_{ck} - \frac{\sigma}{1.65}$ D: $f_{cm} = f_{ck} + 1.5 \sigma$



- Q:36) M15 concrete is used for :
- A : Dams
- **B** : Foundation
- C:RCC
- **D** : Mass concreting works



Q:37) Impact load results from which type of effects of loads applied?

- A : Static
- **B** : Dynamic
- **C** : Static and dynamic

RCC

D : Neither static nor dynamic



- Q:38) A precast pile generally used is
- A : Circular
- **B**:Square
- C: Octagonal

D : Square with corners chamfered



- Q:39) In a singly reinforced beam
- A : Compression is borne entirely by concrete
- B : Steel possesses initial stresses when embedded in concrete
- C : Plane sections transverse to the centre line of the beam before bending remains plane
- after bending
- **D**: None of these



- Q:40) Dead load comprises of-
- A : Permanently attached loads
- **B** : Temporarily attached loads
- **C : Permanent as well as temporary loads**
- D : Snow load



Q : 41) Pick up the correct statement from the following. drying shrinkage is affected by A : The relative humidity of the atmosphere when the concrete is placed B : The length of time C : The water / cement ratio of the concrete D : All option are correct



Q:42) The maximum thickness of concrete floor of a cement warehouse is

A : 10 cm

- B : 15 cm
- C:20 cm
- D : 25 cm



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Q:43) Which IS code provides recommended guidelines for concrete mix design?

A : IS 12813

RCC

B: IS 800

C: IS 1373

D: IS 10262



Q : 44) The following statements (S1, S2, S3) pertain to an under reinforced beam of concrete. Choose the correct statements.

S1 : These beams are deeper when compared to a balanced beam section

S2 : The failure of the beam takes place due to failure of steel

S3 : These beams undergo large deflections at

failure

A : S1 and S3

B : S1 and S2

C : S2 and S3

D : S1, S2 and S3



Q:45) For concrete works in sea water or exposed directly along the sea coast, the minimum grade oof concrete recommended by SI 456 : 2000, for plain concrete and reinforced concrete are, respectively : A : M10 and M20 **B : M20 and M30 C : M15 and M25 D** : M25 and M40



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Q : 46) The maximum permissible value of organic solids in water, used for the preparation of concrete as per IS 456 : 2000 is A : 200 mg/l

- B : 500 mg/l
- C: 3000 mg/l
- D:2000 mg/l



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For Any Query Call – 8595517959 | Website – everexam.org Daily Class - 7:30 PM Q:48) Concrete in the member represented by core test shall be considered acceptable if the average equivalent cube strength of cores is equal to at least % of cube strength of the grade of concrete specified for the corresponding age A:90 **B:85 C : 50 D**:70



Q : 49) For thin slabs and walls, the maximum size pf coarse aggregate should be limited to ______the thickness of the concrete section.

A: One-fourth

- **B**: Two-third
- C: One-third
- **D** : Three-fourth



Q : 50) According to IS 456-2000, nominal cover for reinforcements in case of footing, under, 'Very severe' exposure : A : Shall not be less than 40 mm B : Shall not be less than 25 mm

C : Shall not be less than 50 mm

RCC

D : Shall not be less than 30 mm



Q : 51) What is minimum period before striking the form word to RCC slabs (with props to be refixed immediately after removal of formwork)? A : 7 days B : 14 days

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- **C : 21 days**
- D:3 days



Q: 52) Which of the following statements pertaining are true or false? **ST1 : Mild steel has higher ultimate tensile** strength when compared to high carbon steel **ST2 : TOR steel is high strength deformed bars** with high yield and bond strength. A : Both ST1 and ST2 are true **B** : ST1 is false and ST2 is false C: ST1 is true and ST2 is false **D** : Both ST1 and ST2 are false



- Q:53) The shear span is defined as the zone where:
- A : Shear force is zero

- **B** : Bending moment is zero
- **C** : Shear force is constant
- **D** : Bending moment is constant



