

Q : A beam has a square cross section of side 'a' the ratio of section modulus, when the side is horizontal to the section modulus when it is rotated 45° is.

A : $a\sqrt{2}$

B : $\sqrt{2} a$

C : $\sqrt{2}/a$

D : $\sqrt{2}$

Q : Which among the following is/are the correct assumption in the theory of simple bending?

i. The loads act perpendicular to the beam axis.

ii. The beam bends to a circular arc.

iii. The beam is initially straight of constant cross-section.

(DFCCIL, 17-04-2016)

A : A and B

B : Only A

C : A,B and C

D : Only B

Q : In a section undergoing pure bending, the neutral surface is subjected to.

(HPSSSB JE 31 April 2017),(SSC JE 2013)

A : Compressive strain

B : Tensile strain

C : Zero strain

D : None of the above.

Q: Two beams of same material have equal cross-sectional area. if one beam has square cross section and the other has circular cross section then-

(Rajasthan PSC 2018),(SSC JE 2012)

A : Both the beam will be equally strong

B : Circular section will be stronger

C : Square section will be stronger

D : Strength depends on loading condition

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Q : The most economical section in bending.

(Rajasthan JE 2015/Haryana SSC JE 2015) SJNVL JE 07-10-2018 (SSC JE 2 MARCH 2017 Morning Shift) NBCC JE 2017

A : I-section

B : Circular section

C : Rectangular section

D : Channel section

Q : When the two ends of the compression members are fixed the effective length will be-

Hariyana SSC JE Shift-I(10.04.2018)

A : 0.8 L

B : 1.0 L

C : 0.65 L

D : 2.0 L

Q : An engineer wants to design a steel electric pole of 6 m height with end conditions as one end is restrained against translation and rotation while the other is free. the effective length of column he should consider while designing this pole would be:

DDA JE 24.04.2018, 12:30-2:30 pm

A : 9 m

B : 12 m

C : 15 m

D : 6 m

Q : A stress elements is subjected to tensile stress of 5 MPa on both the principal planes. the radius of Mohr circle corresponding to this element will be.

(HPSSSB JE 31 April 2017)

A : 10 MPa

B : 7.5 MPa

C : 5 MPa

D : Zero

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Q : Match List-I with List-II

List I	List II
A. Section modulus	1. Tension
B. Principal plane	2. Slope
C. Fixed end	3. Shear stress
D. Middle third rule	4. Strength of section

SSB Himachal Pradesh 18.11.2018

A : P-4,Q-3,R-2,S-1

B : P-3,Q-1,R-4,S-2

C : P-4,Q-1,R-2,S-3

D : P-4,Q-2,R-3,S-1

Q : The maximum bending stress in an I-beam occurs at the
(SSC JE 1 MARCH 2017 Evening shift)

A : Neutral axis

B : Outermost fiber

C : Joint of wedge and flange

D : Section where shear stress is maximum

Q : The rectangular beam 'A' has length L' width b and depth d. another beam 'B' has the same length and width but depth is double that of 'A'. The elastic strength of beam B will be:

NBCC JE 2018(Morning shift)

A : Same

B : Double

C : Four times

D : Six times

Q : The shape factor of an isosceles triangle should be-

(Rajasthan PSC 2018)

A : 1.5

B : 1.7

C : 2.34

D : 2

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Q : If the diameter of shaft is 'D' and shear stress is ' τ ' then what is the torque transmitted by shaft?

(UPPCL JE 2013)

A : $(\pi/16)\tau D^3$

B : $(\pi/8)\tau D^3$

C : $(\pi/32)\tau D^3$

D : $(\pi/64)\tau D^3$

Q : Keeping the depth d constant, the width of a cantilever of length l of uniform strength loaded with a uniformly distributed load W varies from zero at the free end and.

SSC JE 23.01.2018(Morning shift)

A : $(2w/\sigma d^2)\times l^2$ at the fixed end

B : $(3w/\sigma d^2)\times l^2$ at the fixed end

C : $(3w/\sigma d)\times l^2$ at the fixed end

D : $(5w/\sigma d)\times l^2$ at the fixed end

Q : If the Euler load for a column is 1000 kN and crushing load is 1200 kN, the Rankine load will approximately be:

[Coal India 2016]

A : 1200

B : 600

C : 900

D : 545

Q : A brittle material of 4 sq. m cross section carries an axial tensile load of 20 tones. what will be the maximum shear stress in the block?

(SSC JE 1 MARCH 2017 Evening shift)

A : 1250 kg/cm²

B : 1000 kg/cm²

C : 500 kg/cm²

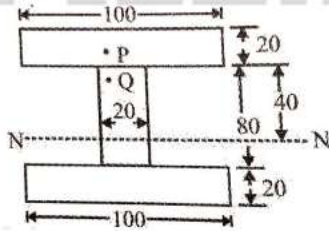
D : None of these

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Q : The figure (all dimensions are in mm) below shows an I-section of the beam. the shear stress at point P (Very close to the bottom of the flange) is 12 MPa. the stress at point Q in the web (Very close to the flange) is.

(SSC JE 3 MARCH 2017 Morning shift)



A : Indeterminable due to incomplete data

B : 60 MPa

C : 18 MPa

D : 12 MPa

Q : A cantilever beam of span 6 m is subjected to a point load of magnitude 40 kN at the free end, deflection at the free end will be (Given EI is constant throughout the length)

UPRVUNL JE 2019

A : 1440/EI

B : 360/EI

C : 2880/EI

D : 720/EI

Q : In a simply supported beam of span L subjected to central concentrated load, the central deflection is 24 mm. then the slope at support is:

RRB JE CBT-II 28-08-2019 (evening)

A : $(48/L)$ radians

B : $(36/L)$ radians

C : $(24/L)$ radians

D : $(72/L)$ radians

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