



PRACTICE QUESTIONS

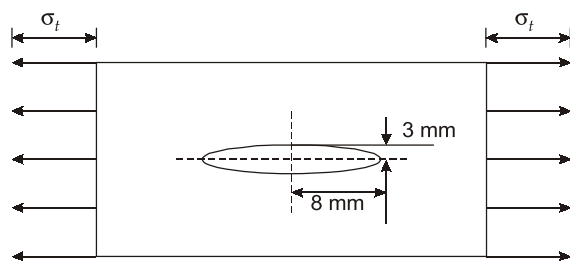
for SSC-JE : CBT-2

**Machine
Design**

Mechanical Engineering

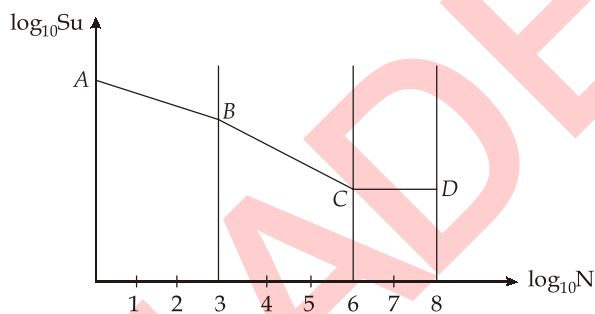
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- Q.1 What will be the value of theoretical stress concentration factor at the edge of the hole as shown below?



- (a) 6.33 (b) 3.66
(c) 1.75 (d) 1.375

- Q.2 In the given diagram, high cycle fatigue starts from



- (a) Point A (b) Point B
(c) Point C (d) Point D

- Q.3 A factor which is a measure of the ability of the bearing material to accommodate the frictional energy in the bearing is called:

- (a) PV factor (b) Wear factor
(c) Friction coefficient (d) Embeddability factor

- Q.4 The bolts in a rigid flanged coupling connecting two shafts transmitting power are subjected to

- (a) shear force and bending moment
(b) axial force

- (c) torsion
(d) torsion and bending moment

- Q.5 Bearing characteristics number in a hydrodynamic bearing can be realized as

- (a) it is closer to real life situation.
(b) it leads to a safer design.
(c) it leads to cost effective design.
(d) no other assumption is possible.

- Q.6 A transmission shaft subjected to bending loads must be designed on the basis of

- (a) maximum normal stress theory
(b) maximum shear stress theory
(c) maximum normal and maximum shear stress theory
(d) fatigue strength

- Q.7 The design considerations for members subjected to fluctuating loads with the same factor of safety yield the most conservative estimates when using

- (a) Gerber relation (b) Soderberg relation
(c) Goodman relation (d) None of the above

- Q.8 Consider the following statements:

- The severity of stress concentration is increased by drilling additional holes and using multiple notches.
- A small under cut taken between shank and threaded portion of a component reduces the bending of force flow line, which enhances the stress concentration.

Which of the above statements is/are incorrect?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) None of these



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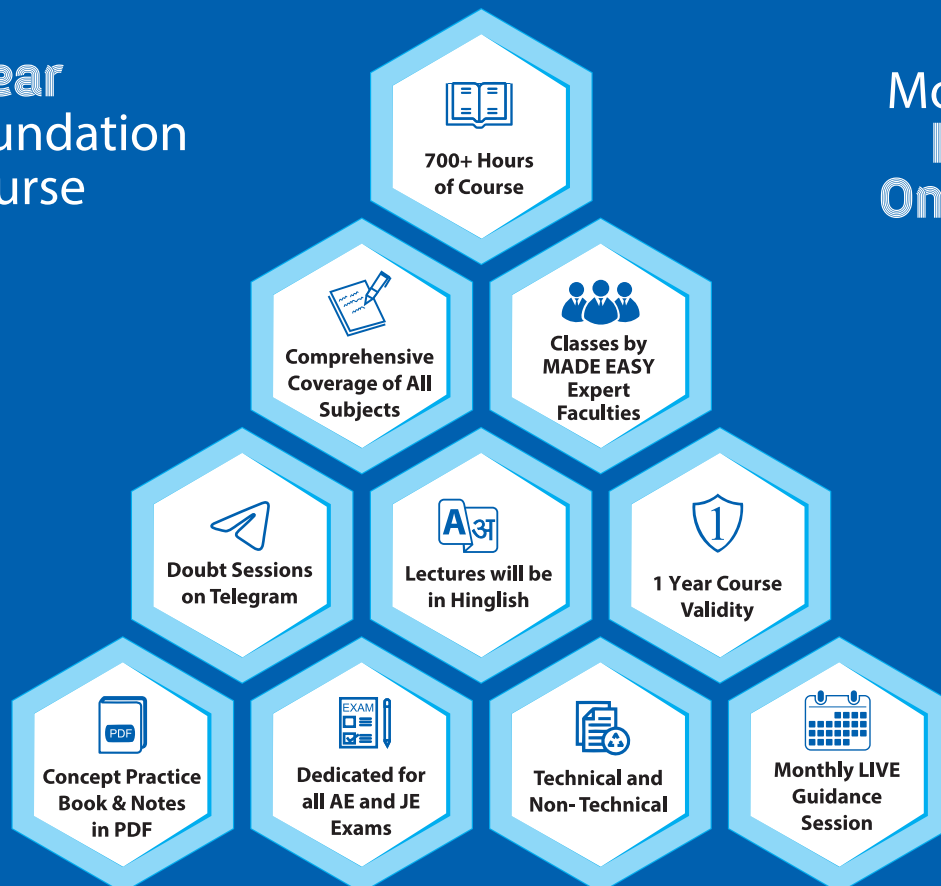
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