Q:54) A reinforced concrete beam, supported on columns are ends, has a clear span 5m and 0.5m effective depth. It carries a total uniformly distributed load 100 kN/m. The design shear force for the beam is A: 250 kN B:200 kN C:175 kN

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D:150 kN



- Q:55) Shrinkage in a concrete slab
- A : Causes shear cracks
- **B** : Causes tension cracks
- **C** : Causes compression cracks
- **D** : Does not cause any cracking



- Q : 56) Diagonal tension reinforcement is provided as
- A : Longitudinal bars

- **B** : Bent up bars
- **C** : Helical reinforcement
- D:90° bent at the end



Q : 57) In limit state of collapse against flexure, the maximum strain in tension reinforcement at failure shall not be less than :

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A:0.002

B: 0.002 +
$$\frac{f_y}{E_s}$$

C: 0.002 + $\frac{f_y}{0.87 E_s}$
D: 0.002 + $\frac{f_y}{1.15 E_s}$



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Q: 58) The factored load at the limit state of collapse for DL + LL, DL + WL and DL + LL + WL combinations, according to IS: 456: 2000 are respectively A : 1.2 DL + 1.2 LL, 1.5 DL + 1.5 WL, 1.5 DL + 1.5 LL + 1.5 WL B : 1.5 DL + 1.5 LL, (0.9 or 1.5) DL + 1.5 WL, 1.2 DL + 1.2 LL + 1.2 WL C: 1.5 DL + 1.5 LL, 1.2 WL, 1.5 DL + 1.5 LL + 1.5 WL D : (0.9 or 1.5)DL + 1.5 LL, 1.5 DL + 1.5 WL, 1.2 DL + 1.2 LL + 1.2 WL



Q : 59) If τ_v is the nominal shear stress, τ_c is design shear strength of concrete and $\tau_{c,max}$ is the maximum design shear strength of concrete, which of the following statement is correct? A : If $\tau_v > \tau_{Cmax}$, section is to be designed for shear B : If $\tau_v > \tau_{Cmax}$ minimum shear reinforcement is to be provided

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C : If $\tau_{v} < \tau_{C}$, minimum shear reinforcement is to be provided.

D : If $\tau_v > \tau_c$, minimum shear reinforcement is to be provided



Q:60) Which one of the following statements is correct?

A : Shear cracks start due to high diagonal tension in case of beams with their webs and high [restressing force

B : Shear design for a prestressed concrete beam is based on elastic theory

C : In the zone where bending moment is dominant and shear is insignificant, cracks occur at 20° to 30° D : After diagonal cracking, the mechanics of shear transfer in a prestressed concrete member is very much different from the in reinforced concrete members.



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Q: 61) The minimum percentage of shear reinforcement in RCC beams is _____

A : 0.85/f_y B : 0.4 C : 4 D : 40S_v/f_vd



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- Q:63) Spacing of stirrups in a rectangular beam is,
- A : Kept constant throughout the length
- **B** : Decreased towards the center of the beam
- C : Increased at ends

D : Increased at center of the beam



Q:64) Dimension of a beam need be changed

if the shear stress is more than

RCC

A : 5 kg/cm²

- B : 10 kg/cm²
- C : 15 kg/cm²

D : 20 kg/cm²



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Q:65) Tension bars in a cantilever beam must be anchored in the support up to

A : L_d B : $L_d/3$ C : 12 ϕ D : d


- Q:66) When HYSD bars are used in place of
- mild steel bars the bond strength
- A : Increases
- **B** : Decreases
- **C** : Does not change

RCC

D : Become zero



Q : 67) The length of the straight portion of a bar beyond the end of the hook should be at least

A : Twice the diameter

- **B** : Thrice the diameter
- **C** : Four times the diameter
- **D** : Seven times the diameter



- Q:68) Lap length in compression shall not be
- less than :
- A : Less than 15 ϕ

- **B** : Less than 20 ϕ
- C : Less than 24 ϕ
- D : Less than 30 ϕ



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Q : 69) Tension bars in a cantilever beam must be enclosed in the support up to :

A : L_d B : $L_d/3$ C : 12ϕ D : d



Q : 70) If a beam fails in bond then its bond strength can be increased most economically by

