Q : In a simply supported beam of span L carries a uniform load, W the maximum B.M. is:

A : WL/2
B : WL/4
C : WL/8
D : WL/16

Q : Shear span is defined as the zone where:

A : Bending moment is zero
B : Shear force is zero
C : Shear force is constant
D : Bending moment is constant.

Q : Under a beam loading conditions, If the bending moment is constant over a certain span length, then the shear for would be:

A : Zero

B : Decreasing

C : Constant and a non-zero value

D : Increasing

Q : The point where bending moment changes direction is a beam carrying load is called as:

[UP RVNL AE 2016]

A : The point of contra flexure

B : Point of zero stress

C : Point of zero deflection

D : Non-yielding support point.

Q : _____ is the algebraic sum of the moments of the forces on either side of the section of a loaded beam,

[DFCCIL, 17-04-2016]

A : Bending moment

B : Retaining walls

C : Shearing force

D : Modulus of resilience

Q : The bending moment on a section in maximum where shear force:

[UPSSSC JE 31-07-2016/DMRC 2015]

A : Is maximum
B : Is minimum
C : Is equal
D : Changes sign.

Q : If characteristic compressive strength at 28 days is 40N/mm^2 and standard deviation is 5 N/mm^2, the target strength at 28 days for concrete mix proportional

[APPSC 2016]:

A : 40 N/mm^2
B : 45 N/mm^2
C : 43.25 N/mm^2
D : 48.25 N/mm^2

Q : If the values of t_0, t_l, t_p are 8 2, and 18, the value of t_e is

[APPSC 2016]:

A : 12.1
B : 12.3
C : 12.6
D : 13

Q : In laminar flow, the shear stress distribution for a fluid flowing in between the parallel plates, both at rest is

[RPSC 2013]

A : Constant over the cross section
B : Parabolic distribution across the section
C : Zero at the mid plane and varies linearly with distance-from mid plane
D : Zero at plates and increase linearly to midpoint.

Q : In case of navigation rivers, the minimum free board provided is usually

[MPSC 2017]

A : 30 cm to 45 cm
B : 1.2 cm to 1.5 m
C : 2.4 cm to 3.0 m
D : 1.0 m

Q : A fixed beam of length L is subjected to concentrated load W at mid-span, the collapse load is (plastic moment = M_p; length of beam = L)

A : 6MP/L
B : 8MP/L
C : 16MP/L
D : 4MP/L

Q : According to IS 456-2000, the minimum grade of concrete with maximum free water to cement ratio of 0.5 and minimum cement content of 300 kg/m³ is

A : M 20
B : M 30
C : M 25
D : M 35

Q : The hydrograph of short duration can be converted into hydrograph of longer duration by

[KPSC 2015]

A : Unit hydrograph
B : Synthetic unit hydrograph
C : S-curved method
D : Flood routing

Q : A beam shall be deemed to be a deep beam when the ratio of effective span to overall depth is less than ____ and ___ for simply supported beam and cantilever beam, respectively.

[HPPSC 2016]

A : 7, 2.6
B : 2.5, 2.0
C : 2.0, 2.5
D : 26, 7.0

Q : A smooth two-dimensional flat plate is exposed to a wind velocity of 70 km per hour. If laminar boundary layer exists upto a value of R_{ex} equal to 3×10^5 and kinematic viscosity of air = 1.49×10^{-5} m^2/s, what would be the maximum distance upto which laminar boundary persists?
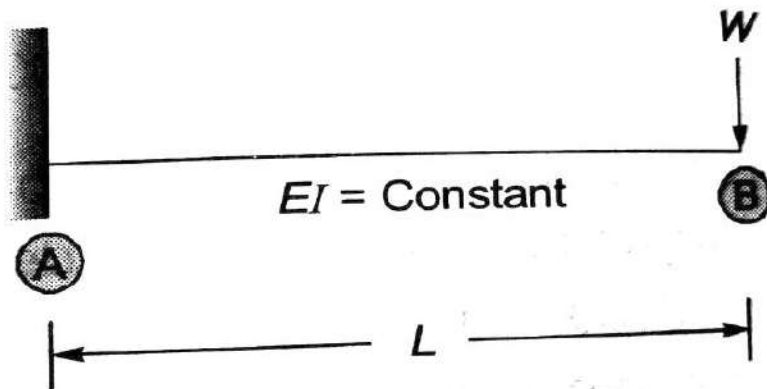
[HPPSC 2016]

A : 0.063 m
B : 0.115 m
C : 0.229 m
D : 3.78 m

Q : For the following cantilever beam as shown in figure, the change in clockwise slope

between (A) and (B) by moment are theorem will be

W

EI = Constant
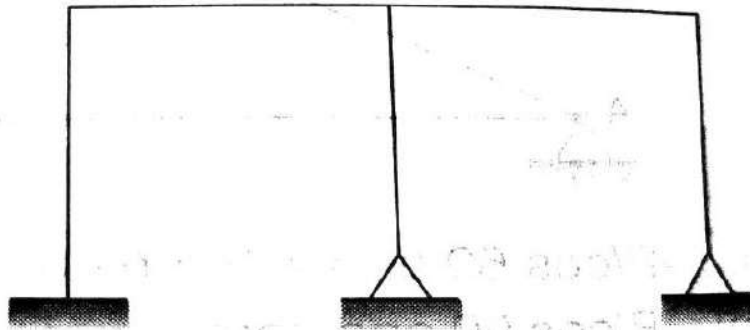
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Ⓐ

L

A : $\dfrac{wL^2}{4EI}$

B : $\dfrac{M}{EI}$

C : $\dfrac{wL^2}{2EI}$

D : None of these

Q : The degree of static indeterminacy N_s the degree of kinematic indeterminacy , N_k for the plane frame as shown neglecting axial deformation are given by

[UKPSC 2013]

A : $N_s=6, N_k=11$ **B** : $N_s=4, N_k=6$
C : $N_s=6, N_k=6$ **D** : $N_s=4, N_k=4$

Q : The shape factor of an I-section is
[UKPSC 2013]

A : 1.04 **B** : 1.14
C : 1.7 **D** : 2