A : Increasing the depth of beam

- **B** : Using thinner bars but more in number
- **C** : Using thicker bars but less in number
- **D** : Providing vertical stirrups



Q:71) In limit state method of design, for HYSD bars the values of bind stress shall be

A : Increased by 60%

- **B** : Decreased by 60%
- C : Increased by 50%
- **D** : Decreased by 50%



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Q : 72) If σ_s is the shear stress in bar and τ_{hd} is the design band stress, then the development length of a bar of diameter ϕ is given by A: $4\phi\sigma_s$ $\phi \sigma_s$ **B**: $4 au_{bd}$ $2\phi\sigma_s$

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$$D: \frac{\phi \sigma_s}{3\tau_{bd}}$$



RCC

Q:73) The bearing stress at bends for limit state method compared to working stress method of design is A:1.5 times more B: 2.5 times more C: 2.5 times less D: 1.5 times less



Q:74) The bond strength between steel reinforcement and concrete is affected by

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- a. Steel properties
- **b.** Concrete properties

- c. Shrinkage of concrete
- The correct answer is
- A: A and B
- B: B and C
- C: A and C
- D:A, B and C



RCC

Q:75) Pick up the incorrect statement from the following :

Tensile reinforcement bars of a rectangular beam

- A : Are curtailed if not required to resist the bending moment
- **B** : Are bent up at suitable places to serve as shear reinforcement
- C : Are bent down at suitable places to serve as shear reinforcement
- D : Are maintained at bottom to provide at least local bond stress



Q : 76) The bar carrying positive bending moment is bend up to resist negative bending moment is shown in which of the following

figures? A : I B : II C : III D : None of these

RCC



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Q : 77) If the average bending stress is 6 kg/cm² for M15 grade concrete, the length of embedment of a bar of diameter d according to IS 456 specification is A : 28 d

- A : 28 a
- B : 38 d
- C : 48 d
- D : 58 d



Q : 78) The designed bond stress of M20 grade concrete is : A : 1.2 N/mm² B : 1.8 N/mm² C : 1.0 N/mm²

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D : 1.6 N/mm²



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Q : 79) For a 30 degree cranked on bend up bar, the inclined length of the crank is equal to : A : 1.73 d B : d/2 C : d

D:2d



Q : 80) For deformed bars conforming to IS 1786, the design bond stress in limit sate method shall be : A : Increased by 20% B : Increased by 40% C : Increased by 60%

D : Decreased by 20%



Q:81) According to IS 456:2000, the percentage increase in the design bond stress in limit state, for deformed bars in tension (conforming to IS 1786), with respect to plain bars in tension is : A:50 **B:20 C:35 D:60**



Q : 82) The clear distance between the lateral restraints for a simply supported or continuous beam to ensure lateral stability should not exceed:

A : 60 b^2 or 250 b^2/d whichever is more

B : 60 b or 250 d^2/b whichever is less

RCC

C : 60 b or 250 d^2/b whichever more

D: 60 b or 250 b²/d whichever is less



Q : 83) In doubly reinforced sections, total reinforcement percentage of steel should not exceed : A : 4.0 B : 6.0 C : 8.0

D:10.0



Q : 84) Minimum spacing between horizontal parallel reinforcements of different sizes should not be less than

A : One diameter of thinner bar

RCC

- **B** : One diameter of thicker bar
- C : Sum of the diameter of thinner and thicker

bars

D : Twice the diameter of thinner bar



For Any Query Call – 8595517959 | Website – everexam.org Daily Class – 7:30 PM **Q: 85)** For the deflection of simply supported beam to be within permissible limits, the ratio of its span to effective depth should not exceed : A:7 **B:20 C:26 D:35**



- Q:86) In a cantilever beam, main
- reinforcement is provided :
- A : Above the neutral axis
- **B** : As vertical stirrups

- **C** : As helical reinforcement
- **D** : Below the neutral axis



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Q : 88) Maximum spacing of side face reinforcement of beam having depth of web more than 750 mm is :

A: 300 mm

- B: Width of web of the beam
- **C : Smaller of A and B**

RCC

D : Greater of A and B



Q : 89) Bending moment co-efficient and shear coefficient for continuous beams of uniform cross section as per IS : 456 (table 12 and 13) may be used only when spans do not differ to the longest span by :

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A:15%

- **B:20%**
- **C : 10%**
- **D:12%**



RCC

Q: 90) A T-beam behaves as a rectangular
beam of a width equals to its flange if flange if
its flange if its neutral axis :
A: falls within the flange
B: Falls below the flange
C: Coincides with the geometrical centre of the

beam

D : Falls below the centroidal axis of the beam



- Q:91) The thickness of the flange of T-beam of
- a ribbed slab is assumed as

- A : Half the thickness of the rib
- **B** : Thickness of the concrete topping
- **C** : Depth of the rib
- D: Width of the rib



Q : 92) From limiting deflection point of view, use of high strength steel in RC beam results in

A : Reduction in depth

- **B** : No change in depth
- **C** : Increase in depth
- D : Increase in width



Q : 93) A reinforced cantilever beam of span 4 m has a cross section of 150 × 500 mm. If checked for lateral stability and deflection, the beam will _____.

A : Fail in deflection only

RCC

B : Fail in lateral stability only

C : Fail in both deflection and lateral stability

D : Satisfy the requirements of deflection and lateral stability



Q : 94) The final deflection due to all loads including the effects of temperature, creep and shrinkage and measured from as-cast level of supports of floors, roods and all other horizontal members should not exceed

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A : Span / 350

- B : Span / 300
- C: Span / 250
- D : Span / 200



Q : 95) Torsion resisting capacity of a given reinforced concrete section.

A : Decreases with decreases in stirrup spacing

B : Decreases with increases in longitudinal

bars

C : Does not depend upon stirrup and

longitudinal steels

RCC

D : Increases with the increase in stirrups and longitudinal steels



Q : 96) Minimum spacing between horizontal parallel reinforcement of different sizes, should not be less than :

A : One diameter of thinner bar

- **B** : One diameter of thicker bar
- C : Sum of the diameters of thinner and thicker
- bars
- D : Twice the diameter of thinner bar



For Any Query Call – 8595517959 | Website – everexam.org Daily Class - 7:30 PM Q:97) Though the effective depth of a T-beam is the distance between the top compression edge to the center of the tensile reinforcement for heavy loads it is taken as A: 1/8th of span B: 1.10th of span $C: 1/12^{th}$ of span D: 1/16th of span



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Q : 98) For the design of a simply supported Tbeam the ratio of the effective span to the overall depth of the beam is limited to – A : 10

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B:15

- **C**:20
- D:25



Q : 99) The width of the rib of a T-beam is generally kept between : A : 1/7 to 1.3 of rib depth B : 1/3 to 1/2 of rib depth

C: 1/2 to 3/4 of rib depth

RCC

D: 1/3 to 2/3 of rib depth



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- Q: 100) A beam curved in plan is designed for
- A : Bending moment and shear
- **B** : Bending moment and torsion
- **C** : Shear and torsion
- D: Bending moment, shear and torsion



Q: 101) By over reinforced beam, the moment

of resistance can be increased not more than

A:10%

- **B:15%**
- **C : 20%**
- D:25%


Q : 102) For initial estimate for a beam design, the width is assumed

A: 1/15th of the span

- B: 1/20th of the span
- C: 1/25th of the span
- D: 1/30th of the span



Q : 103) Minimum spacing between horizontal parallel reinforcement of the same size should not be less than A : One diameter B : 2.5 diameter

- C:3 diameter
- D: 3.5 diameter



•

Q : 104) If the ratio of the span to the overall depth does not exceed 10, the stiffness of the beam will ordinarily be satisfactory in case of a

- A : Simply supported beam
- **B**: Continuous beam

- **C : Cantilever beam**
- **D** : None of these



Q : 105) According to IS 456 : 2000, what is the maximum spacing that is allowed for vertical stirrups in a simply supported beam? A : 500 mm B : 150 mm

C:600 mm

RCC

D:300 mm



Q : 106) As per IS 456 : 2000, the minimum beam width required for a reinforced concrete beam, for 2 hours of fire exposure is : A : 300 mm

B : 150 mm

- C:200 mm
- D:250 mm



Q: 107) Which of the following is true about depth requirement of beam considering deflection control criteria for same span and loading? A : Depth required for cantilever beam > simply supported beam > continuous beam **B** : Depth required for simply supported beam < cantilever beam < continuous beam **C** : Depth required for simply supported beam < **Continuous beam < Cantilever beam** D : Depth required for simply supported beam >

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Cantilever beam > Continuous beam



Q : 108) The critical for minimum and maximum area of tension steel requirement in reinforced concrete beams (singly reinforced) as per IS 456 : 2000 is respectively : (Notations : As – area of steel, b – breadth of beam, d – effective depth of beam. D – depth of beam, f_y – characteristic yield strength of reinforcement).

$$A: \frac{As_{min}}{bd} \ge \frac{0.75}{f_y}, \frac{As_{max}}{bD} \le 0.4$$
$$B: \frac{As_{min}}{bd} \ge \frac{0.8}{f_y}, \frac{As_{max}}{bD} \le 0.05$$
$$C: \frac{As_{min}}{bd} \ge \frac{0.85}{f_y}, \frac{As_{max}}{bD} \le 0.04$$
$$D: \frac{As_{min}}{bd} \ge \frac{0.78}{f_y}, \frac{As_{max}}{bD} \le 0.04$$



Q: 109) For slabs spanning in two directions for calculating the span to effective depth ratio :

A : Shorter span should be considered

B : Longer span should be considered

C : Average value of shorter and longer spans should be considered

D : Both the span should be considered in their respective directions



Q:110) Maximum permitted spacing of main

bars in a slab is

RCC

A : 100 mm

B:3d

C:5d

D:450 mm



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Q: 111) The effective span of simply supported slab is A : Distance between the centre of the bearing **B** : Clear distance between the inner face of the wall plus twice the thickness of the wall **C**: Clear span plus effective depth of the slab **D** : None of these



For Any Query Call – 8595517959 | Website – everexam.org Daily Class – 7:30 PM Q:112) For a continuous floor slab supported on beam, the ratio of the end span of length and intermediate span length is : A:0.6b **B:0.7 C**:0.8 D:0.9



- Q:113) The effective width of a column strip of a flat slab is
- A : One-fourth the width of the panel
- **B** : Half the width of the panel
- C : Radius of the column

RCC

D : Diameter of the column



Q : 114) The minimum cover of a slab should neither be less than the diameter of bar not less than : A : 10 mm B : 15 mm C : 20 mm

D : 25 mm



- Q:115) A flat slab is supported on :
- A:Beams
- **B** : Columns

- C:Walls
- D : Columns monolithically built with slab



RCC

Q : 116) The HYSD reinforcement in RC slab shall not be eless than : A : 0.12 (bd)/100 B : 0.12 (bD)/100 C : 0.15 (bd)/100 D : 0.15 (bD)/100



Q:117) The main reinforcement of a RC slab consists of 10 mm bars at 10 cm spacing. If it is desired to replace 10 mm bars by 12 mm bars, then the spacing of 12 mm bars should be

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A : 12 cm

- B:14 cm
- C:14.40 cm
- D : 16 cm



Q : 118) Design of a two-way slab simply supported on edges and having no provision to prevent the corners from lifting, is made by – A : Rankine formula B : Marcus formula C : Rankine Garshoff formula

D : Grashoff formula



- Q: 119) Enlarged head of a supporting column
- of a flat slab is technically known as _
- A : Supporting end of the column
- **B** : Top of the column
- C : Capital
- **D** : Drop panel



- Q: 120) Thickened part of a flat slab over its
- supporting column, is technically known as :
- A : Drop panel

- **B** : Capital
- C: Column head
- **D** : None of these



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Q: 121) The diameter of the column head support a flat slab, is generally kept

A: 0.25 times the span length

- **B** : 0.25 times the diameter of the column
- C: 4.0 cm larger than the diameter of the
- column
- D : 5.0 cm larger than the diameter of the column



Q : 122) In a simply supported slab, alternate bars are curtailed at

A: 1/4th of the span

- B: 1/5th of the span
- C: 1/6th of the span
- D: 1/7th of the span



Q : 123) In a simply supported slab, alternate bars are curtailed at

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(a) 1/4th of the span

RCC

(b) 1/5th of the span

(c) 1/6th of the span

(d) 1/7th of the span



Q : 124) A circular slab subjected to external loading deflects to form.

(a) Semi hemisphere

RCC

(b) Elliposoid

(c) Paraboloid

(d) None of these



Q: 125)The amount of reinforcement for main bars in a slab is based upon

(a) Minimum bending moment

- (b) Maximum bending moment
- (c) Maximum shear force

RCC

(d) Minimum shear force



- Q : 126) The maximum permissible size of aggregates to be used in casting the ribs of a slab is (a) 5 mm (b) 7.5 mm
- (c) 10 mm

RCC

(d) 15 mm



RCC

Q : 127) The percentage of minimum reinforcement should of the gross sectional area in slab is (a) 0.001 (b) 0.0012 (c) 0.0015 (d) 0.0018

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- Q : 128) Which one of the following statements is correct?
- (a) Maximum longitudinal reinforcement in an axially loaded short column is 6% of cross sectional area.
- (b) Columns with circular section are provided transverse reinforcement of helical type only.
- (c) Spacing of lateral cannot be more than 16 times the diameter of the tie bar.
- (d) Longitudinal reinforcement bar need not be in contact with lateral ties.



Q: 129) The unsupported length for a column between end restraints should not exceed times the least lateral dimension of a column.
(a) 80
(b) 150
(c) 12
(d) 60

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Q: 130) Minimum number of vertical bars in a circular column is

(a) 6

RCC

(b) 4

(c) 5

(d) 8



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Q: 132) A short column 20 cm x 20 cm in section is reinforced with 4 bars whose area of cross section is 20 sq.cm. If permissible compressive stresses in concrete and steel are 40 kg/cm^2 and 300 kg/cm^2 , the safe load on the column should not exceed-(a) 412 kg (b) 4120 kg

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- (c) 412000 kg
- (d) None of these



Q: 133) If the size of a column is reduced above the floor, the main bars of the columns----

(a) Continues up

RCC

- (b) Bend inward at the floor level
- (c) Stops just below the floor level and

separates lap bars provided

(d) All options are correct



Q : 134) If the diameter of longitudinal bars of a square column is 16mm the diameter of lateral ties should not be less than

(a) 4mm

- (b) 5mm
- (c) 6mm
- (d) 8mm



- Q:135) The minimum cover for an RCC column should be :
- (a) Greater of 30 mm or diameter

- (b) Greater of 25 mm or diameter
- (c) Greater of 50 mm or diameter
- (d) Greater of 40 mm or diameter



For Any Query Call – 8595517959 | Website – everexam.org Daily Class - 7:30 PM Q: 136) A short RCC column is designed assuming maximum permissible axial compressive stresses in concrete and steel as: (a) 0.4 f_{ck} and 0.67 f_v respectively (b) 0.67 f_{ck} and 0.67 f_v respectively (c) 0.446 f_{ck} and 0.87 f_v respectively (d) 0.446 f_{ck} and 0.67 f_v respectively



Q: 137) According to IS 456 – 2000, under limit state of collapse, the maximum compressive strain in concrete in axial compression taken as
(a) 0.002
(b) 0.2
(c) 0.02
(d) 2.00

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- Q : 138) Identify the INCORRECT statement about pitch of the lateral ties in the RCC column.
- (a) Pitch must be less than or equal to 300 mm.
- (b) Pitch must be less than 24 times the

diameter of the lateral ties.

- (c) Pitch must be less than lateral dimension of column
- (d) Pitch must be less than 16 times of smallest diameter of longitudinal bar in column.



Q:139) The isolated section for two way shear in an isolated spread footing is at the

(a) Face of the column

RCC

(b) Distance 1.5d from column face

(c) Distance d from column face

(d) Distance d/2 from column face



- Q: 140) For a number of columns constructed
- in a row the type of foundation provided is
- (a) Footing

- (b) Raft
- (c) Strap
- (d) Strip



Q: 141) Critical section for calculating bending moment for a spread concrete footing of effective depth d is given by the plane at:
(a) (d/2) from column face
(b) D form column face
(c) Column face
(d) 75 mm from column face



Q : 142) In reinforced and plain concrete footing resting on soils, the thickness at edge shall not be less than: (a) 30 cm (b) 50 cm (c) 15 cm (d) 25 cm



RCC

Q : 143) In a cantilever retaining wall, the stem design shear force is (a) $K_a \gamma h^2/2$ (b) $K_a \gamma h$ (c) $K_a \gamma h^3/6$ (d) $K_a \gamma h^2/12$

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Q: 144) In minimum head room over a stair

must be:

(a) 200 cm

RCC

(b) 205 cm

(c) 210 cm

(d) 220 cm



- Q : 145) The lintels are preferred to arches because;
- (a) Arches require more headroom to span the openings like doors, windows, etc.
- (b) Arches require strong abutments to withstand arch thrust.
- (c) Arches are difficult in construction
- (d) All of the above



- **Q**: 146) In counterfort type retaining walls
- A. The vertical slab is designed as a continuous slab
- B. The heel slab is designed as a continuous slab
- C. The vertical slab is designed as a cantilever
- D. The heel slab is designed as a cantilever
- (a) A and B
- (b) A and D
- (c) B and C
- (d) C and D



- Q: 147) In constructions, why are the lintels preferred to arches?
- A. Arches will not last long
- B. Arches require more head room to span the openings like doors, windows etc.
- C. Arches require strong abutments to with stand arch thrust
- (a) Only A
- (b) Only B
- (c) Only C
- (d) Both B and C



Q: `48) If W is the weight of a retaining wall P is the horizontal earth pressure, the factor of safety against sliding is (a) 1 (b) 1.25 (c) 1.5 (d) 2

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Q: 149) In an RCC staircase design, the tread slabs are structurally independent units and designed simply as (a) Flat slab (b) Beams (c) One-way slab (d) Two-way slab



- Q: 150) The loss of prestress due to shrinkage
- of concrete is the product of –

- (a) Modular ratio and percentage of steel
- (b) Modulus of elasticity of concrete and
 - shrinkage of concrete
- (c) Modulus of elasticity of steel and shrinkage of concrete
- (d) Modular ratio and modulus of elasticity of steel



Q : 151) If the loading on a simply supported pre-stressed concrete beam is uniformly distributed, the centroid of tendons should be preferably_____.

- (a) A straight profile along the centroidal axis
- (b) A straight profile along with the lower kern
- (c) A parabolic profile with convexity

downward

RCC

(d) A circular profile with convexity upward



Q: 152) The cable for a prestressed concrete simply supported beam subjected to uniformly distributed load over the entire span should ideally be ____.

- (a) Placed at the centre of cross section over the entire span
- (b) Placed at some eccentricity over the entire span
- (c) Varying linearly from the centre of cross section at the ends to maximum eccentricity at the middle section
- (d) Parabolic with zero eccentricity at the centre of the span



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- Q: 153) The compression in PSC is done by
 - _ of high-strength tendons.
- (a) Compression

- (b) Tensioning
- (c) Shearing
- (d) Bending



Q: 154) In a prestressed concrete the

RCC

tensioning system may be classified into:

(a) 3
(b) 2
(c) 5
(d) 4



- Q: 155) PSC stands for
- (a) Post stressed concrete
- (b) Post strained concrete
- (c) Pre stressed concrete
- (d) Pre strained concrete



Q: 156) Which of the below structure doesn't

require pre stressed concrete?

RCC

(a) Bridge

- (b) Arch
- (c) Dam
- (d) Silos



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